BLACKHAWK TECHNICAL COLLEGE

CREDIT COURSE CATALOG

2010-2012

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Blackhawk Technical College
2010-2012 Program Catalog

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College Overview

The Blackhawk Technical College Central Campus is located midway between the cities of Beloit and Janesville on over 80 acres of partially wooded rolling prairie. BTC offers approximately 50 programs leading toward an associate degree, technical diploma, certificate or apprenticeship. While the majority of classes are held at the Central Campus, classes are also offered at the Aviation Center at the Southern Wisconsin Regional Airport, the Center For Transportation Studies located north of Janesville, and at the Monroe Campus. In 2009, the Beloit Center opened in the Eclipse Center on Riverside Drive, about five miles from its Central Campus, expanding opportunities for programming in the greater Beloit area. BTC also maintains classrooms at the Rock County Job Center in Janesville.

Modern, up-to-date facilities help to serve approximately 14,000 students annually - about 6,000 credit and 8,000 non-credit students each year in areas such as industrial and agricultural occupations, service occupations, business, information technology, laboratory science, marketing and continuing education programs.

Bus service is available to Blackhawk Technical College from both Janesville and Beloit. The Central Campus is the main transfer point between the two cities. Course listing available online at www.blackhawk.edu

About this Publication

Since BTC continually evaluates program offerings and course content, information contained in this catalog should be interpreted only as an overview. Current curriculum sheets on all of BTC's degree-granting programs are available at the counseling office.

General education, technical education, vocational education and related courses for apprentices are occupational entry offerings. Acceptance of transfer courses for credit is strictly a function of the receiving institution.

BTC reserves the right to cancel any tentatively scheduled class and also to combine class sections due to insufficient enrollment. In the event of class cancellation by BTC, refunds will be issued. Information regarding BTC's refund policy for individual class drops is available from the Registration Office.

This catalog is published by Office of Institutional Advancement at Blackhawk Technical College. Course descriptions in this catalog are only summaries of the actual course content. Blackhawk Technical College reserves the right to make changes in courses or regulations published in this catalog without obligation or prior notice.

History and Development

In 1911, six years before the use of federal funds for the promotion of vocational, technical and adult education throughout the nation, Wisconsin set up a special Board of Vocational and Adult Education.

As a result of this law, the cities of Beloit and Janesville took the steps necessary to establish vocational schools in their communities. These two schools have developed to form the nucleus of the present technical college system district which is now Blackhawk Technical College.

In 1965, the State of Wisconsin enacted a law designed to broaden the vocational, technical and adult education opportunities for youth and adults through the inclusion of the entire state into districts by July 1, 1970. The Beloit and Janesville schools, along with the major portions of Rock and Green Counties, were organized into a single system July 1, 1968.

Blackhawk Technical Institute, so named following this reorganizational process, became a reality. In August, 1987, along with the other 15 state technical institutes, Blackhawk Technical Institute became Blackhawk Technical College.

Business Hours

The general operating hours of Blackhawk Technical College are 7:30 a.m. to 9 p.m. Monday through Thursday; 7:30 a.m. to 4:30 p.m. Friday; and 8 a.m. to 2 p.m. Saturday. However, hours may vary for an individual department or division, such as the Children's Learning Center, or even outreach campuses or centers. In addition, hours are modified during the summer months. If in question, contact the department or campus/center to confirm their hours before your commute to that site. Visit us online at www.blackhawk.edu

Sources of Funding

The postsecondary and adult vocational education programs at BTC anticipate receiving federal funding in 2010 - 2011. These federal funds represent approximately six percent of the total projected operational costs for postsecondary and adult vocational education programs at BTC.

The Blackhawk Technical College Board actively complies with all state and federal equal opportunity and affirmative action laws, rules, executive orders and policies, including Titles VI and VII of the Civil Rights Act, Title IX of the Educational Amendments Act of 1972, section 50A of the Rehabilitation Act of 1973, the Age Discrimination Acts of 1967 and 1975, the Equal Pay Act of 1973, the Civil Rights Restoration Act of 1987, the Americans With Disabilities Act of 1990 and the Civil Rights Act of 1991. It is the policy of the Blackhawk District not to discriminate on the basis of age, race, creed, color, religion, handicap, disability, marital status, sex, national origin, ancestry, arrest or conviction record, sexual orientation, political affiliation, genetic testing, or membership in the national guard, state defense force or any reserve component of the military forces of the United States or this state. The District prohibits discrimination against students in

admission and/or participation in services, programs, courses, and facilities usage based upon race, color, creed, religion, sex, national origin, disability, ancestry, age, sexual orientation, pregnancy, marital status, or parental status. Inquiries regarding equal opportunity may be directed to: Affirmative Action Officer, 6004 S County Road G, P.O. Box 5009, Janesville, Wisconsin 53547-5009, (608) 758-6900.

Our Mission and Purposes

The faculty, staff, and administration of Blackhawk Technical College, an institution of higher education, provide for the future of our community through excellence in technical education. We achieve this mission through:

- Education for Employment by offering comprehensive occupational skills training which enables students to participate in the work force through Associate Degree, Technical Diploma, Certificate, and Apprenticeship programs;
- Training, Retraining, and Upgrading for entry, retention, or advancement in a vocational or technical field;
- General Education in core knowledge, skills, and attitudes which enable individuals to integrate learning into educational programs for personal and professional success;
- Basic Education to help students achieve levels of proficiency to succeed in an increasingly complex society;
- Economic Development by providing customized training and technical assistance to business and industry to foster the expansion of employment opportunities;
- Equal Opportunities that remove barriers created by stereotyping and discrimination;
- Personal Development to assist individuals who wish to enjoy personal growth;
- Student Services which assist and support students to fulfill educational and occupational life goals as they relate to the current demands of the work force;
- Interagency Cooperation for effective liaison between and among various private and public organizations;
- Articulation and Transfer Opportunities with secondary schools and other educational institutions to facilitate the transition of students;
- Community Service to provide benefits that help to build a strong and viable community.

Our Philosophy

The faculty, staff, and administration at Blackhawk Technical College believe that access to quality education and relevant hands-on experience are the first steps to professional and personal success in any endeavor. As a result, the development and maintenance of instructional offerings and related services focus upon maximizing the accessibility of these offerings to all students.

While the institution realizes that the acquisition of occupational skills is a critical factor in determining success, it also recognizes that today's working environment demands social, scientific, and interpersonal skills which help the student to function in many other dimensions: personal, social, and cultural. Therefore, BTC recognizes the valuable contribution to personal and professional success made through its General Education course offerings.

Finally, Blackhawk Technical College recognizes that no education or experience takes place in a vacuum; rather, quality living demands that the educational process recognize the value of the individual and the unique contribution that each person makes to society today. As a result, your college seeks to maintain a high level of flexibility in its response to the individual training needs of every person enrolling in its programs.

BTC's commitment to educational excellence is reflected in the adoption of a Guaranteed Retraining Policy.

The education and training offered at BTC is designed to enable students to acquire job entry occupational skills needed for full participation in the work force. BTC stands behind the training provided and will guarantee to provide at least six (6) additional credits of retraining, at no cost to the student, under certain conditions. Contact Student Services for more information.

BTC Vision

"Opening Doors to Life-Long Learning"

Encouraging every student to develop his/her full potential
Responding to the needs of the community and workforce
Training people for employment
Exploring, developing, and implementing new technology
Providing educational opportunities to meet student needs
Recognizing the impact of ideas and actions on others

BTC Values

"Facing the future by promoting Trust, Diversity, Teamwork and Empowerment"

Facing the future by promoting Trust

Acting with integrity and consistency
Valuing yourself and others positively
Acting with sincerity and honesty
Keeping promises and following through
Respecting the confidences of others

Facing the future by promoting Diversity

Embracing the opportunities in diversity
Seeking and celebrating uniqueness and differences
Appreciating different viewpoints

Facing the future by promoting Teamwork

Cooperating and considering the impact on all stakeholders
Working together to provide better service
Listening and participating actively

Facing the future by promoting Empowerment

Accepting responsibility for actions and outcomes
Encouraging positive interactions and creative solutions

BTC-Core Abilities

Historically, in many career and technical education programs, the focus has been on technical topics specific to the occupational area. Today's fast-paced global marketplace is demanding more, and "soft skills" are emerging in importance. In today's global workforce, soft skills are more directly related to professional success than ever before.

The faculty of Blackhawk Technical College has identified seven related topics of soft skills, or "core abilities" that are crucial to success both during school and after graduation. Core abilities are skills and competencies that will enable students to be successful in the workforce. These essential skills are taught across programs and departments so that each Blackhawk Technical College student can expect to work towards improving and applying these critical soft skills and core abilities regardless of their program of choice.

1. Communicate Professionally

- Demonstrate communication standards specific to occupational area
- Write professionally
- Speak professionally
- Interpret professional documents
- Demonstrate critical listening skills
- Communicate using professional non-verbal behavior

2. Use Appropriate Technology

- Select equipment, tools, and resources to produce desired results
- Demonstrate proper and safe usage of equipment
- Demonstrate occupational specific computer skills
- Adapt to new technology
- Use Security Measures to Protect Confidentiality

3. Work Effectively in Teams

- Participate in identifying team goals
- Respect the contributions and perspectives of all members
- Work with others
- Complete assigned tasks
- Motivate team members
- Resolve conflicts
- Assess team outcomes

4. Demonstrate Professional Work Behavior

- Follow policies and procedures
- Meet attendance expectations
- Manage time effectively
- Dress appropriately
- Accept constructive feedback
- Take initiative
- Work productively
- Be accountable
- Demonstrate organization/prioritization skills
- Demonstrate effective customer service skills
- Transfer learning from one context to another
- Adapt to change

5. Show Respect for Diversity

- Interact with diverse groups respectfully
- Treat everyone without bias
- Seek information when necessary to interact effectively with others
- Adapt to diverse situations
- Demonstrate respect and common courtesy

6. Solve Problems Efficiently

- Identify a problem to be solved
- Select an appropriate problem-solving methodology
- Recognize and gather relevant information
- Apply mathematical reasoning
- Utilize appropriate resources
- Recognize when to change direction if needed
- Recognize when the process is complete

7. Lead by Example

- Recognize leadership qualities in others
- Demonstrate legal and ethical standards of practice
- Create and share a vision
- Develop and implement a plan to accomplish a goal
- Manage conflict, pressure, and change with constructive strategies
- Be a colleague/peer others can depend on

- Acquire the knowledge needed for success
- Bring passion and energy to your work/project
- Take risks when necessary or appropriate

Civil Rights Legislation

Services, financial aids, and other benefits of Wisconsin Technical College System schools are provided on a non-discriminatory basis as required by Civil Rights legislation.

Individuals applying for or receiving assistance through these schools who believe that there is any discrimination on the grounds of race, color, creed, sex, disability, national origin, sexual orientation, ancestry, age, pregnancy, or marital status should file a written complaint.

If it is felt that this discrimination is on the part of the Wisconsin Technical College Board, the complaint should be sent to the State Director, Wisconsin Technical College Board, 310 Price Place, P.O. Box 7874, Madison, Wisconsin 53707, (608) 266-1207.

If it is felt that the discrimination is on the part of Blackhawk Technical College, the complaint should be sent to the Affirmative Action Officer, Blackhawk Technical College, 6004 S County Road G, P.O. Box 5009, Janesville, Wisconsin 53547-5009, (608) 757-7773.

College Accreditation

Blackhawk Technical College is accredited by the Higher Learning Commission, 30 N. LaSalle St., Suite 2400, Chicago, Illinois 60602, (800) 621-7440. Accreditation is vital because the accrediting body, such as the HLC, gives its approval to an institution of learning via an official review board after the school has met specific requirements. This approval determines the college's eligibility to receive state and federal monies, such as grants for programs and financial aid for students. In December 2005, BTC was accepted as a participant in the Academic Quality Improvement Program (AQIP) by the HLC. Participating in AQIP involves continuous collaboration among BTC administration, faculty, staff, students, employers, and the HLC. Bringing this new accreditation process to campus has proven to be both challenging and rewarding.

AQIP at BTC was officially launched during the Fall 2006 in-service. Via the Appreciative Inquiry process and an on-line survey, information was mined from full-time and part-time faculty, administration, staff, and board members to discover potential areas for the college's action projects. As a result, three action projects were selected, evaluated, and discussed at the November Strategy Forum by the participating AQIP colleges and by BTC's Strategy Forum team members. Then, on December 6, 2006, approximately thirty BTC employees from across the college attended the AQIP Action Project Retreat, held off-campus, to discuss the three action projects. Final drafts of these projects were submitted to the HLC on March 1, 2007, and an AQIP external web site at:

http://www.blackhawk.edu/aqip/

was created and on-line by April13, 2007. Simultaneously, to keep current and informed, BTC staff members continue to participate regularly in workshops and seminars, related to AQIP requirements.

Because AQIP is the accreditation track involving quality improvement, the process will continue to move forward at BTC. An AQIP Steering Team of nine members has been created, has met, and is planning strategies to complete the college's upcoming accreditation requirements. As a result, BTC will continue to create and to maintain an excellent teaching and learning environment.

Blackhawk Technical College holds approval (*)
or accreditation (*) by the following:

* Wisconsin Technical College Board
* Higher Learning Commission and a member of the North Central Association
* Wisconsin State Board of Nursing
* National League for Nursing Accrediting Commission
* Council on Dental Education/American Dental Assoc.
* Wisconsin Approval Board *(for Education of Veterans and War Orphans)*
* Federal Aviation Administration
* American Dietetic Association
* Division of Community Services
* Commission on Accreditation in Physical Therapy Education
* Commission on Accreditation of Allied Health Education Programs
* American Culinary Federation Accrediting Commission
* National Automotive Technicians Education Foundation *(NATEF)–National Institute for Automotive Service Excellence (ASE)*
* Commission on Dental Accreditation
* Wisconsin Department of Justice– Division of Law Enforcement Services
* Wisconsin Department of Health and Family Services: Caregiver Registry and Investigation Unit
* Joint Review Committee on Education in Radiologic Technology

College Facilities

All programs offered by Blackhawk Technical College have also been approved by the Wisconsin Technical College System Board. The school is accredited to offer associate degrees, one and two-year technical diploma programs, and certificates, as well as apprenticeship programs. Programs offered by the college are approved by the State of Wisconsin Educational Approval Board for training veterans.

Well Maintained and Renovated College Facilities
Blackhawk Technical College has been able to substantially upgrade all of its major facilities through community support with regularity over the past decade. A large part of that came about through the passing of a $17.5 million building referendum in November of 2002. This allowed BTC to create additional space for a number of programs and classes at both its Central and Monroe Campuses, as well as renovate large portions of existing classrooms, offices and other areas.

Aviation Center
The Blackhawk Technical College Aviation Center is located at the Southern Wisconsin Regional Airport on U.S. Highway 51 between the city limits of Beloit and Janesville at 4618 S. Columbia Drive, Janesville, WI. 53546-9120, (608) 757-7743].

The district-owned facility includes a 160-by-120-foot hangar featuring classrooms, a spray booth, shops, laboratories, student lounge, technical library, and faculty offices. The Aviation Center underwent a $1.6 million renovation in 2006, which updated the facility while adding a student commons area and general office space.

The Aviation Center is certified as an Airframe and Powerplant Mechanics School by the Federal Aviation Administration.

Beloit Center
The Beloit Center is conveniently located in the recently renovated Eclipse Center in downtown Beloit, at 50 Eclipse Center, Beloit, WI 53511-6270, (608) 757-7669.). The Center provides basic academic and GED/HSED instruction, remedial education, and classes for English Language Learners. The Center also offers the phlebotomy technician program, as well as Health and Human Service, Business and Information Technology, general education, and community education courses.

Contact the Beloit Learning Center at (608) 757-7669.

Center for Transportation Studies
Located immediately (about one-quarter of a mile) west of the intersection of highways 14 and 51 north of Janesville [at 1740 Highway 14 West], this 30,000 square-foot facility houses two large shops for the Diesel and Heavy Equipment Technician and Automotive Technician programs, three classrooms, library, microcomputer lab, and a student lounge. Agricultural and apprenticeship classes are held at the center, as well as automotive, diesel, landscape, many non-credit offerings in computer applications and other areas of interest. Ample parking is available with access off U.S. Highway 14.

Central Campus
Blackhawk Technical College Central Campus is located midway between Beloit and Janesville. Situated on over 80 acres of partially wooded prairie, the campus is home for most of BTC's programs and services. The campus is easily accessible from Prairie Road (County Highway G) and Highway 51.

This comprehensive technical college facility comprises over 200,000 square feet. It includes instructional classrooms, shops and labs for accounting, marketing, word processing, administrative assistant, legal secretary, fire science, criminal justice, child care services, HVAC/R, welding, and machine tool. Also located on the Central Campus is a technical center integrating labs for electronics, electro-mechanical and mechanical design; and a health occupations complex for nursing, nursing assistant, dental programs, radiography, and healthcare associate. A technical library; media production and telecommunications center; child care center; bookstore; and food service, with seating for 600 are also housed on the Central Campus. Seminar and teleconferencing facilities are also available.

A Student Services Center is available to provide students with a variety of assistance programs. Facilities include offices for guidance, admissions and registration, placement, financial aids, veterans' affairs, minority student services, and student activities. Vocational testing and career assessment are available through the Student Services' Career Center. Facilities for individualized learning and remedial education are also located at the Central Campus.

Parking, accommodating approximately 1,200 vehicles, is available on the Central Campus, and bus service from Beloit and Janesville is also provided for students' convenience.

Monroe Campus
The Monroe Campus of Blackhawk Technical College is located just off Highway 11 at 210 Fourth Avenue, Monroe, WI 53566-1033, phone (608) 328-1660. This friendly, full-service, handicapped-accessible campus has 4 computer labs equipped with state-of-the-art computer equipment, a distance learning lab designed for global classroom connections, fully equipped nursing, nursing assistant, phlebotomy and science labs, and general classrooms. The Campus offers a selection of full associate degrees, one year diplomas and short term certificates, as well as all general education core courses. A learning center offers GED/HSED and college prep courses and GED/HSED testing services. Over 150 continuing education courses are offered each year at the Campus. A full-time counselor provides students with academic advising, support and career planning assistance. BTC staff works with local businesses and industries to provide cutting edge training for Green County employees. Small class size and a personalized learning environment ensure the success of Monroe Campus students.

Ed-Venture Program Course:
Experiential Learning at its Best

Located at the northeastern edge of the central campus of BTC, an experiential learning site known as the "Ed-Venture Course" is available to area businesses, organizations, community groups as well as BTC staff and students. The experiential learning activities conducted on the "Course" help individuals and groups build skills in the area of leadership, teamwork, awareness, trust, problem solving, strategic planning, confidence, change management and communication. With the training being coordinated through BTC's Business and Community Development Division (BCD), events and training seminars can be customized to meet the goals of individuals and organizations. Pricing will vary depending on the user's needs.

The "Ed-Venture Course" includes both low and high structures. In addition to the permanent structures, numerous portable learning activities are available to choose from which provide the convenience of allowing businesses and organizations to schedule events at their own sites. The mentally challenging elements are designed to provide opportunities for individuals and teams to learn about how they handle risk and challenge while practicing skills in teaming, problem solving, critical thinking, communication, and working effectively together.

Contact BCD today to discover how this exciting approach to training, personal, and corporate change will work for you at (608) 757-6332.

General College Information

Orientation

Group orientation sessions are conducted prior to the beginning of each semester. These sessions will acquaint students with the physical and social environment of BTC, including procedures, regulations, opportunities, and resources to facilitate student adjustment.

Entrance Requirements

Blackhawk Technical College maintains an open-door admissions policy for all prospective students. This means that anyone can enroll in courses and have the opportunity to learn new skills or improve existing skills. Admissions requirements may vary from program to program, but generally include high school graduation, GED/HSED, or ability to benefit as determined by standardized tests.

How to Apply

If you want to enroll in a program you should follow this process.

General Instructions:

- Complete all sections of the application form which is available at the BTC website or in a paper format.
- Please print clearly.
- Consult the catalog for specific program information and other details.

Application Fee

- Attach the $30 nonrefundable application fee to the form mailed to the college. Send a check or money order made out to the college. If completing the electronic application, print off the "Signature Page" at the end of the application, sign it and submit it along with the fee.
- The $30 fee per college is a onetime only fee.
- If you apply to more than one WTCS college, you must attach a $30 application fee to each application form.
- Do not send cash.

Transcripts

- Request official copies of all academic transcripts, including high school, GED, HSED, college or university. Contact each institution and ask to have your official transcripts mailed directly to the Admissions Office of the college(s) to which you are applying.
- If you are still enrolled in high school, send a transcript of the courses you have completed along with a list of the courses to be taken prior to graduation.

Testing/Assessment

- BTC may require testing for acceptance into the college. Test results are generally used to assist in placing you in courses and/or programs where you can succeed academically.
- If you have taken the ACT or SAT, please send your score report to the college.

All these steps must be completed in order to be accepted into the college.

To expedite the application process, it is recommended that you submit all of the above documentation together. Applications are handled on a first come, first serve basis. We cannot guarantee admission to the college for applications received and/or completed less than one month prior to the start of the semester.

Applications received after noon of the first Friday following the start of a term will not be processed for that term; they will be processed for the next available term.

Timely completion of all admission and registration requirements is also critical for those applying for financial aid.

Assessment

All associate degree and technical diploma programs at Blackhawk Technical College require pre-entry assessment. Most pre-entry assessments are advisory only; a limited number have mandatory cut-off scores.

In most cases students entering Blackhawk Technical College will take the Compass assessment instruments. The Compass is an untimed assessment taken on computer. The Compass is a basic skills assessment in reading, language usage, and numerical skills. A small fee will be collected at the assessment site. Accommodations are available for students. You will need to

complete the Compass assessment unless you have graduated from a four-year college or university, earned an Associate Degree at a Wisconsin Technical College, or completed the ACT. *(Some health programs have specific requirements for admission. See program information for details.)*

Educational Agreements

A joint educational agreement exists between Rock Valley College, Rockford, Illinois and BTC. This agreement expands the number and types of programs available to BTC District residents. A list of approved programs is available at the Student Services office.

Youth Options

The Youth Options Program allows all public high school juniors and seniors who meet certain requirements to take postsecondary courses at a Wisconsin Technical College, a UW institution, or one of the state's participating private, non-profit institutions of higher education. The program opens the door to greater learning opportunities for students who are considering a technical career, students wishing to begin college early, or students who want to prepare to enter the workforce immediately after high school graduation. Further information about this program can be obtained at area high schools or from the BTC Student Services office.

High School Articulation

Blackhawk Technical College and high schools in Rock and Green Counties provide opportunities for high school students to earn college credit while still in high school. Articulation connects high schools with certificate, diploma and associate degree programs at BTC. Students can save time and money by taking college-level course work and getting a head start on college. High school students can earn Blackhawk Technical College credits by completing high school courses which have been approved for either advanced standing or transcripted credit. Students must meet the minimum requirements outlined for each articulation agreement. The goal of articulation is to provide a smooth transition from high school to postsecondary without the duplication of coursework. Students are advised to check with their high school counselor or the BTC Tech Prep Specialist for articulation opportunities in their high school.

International Students

Blackhawk Technical College is authorized to issue I-20s for students attending under F-I visas. However, enrollment of foreign students in the education programs at BTC will be based on space availability. BTC is not authorized to issue I-20s to students for study of the English language or for programs considered high demand. International students are not considered Wisconsin residents and are required to pay out-of-state tuition. Required for admission include:

- Application to a credit program and application fee.
- TOEFL score of 500 (paper version), 173 (computer version) or 61 (Internet-based version) or better.
- Satisfactory placement test - COMPASS or ACT.
- Secondary and post-secondary transcripts.
- Financial support verification.
- International student forms.
- Deposit toward tuition for the program in which student seeks to enroll.
- Students wishing to transfer - verification of good academic standing (Grades of C or better and a GPA of 2.0 of a 4.0 scale.

Issuance of an I-20 is contingent upon meeting all admission requirements.

Financial Information

Tuition and Fee Payment

You can pay your tuition and fees using one of the four methods below.

1 Pay in Full: Pay full amount of tuition and fees by cash, check, MasterCard, VISA, or Discover at time of registration.

2 Payment Plan: You must indicate your desire to participate in a payment plan at the time of registration. All payment plans require a non-refundable service charge. You will be billed for outstanding balances. *In some cases, Account Holds will be placed on a student's account in an effort to alert a student that their attention to a matter is required. Such holds can impact their ability to register, get transcripts, or access Library resources until they are resolved. Plans are available at the BTC website via TouchNet.

3 Financial Aid: You must have completed your FAFSA (Free Application for Federal Student Aid). Once the application is completed and a valid student aid report (SAR) is released to BTC, you can defer payment of your tuition and fees until the financial aid award letter is returned and financial checks are received. You will be sent a monthly invoice until tuition is paid in full. Your outstanding balance will be paid as the financial aid is received. If financial aid does not cover the entire balance due, you will be liable for payment of the balance due.

4 Agency/Employer Funding: If a written authorization from the agency or employer is on file, you will be able to defer payment of tuition and fees. The sponsor will be billed for the authorized costs. If the sponsorship does not cover the entire amount of the tuition and fees, you will be responsible for paying the remaining balance.

5 Collection Issues: If you are delinquent in paying the outstanding balance, you will not receive any grades, transcripts or degrees, and will not be allowed to register for additional classes until all balances are paid. If you are delinquent in abiding by any portion of the plan you may be dropped from your courses and possibly sent to collections.

Out-of-State Tuition

Applicants who do not reside in Wisconsin and enroll in a program

which is not covered under one of BTC's reciprocity agreements will pay a higher tuition cost. A limited number of waivers may be granted.

Types of Financial Assistance

There are four basic types of financial aid available for Blackhawk Technical

- grants
- part-time employment
- scholarships
- loans

The type of financial aid provided will differ for each student because the aid package is designed specifically for your individual needs and circumstances. A single type of financial aid rarely meets all educational expenses. Therefore, financial assistance generally must come in the form of a combination of financial aid.

Applying For Financial Aid

Applying for financial aid should be completed months before the start of the academic year. BTC has a priority deadline for applying and some types of aid are awarded quickly and may not be available if you submit your application late.

For information on how to apply for Financial Aid, you may go to www.blackhawk.edu/financialaid or call the Financial Aid Office at (608) 757-7664 or toll free at (800) 498-1282 ext 7664. (Financial aid assistance is also available at the Monroe Campus.)

Federal Assistance

For current information and more details on the federal programs go to www.studentaid.ed.gov

Pell Grant

The Pell Grant does not have to be repaid. It is a federal grant upon which all other aid is built. Assistance is given on the basis of need. Pell Grants may be paid to students attending less than half time.

Supplemental Education Opportunity Grant (SEOG)

The SEOG program is available to students if they are enrolled in at least 6 credit hours and have financial need. The SEOG is awarded to the students determined to have the most need. Individuals must qualify for a Pell Grant to be eligible. Assistance ranges from $200 to $400 per year.

Federal Work Study Program

Work study is based upon financial need. If eligible a student may work a maximum of 20 hours per week. Funds for Work Study will be paid directly to the student based on the number of hours they have worked. "On-the-job" performance is a criterion for continuation. Summer work study is also available on a fulltime basis for those who qualify.

Stafford Loans

The federal Stafford loan program provides low interest loans through participating lenders. For information on how to apply for a Federal Stafford loan at Blackhawk Technical College, please refer to our website at www.blackhawk.edu/financialaid.

NOTE: First time borrowers are required by federal regulations to complete entrance loan counseling and sign the necessary forms and promissory note.

Students may be eligible for a subsidized or unsubsidized Stafford Loan. A subsidized loan is based on need, whereas an unsubsidized Stafford and PLUS Loans are not based on need. The PLUS Loan is an auxiliary type of loan that provides additional funds for educational expenses. PLUS Loans are available to parents of dependent students.

State of Wisconsin Assistance

(For current information and more details on the Wisconsin state programs go to www.heab.state.wi.us/programs.html)

Wisconsin Higher Education Grants (WHEG)

The WHEG program can provide a grant to supplement the Pell program. To qualify, the person must be a Wisconsin resident for at least one year and have financial need. The Higher Educational Aids Board of Wisconsin determines eligibility based on the financial aid application. Students must be enrolled at least half-time (six credits) in order to be eligible.

Minority Retention Grant

The Minority Retention Grant is available to minority students who qualify through the Higher Educational Aids Board. Students must be enrolled in their second year of a two-year program, be a U.S. citizen (or eligible non-citizen), and show financial need. Application is made through the Office of Multicultural Affairs and Financial Aid Offices.

TIP

A state grant used to supplement the WHEG Program, TIP is targeted for disadvantaged, first-year BTC students.

Native American Grants

These grants are available to students who are at least 25 percent Native American and show financial need. Application is made through your tribal office.

Private Scholarships

Many private scholarships are available to BTC students. Information may be obtained through the BTC Financial Aid Office, online at www.blackhawk.edu/financialaid or www.fastweb.com

Other Grants or Scholarships

There are a number of other grants and scholarships available through the Student Services office, the Blackhawk Technical College Foundation, Inc., and the Blackhawk Association for Career and Technical Education (BACTE). Individuals are encouraged to check with those offices located on the Central Campus (BACTE and Foundation offices in the Administration Building) for further information.

Veterans/Military Programs

Federal Department of Veteran Affairs

A variety of federal programs are available if you have served in the military. You may also be eligible for Reserve benefits if you are currently an active member of the Reserves or National Guard. Dependents of disabled or deceased veterans may be eligible for benefits also.

For more information about Veteran education benefits through the Federal Department of Veteran affairs, go to www.gibill.va.gov or call (888) 442-4551.

Wisconsin Department of Veteran Affairs

State programs in the form of tuition and fee reimbursement and part-time study grants may be available for Wisconsin veterans. National Guard members may be eligible for the National Guard Tuition Grant.

For more information about Wisconsin Veteran Education Benefits go to http://dva.state.wi.us or call the Rock County Veteran Service office at (608) 757-5552.

Veteran Benefits at Blackhawk Technical College

Once you have determined you are eligible to receive veteran education benefits and you would like to use them at BTC, you must:

- Fill out a Veteran Program/Term Requesting Benefits form each semester you would like to use your benefits at BTC
- Be accepted into and attending courses in a program approved for veteran benefits
- Be taking courses within your degree requirement
- Maintain academic progress within your program of study

For more information contact the Financial Aid and Veterans Coordinator at (608) 757-7716.

Students' Rights and Responsibilities

For a complete list of your Rights and Responsibilities, please go to www.blackhawk.edu/financialaid under General Information, click on Students' Rights and Responsibilities.

Disbursement of Financial Aid

All financial aid is disbursed through the Accounting Office. If the combination of grants and loans exceeds all costs to the college, a refund check will be issued to you. For dates of disbursement, see the financial aid calendar on the BTC web site.

Return of Title IV Financial Aid

Federal Law now states that if you receive Federal Financial Aid and withdraw, drop-out, or receive failing grades in all your classes before completing 60% of the semester, you may have to return some Federal Aid that you received. Failure to attend any of your classes will require you to repay 100% of all the aid you received. Please contact the Financial Aid Office for a copy of the Title IV R efund Policy or view the policy online at www.blackhawk.edu/financialaid.

Helpful Websites

www.blackhawk.edu
www.NSLDS.ed.gov
www.pin.ed.gov
www.dva.state.wi.us
www.fastweb.com
www.studentaid.ed.gov
www.fafsa.ed.gov
www.finaid.org
www.gibill.va.gov

Blackhawk Technical College Foundation

The Blackhawk Technical College Foundation, Inc. is a non-profit organization created to support the objectives of BTC. It is a convenient means for individuals and groups to make tax-exempt/deductible contributions for the support of the objectives of the college, and it provides a source of funds that may be used for purposes that cannot be supported by public funds, or that might be more appropriately financed from voluntary contributions. One of the Foundation's major activities is supporting BTC students with a variety of scholarship opportunities. Material gifts as well as monetary gifts are welcomed by the Foundation. Contact the Director of Advancement in the Institutional Advancement Office, located in Room 2605 on the Central Campus or call (608) 757-7769 for more information.

Registration and Records

Attendance

The purpose of education is to develop knowledge and skills in students. This can best occur through the act of involvement between you as a student and your instructors. For this reason, attendance in scheduled classes is important to your success.

Blackhawk Technical College does have a "Non-Attendance Policy" (see the website for details) which could cause your being administratively removed from a course due to your non-attendance. No refunds are granted without direct student inquiry during standard refund timelines and bills will continue to be sent regarding course fees due. In addition, most faculty have attendance policies for their courses. You are strongly urged to attend all class periods as scheduled. When you fail to attend classes regularly and when poor attendance endangers satisfactory completion of the course, the instructor will notify the appropriate counselor so that you can be contacted regarding attendance concerns.

If you decide to withdraw, or if you cannot complete the term, it is your responsibility to contact the Registration Office to officially

withdraw (in writing) from your class(es). If you do not officially withdraw, you will receive the grade of "F."

Registering for Classes

Registration is the process of enrolling for specific classes. Time schedules which include registration dates are available prior to registration. You must be registered for all classes that you attend. Registration is necessary in order for your official record to properly reflect your participation in educational activities.

A student does not have a guaranteed seat in a class unless all fees have been paid or a payment agreement has been established. It is your responsibility to keep informed of all registration requirements and procedures. By registering for courses, you accept responsibility of all fees. Non-attendance does not constitute a cancellation of that obligation, nor does it officially withdraw you from the class.

Continuing students will register for the next semester's classes before new students. This gives students the first opportunity to enroll in the courses needed to complete program requirements. A registration schedule will be available to you providing specific procedures to be followed including the date and time of registration, estimated cost, and other applicable information. It is recommended that students register on-line by going to www.blackhawk.edu and choose "Banner Web."

How to Register

USE ONE OF THE FOLLOWING OPTIONS:

Online Registration

If you have been previously enrolled (within the last 185 days) or are currently enrolled and have a student identification number and personal identification number (PIN). Visit the BTC web site, at www.blackhawk.edu and select Banner Web at the top of the web page. Enter your log on info with PIN (a student's PIN was originally set as their six-digit DOB (ie: 050107 for May 1, 2007) and follow the easy instructions to register online. Please be aware that you will be asked for additional security information the first time that you log in to your account.

A Note to New Students

New students must apply for admission in order to have an account set-up within BTC prior to registering for classes using the online option. Once your account set up is completed, you will need your student ID number and personal identification number (PIN) (a student's PIN was originally set as their six-digit DOB (ie: 050107 for May 1, 2007) to activate your online account. This information, along with other important computer service materials, was included with your BTC Acceptance Letter.

In-Person Registration on Central Campus and Monroe Campus*

You can register in person during the hours listed below:

Monday-Thursday	8:00 a.m. to 7:00 p.m.
Friday	8:00 a.m. to 4:30 p.m.

**see page 5 for Blackhawk Technical College Business Hours*

Registration by Mail

Complete the registration form on the website at:

www.blackhawk.edu

From the menu on the opening page of the site, choose "Registering for Classes" in the STUDENTS section of the footer at the bottom of the page. Send in the completed form with your credit card information or a check made payable to Blackhawk Technical College for the exact amount of fees listed in the schedule.

Send to:
Registration Office
Blackhawk Technical College
P.O. Box 5009
Janesville WI 53547-5009

Registration by Fax

Dial (608) 743-4407 for Central Campus or (608) 329-8215 for Monroe Campus to fax your completed registration form along with a MasterCard, Visa or Discover card information. In order for BTC to bill your employer, a letter of authorization for billing must be faxed with your registration form.

Adding a Course

You can add courses to your schedule during the first week of the semester. You can add courses through the college web site or by completing a Course Change form and submitting it to the Registration Office. If you add a course, all additional tuition and fees must be paid at that time, or a payment plan must be established.

Dropping a Course

It is your responsibility to notify the College if you intend to drop a course. You may drop a course through the Web (access available up to the 1st day of the semester) or by completing a Course Change form in person or by mailing, faxing or emailing it to the Registration Office. Students will be charged a $2 drop fee per class. When dropping a course, you may be eligible for a refund consistent with the WTCS refund policy. Any refund will be mailed to you within two weeks.

Course withdrawal may affect your status in your program. Therefore, it is strongly recommended that you discuss course withdrawal with your instructor and/or counselor.

- Non-attendance does not constitute an official withdrawal. You will be responsible for fees not paid. It is particularly important for you to follow these procedures if you are dropping a course. If you do not officially withdraw, you will receive a grade of "F" for the course(s). Please be aware of the BTC Non-Attendance policy.
- You may not drop a course if less than 20 percent of the class remains. In the case of extenuating circumstances, you may obtain written permission from the appropriate dean.
- You may not drop a course if an academic misconduct issue is pending.

NOTE-Adding or Dropping Courses

You should be aware that adding or dropping a course may affect your eligibility for financial aid. If an agency or program is helping

support your educational expenses, you may be required to have your schedule change approved by the agency or program staff.

Refund Policy

You may have a portion of your tuition and fees refunded if you drop or withdraw from a course. The amount of the refund will depend on when you leave the course. Refunds will be issued in accordance with the following state guidelines:

100% Refund

If a student applies for a refund before the first class meeting that the student is scheduled to attend, 100% of student fees shall be refunded.

A student who drops a course before or at the time 10% of the course's potential hours of instruction have been completed, and adds another course on the same day, shall receive a 100% credit for all applicable student fees for the dropped class.

80% Refunds

80% of all applicable student fees are to be refunded if the application for refund is made before or at the time 10% of the course's potential hours of instruction have been completed.

60% Refunds

60% of all applicable student fees are to be refunded if the application for refund is made after 10% but before more than 20% of the course's potential hours of instruction have been completed.

0% Refunds

No refund is to be made if the application for refund is made after 20% of the course's potential hours of instruction have been completed.

In order to receive a refund, except in cases when BTC cancels or discontinues a course, you must request the refund. BTC will issue the refund within two weeks of your request. A charge per course may be retained to help defray processing expenses. Exceptions to this policy may be made in the case of death, extended illness, or other extenuating circumstances determined appropriate by the Registrar.

Full-Time/Part-Time Status

A full-time student is someone taking 12 or more credits during a semester. For summer sessions, it is someone who is taking six or more credits. A part-time student is one taking less than 12 credits per semester or fewer than six credits during the summer session.

Pre-requisites/Co-requisites

Certain classes may require that you take particular courses prior to (pre-requisite), or in conjunction with (Co-requisite) other classes. Students must successfully complete these in order to move forward in their select program. Generally, a grade of C- or higher is required for a pre-requisite. However, some classes have more stringent regulations and students should be aware of these requirements by discussing it with their program advisor or counselor.

Grading Procedures

Your GPA is computed by multiplying the point value of each grade by the credit value designated for each course. The sum of these figures is divided by the number of credits. A minimum 2.0 GPA is needed to maintain satisfactory academic standing and is required for graduation. Grade point averages (GPA) are figured on a 4.0 scale. The point equivalents are listed below. It is the student's responsibility to consult with his/her instructors as to his/her progress. (where is the chart?)

Account Holds

In some cases holds will be placed on a student's account in an effort to alert a student that their attention to a matter is required. Such holds can impact their ability to register, get transcripts, or access Library resources until they are resolved.

Auditing Classes

You may audit a credit class with the consent of the appropriate Dean. If a student repeats a course, it must be for credit and course objectives must be met. A decision to audit must be made at the time of registration. A student taking a class for audit may not change to credit, nor may the student change from credit to audit after the class begins. Students electing audit status will be accepted only after all credit students have been accepted.

When you audit a class you are expected to participate in the class work, complete assignments, and meet the instructor's attendance requirements. Students with disabilities are expected to have a special adaptation plan in place which may waive some of the course requirements. If you elect to audit, you will pay all of the regular tuition and fees. However, no credit will be granted for the course. Your transcript will show an "AU" as a grade. Tuition will be waived for senior citizens who are 60 years old and older. However, all other fees will be charged. Please call for more information.

Credit for Prior Learning

Blackhawk Technical College will grant credit for prior life or work experiences. Credit may be determined by proficiency examinations where the content and depth of study is parallel to that contained in BTC's courses. In all cases, final determinations are reached by the Credit for Prior Learning Committee.

1 Credit for Prior Learning Credits-supported by official transcripts, students may request the transfer of credits from other post-secondary institutions;

2 Advanced Placement or Credit-supported by adequate documentation, students may request awarding of credits based upon work or other experiences (it is the students' responsibility to initiate this with their counselor);

3 Proficiency Testing-when students have had life experiences, advanced high school courses, or other undocumented or unaccredited experiences, BTC offers them the opportunity to receive credit by challenging certain existing courses as approved and arranged by the appropriate division dean.

Special Partnerships with Upper Iowa, Franklin Universities
Blackhawk Technical College has special partnerships with both Upper Iowa University and Franklin University. Upper Iowa has an office on BTC's Central Campus and offers most of their classes at BTC's facilities during evenings and weekends. These courses are designed to lead to a Bachelor's degree in any of several different majors. BTC's arrangement with Franklin University allows students an online degree completion program, combining on-campus classes at BTC with online courses through Franklin. Contact Franklin at (888) 341-6237 or visit:

www.alliance.franklin.edu

UW/WTCS Policy on Credit Transfer
Any student enrolled in the Wisconsin Technical College System who wishes to continue their education in the University of Wisconsin System may be eligible to transfer credits toward a bachelor's degree in the following ways:

UW institutions may accept in transfer up to fifteen (15) BTC general education credits. In cases where UW institutions find such course work not acceptable for transfer, BTC students should have an opportunity to earn credit by examination if the UW institution offers a course which is generally comparable in content and/or title.

Students who have successfully completed an Associate of Applied Arts/Science Degree may be eligible to transfer certain technical support and/or occupational credits when there is a direct relationship between BTC's Associate Degree program and a program offered at a UW System institution.

Students transferring from the WTCS may earn credits by earning appropriate scores on national standardized examinations (e.g., College Level Examination Program) or examinations developed by the UW System transfer institution.

For more information about transfer opportunities, you should consult with your counselor or contact the admissions office at the UW System institution or private college of your choice.

Distance Learning
Blackhawk Technical College provides alternative delivery instruction through computer assisted-based courses, interactive instructional television and hybrid and online formats. Online course sections are identified in the BTC course schedule with the campus location listed as "Internet." In addition, there is a button to search the BTC course schedule for online or alternative delivery classes to quickly find all sections of this type. Students considering taking an online course should read the Online Course Information to see if this type of course fits their level of computer skills and their learning style. To find this information go to Blackhawk.edu, click on the online services link at the top of the page and then choose the Blackboard link.

Wisconsin Caregiver Background Check
Background Check for education and employment in most hospitals, long-term care facilities, home health agencies, and childcare centers. Students accepted into programs with off-campus clinical/externship requirements must complete a background information form disclosing any acts, crimes, or convictions before entry into the program. Programs with Wisconsin Caregiver Background check requirements include:

As of October 1, 1998, Wisconsin law requires Caregiver Background Check for education and employment in most hospitals, long-term care facilities, home health agencies, and childcare centers. Students accepted into programs with off-campus clinical/externship requirements must complete a background information form disclosing any acts, crimes, or convictions before entry into the program. Programs with Wisconsin Caregiver Background check requirements include:

- Certified Nursing Assistant (CNA)
- Diagnostic Medical
- Sonography
- Early Childhood Education
- EMT
- Healthcare Associate
- Medical Assistant
- Nursing (ADN)
- Phlebotomy
- Physical Therapist Assistant (PTA)
- Radiography

Students with any criminal history are placed in the clinical/externship setting at the discretion of the clinical agency. In cases of severe criminal background, the student may be denied placement by law. Consequently, should the student have any criminal background, Blackhawk Technical College cannot guarantee clinical/externship placement or normal graduation time.

Student Support Services

Advising/Counseling Services

Counseling and advising services focus on the development of students. The purpose of counseling and advising is to assist students in achieving their academic, career, and personal goals at the College.

You are encouraged to consult with a counselor or advisor about any academic or personal problem. A counselor can help you explore your aspirations, attitudes, and interests. Counseling services include vocational guidance, career information, assistance with academic and study problems, and personal counseling.

The staff is located in the Career Center and Counseling Services office directly opposite the registration area. Counseling and advising services are available on a walk-in basis, but it is highly recommended that you schedule an appointment. (A full-time counselor is also available at the Monroe Campus.) Counseling and advising services are available at the outreach centers and in the evenings on a limited schedule. For more information about counseling and advising services, or to schedule an appointment, call (608) 757-7668 at the Central Campus, or (608) 328-1660 at the Monroe Campus.

Bookstore

Students are required to purchase their own textbooks and supplies. While it is not mandatory, students will usually find it convenient to purchase materials from the campus bookstore, which is a contracted service. The policy for a refund on book purchases is posted at the bookstore. Because faculty members may determine their textbooks for each course, it is recommended students obtain their required textbooks and workbooks after attending the first class.

The bookstore has available a wide range of textbooks, educational materials, and school supplies available to you. The bookstore is open Monday and Tuesday from 9:00 a.m. to 7:00 p.m., Wednesday and Thursday from 9:00 a.m. to 5:00 p.m., and Friday from 9:00 a.m. to 1:00 p.m. The bookstore is open additional hours, for your convenience, during the first week of classes. Call (608) 757-7672 for more specific information or access their website www.btc.bkstr.com which is also linked to BTC's website. Services you can access via Follett's website include reserving and pre-paying online and then picking up in the store and buying online and having your books shipped. You must have a credit card to have the books shipped, or to prepay!

Bus Transportation

Public transportation is offered between Janesville and Beloit. There are twenty-four (12 to Beloit and 12 to Janesville) stops each weekday at Central Campus between 6:00 a.m. (first stop at BTC is 6:15 a.m.) and 6:15 p.m. (last stop at BTC is 5:40 p.m.). The schedule has been coordinated with the transit companies so the stops coincide with class schedules to the degree possible. Bus schedules, fare information, routes, etc. are available at the information Desk at the Central Campus.

Career Center

Career Services at Blackhawk Technical College provides an opportunity for students to develop and attain career goals through research, action planning and learning to conduct an effective job search. Assistance is available through individual career development appointments, classroom activities and presentations, computerized career and education planning and connections with employers through Wisconsin TechConnect, the Wisconsin Technical College employment site. Through occupational exploration, career decision making and realistic action plans we can help you find satisfying career options for a brighter future. The Career Center is open Monday through Friday. Some evening hours are available by appointment. Contact (608) 757-6329 for information or see your counselor.

Childcare Learning Services and Children's Learning Center

The BTC Children's Learning Center is for use by students attending Blackhawk Technical College. The center is licensed by the State of Wisconsin and employs a teaching staff certified in early childhood education. Activities the children can engage in are large motor, language development, math, science, sensory, and small motor skills. Children from birth through six years of age are eligible to attend. The center is open daily during the school year, normally from 6:30 a.m. to 5:30 p.m., but operating hours may vary throughout the year and are subject to change. BTC-Children's Learning Center also collaborates with the School District of Janesville by offering a four-year-old kindergarten program called the P4J Program. The hours for the P4j program are as follows: AM Session 8:30 to 11:30 or PM Session 12:30 to 3:30. You are encouraged to contact the Children's Learning Center at (608) 757-7751 for more information about the hours and services provided.

Disabilities Services

BTC assists students with disabilities by providing special accommodations, when requested. If you have a disability for which you need accommodations, you should contact your instructor, a BTC Counselor or the Special Populations Instructor at (608) 757-7796. Reasonable accommodations, including academic and technical program adaptations, can be made to assist you in achieving your career goals.

If you request an adaptation of a credit course, your counselor, instructor, and Special Populations Instructor will assist you in developing and implementing an educational plan. A Reasonable Accommodations Request Form will need to be completed and approved. This form can be obtained by contacting your counselor in Student Services or Special Services staff in room 2404 or the main reception desk at the Monroe Campus. BTC standards regarding course quality and academic progress must be maintained.

For individuals who are hearing impaired, TTY (text) telephones are available at each BTC facility. By calling the main telephone number at each center, you will be able to communicate directly from your personal TTY (608) 757-7761.

BTC can also provide accommodations for students and guests with disabilities participating in activities and using BTC facilities. If you require a special accommodation, you should contact the Student Services Office (608) 757-7713 or information desk at the

Monroe Campus (608) 328-1660 to request accommodation services or equipment. In most cases, it is desirable to request accommodations at least two (2) weeks before the event, however, requests with shorter notice will be provided whenever possible.

Food Service

The Student Commons is the focal point for students on the Central Campus. The adjacent food service area (The Courtyard Grill) serves reasonably-priced breakfasts, lunches, and snacks through a contracted service with hours posted.

A number of student lounges are available for gathering and studying in a relaxed, quiet setting. Several of the lounges have vending services for snacks. Food and beverages are only allowed in the Commons, Blackhawk Room, and two designated student lounge areas. Food and beverages are not allowed in classrooms, hallways, lobby areas, or restrooms. You are encouraged to follow this rule and help keep the facilities clean and neat.

Grievance Process

A student can file a grievance if he/she considers a college practice, policy, rule or regulation to have been applied in an unfair, inequitable, improper, or discriminatory manner or in any other way that hinders the education process. Students with disabilities should contact the ADA Officer and follow steps in the Student Grievance Procedure.

Health Insurance

Student insurance programs are available on an individual basis for interested students. Brochures describing available coverage options are available in the Student Services Office on the Central Campus and at the Monroe Campus.

Learning Center and Tutorial Services

Learning Centers are available at the Central Campus, Monroe Campus, and Beloit Learning Center to assist you with academic and study skills. The centers will provide tutorial and remedial academic classes intended to help you successfully complete your program/course requirements and assignments. The Central Campus Learning Center is open from 8 a.m. to 3 p.m. and 5 p.m. to 8 p.m. Monday through Thursday, and Friday from 8 a.m. to 11:30 a.m. Services are provided at no cost to you. Call the Monroe Campus at (608) 328-1660, Rock County Job Center (608) 741-3566, and the Beloit Learning Center at (608) 757-7669 for hours of operation.

BTC counselors coordinate with Learning Center staff to provide further assessment, career counseling, and referral to the Master Student course for those students who are not making satisfactory academic progress or who have limited English proficiency.

If you are interested in improving your basic academic skills, or need instruction to prepare for obtaining your GED/HSED or high school diploma, you may attend classes at a variety of outreach or community sites. Training is provided at no cost to you. For more information about class schedules and location, contact the Learning Center on Central Campus at (608) 757-7676.

Library

Four libraries are available to students at BTC. The Central Campus Library is open from 7:30 a.m.-9:00 p.m. Monday through Thursday and from 7:30 a.m.-4:00 p.m. on Friday. It is also open Saturdays from 9:00 a.m. to 1:00 p.m. The Monroe LRC, the Aviation Center Library and the Center for Transportation Studies Library have collections related to programs at their locations. Each has its own hours of operation.

Multicultural Affairs

Blackhawk Technical College provides supportive services designed to assist multicultural students with many aspects of their educational experience at BTC. Services include advisement of entry requirements; orientation to college activities; program resources and procedures; and administration of various scholarships and loans for ethnic students. The main function is to enhance the success and retention of ethnic students attending BTC. The Multicultural Office is located in the Student Services area and is open by appointment or on a walk-in basis. Call (608) 757-7719 for more information.

Parking

The Central Campus usually has adequate parking for everyone, however overflow parking may be utilized as deemed necessary. Please observe parking restrictions as posted. Otherwise, you may park on a first-come, first-served basis.

Parking for the disabled has been reserved at several locations. Only persons with a valid disabled license plate or handicapped sticker issued by the Wisconsin Motor Vehicle Department may park in those spaces. BTC cannot issue any kind of handicapped sticker.

Several designated areas have also been set aside for special purposes. There is short-term parking for parents dropping their children at the day care center. There is also a designated area for motorcycles. There is no parking in driveways (unless otherwise posted) or on the paved areas adjacent to the buildings. These areas need to be kept open for emergency vehicles. Anyone parking in a restricted area without an appropriate license may receive a parking citation issued by the Rock County Sheriff's Dept.

On-site parking is available at the Aviation Center, Center for Transportation Studies and the Monroe Campus. The rules noted above also apply to these locations. The Beloit Center has public parking available within a reasonable walking distance.

Student Identification Numbers

As of January 1, 2000, Wisconsin Act 128 limits the disclosure and release of student social security numbers. In order to comply with Act 128, BTC assigns a unique identification number to each student. This identification number does not incorporate the student's social security number. However, BTC will continue to collect and report student social security numbers for state and federal reporting requirements. BTC procedures are designed to ensure that student social security numbers remain confidential.

Student Identification Cards

Identification cards are available to all BTC students who are enrolled in credit or basic skills courses. The cards include BTC logo and address and student picture, name and nine digit identification number. The card also includes a bar code that allows students to access resources at the BTC library.

Photos will be taken during new student orientations and at the beginning of each semester. After this time, students can have pictures taken and cards issued through the Student Services department in the Counseling and Career Center. For more information contact the Student Services office.

Campus Safety and Security

Alcohol and Other Illegal Drugs Policy

The possession and safe use of alcoholic beverages on BTC premises is strictly prohibited. In addition, the possession, use, and sale of alcohol is further regulated in accordance with applicable state and federal laws and Wisconsin Administrative codes. BTC cooperates with local police agencies to enforce underage drinking laws and other violations related to the possession, use, and sale of alcohol. As a BTC student you are expected to comply with all laws and District policies regarding the use of alcoholic beverages. Depending on the nature of the violation, you may face legal prosecution and/or disciplinary action in accordance with applicable laws and BTC procedures.

Smoke/Tobacco Free Campus

For the health and well-being of everyone using BTC's facilities, smoking and the use of any type of tobacco product is NOT PERMITTED in any of the buildings. Smoking outside of the buildings is allowed, but only in the areas designated for that purpose. Smokers are encouraged to use only the designated areas set aside for tobacco use and the receptacles located at those areas.

Campus Safety

It is the intent of BTC to provide a safe, secure, and appropriate environment in which students can learn and employees can work. However, like all segments of society, situations may occur which threaten the security and safety of property and people.

If you feel threatened, see criminal actions, or observe behavior which jeopardizes the safety and security or property and persons at BTC, you should report the incident immediately to the Student Services Office or the designated center supervisor. BTC staff will assess the situation and determine if an emergency response is necessary. When, in the judgment of the BTC staff member on the scene, the situation warrants emergency intervention, local law enforcement will be contacted to resolve the problem and investigate the incident. Any non-emergency incident of property damage, theft, burglary, or other criminal actions should be reported to local law enforcement for investigation and disposition.

SafeWalk

SafeWalk is a service provided by BTC for night students and staff. The service provides those wishing to use it with an escort to your car by a SafeWalk representative. The hours of operation are Monday through Thursday, 6:00 p.m. to 10:15 p.m. From 8:00 p.m. until 10:15 p.m., SafeWalk personnel will be available every 15 minutes to walk you to your vehicle. The meeting and departure point from the building will be the lounge area in the front lobby next to the information desk. SafeWalk personnel will be available prior to 8:00 p.m. by contacting the front desk at (608) 757-7710. The SafeWalk person on duty will have an I.D.card, and will be dressed in uniform pants, a polo shirt with SafeWalk printed on the front and back, will be wearing a cap with the SafeWalk insignia, and when needed a jacket with SafeWalk printed on it. The SafeWalk Person will have a telephone with them at all times, and can call for assistance from 911 directly if needed.

Security of and Access to BTC Facilities

Access to and use of BTC facilities is governed by institutional policies and local statutes. Access to facilities is limited to BTC students, faculty, and staff for work, education, or other related purposes. Outside groups may use the facilities with special permission in accordance with district policy. Loitering or wandering through the facilities for unapproved reasons is prohibited.

Security of BTC facilities is provided through a number of mechanisms, including establishing hours of operation, locked doors, keys limited only to those persons with a direct need to access certain areas, and the provision of lighting for security purposes. Other security mechanisms may vary by facility. BTC utilizes local law enforcement agencies to patrol parking lots and other areas around the facilities. When an incident occurs, BTC utilizes the services of local police authorities who have the statutory power to enforce applicable laws and who possess arrest powers.

Criminal Offense Statistics at College Facilities

BTC must annually report the crime statistics in accordance with applicable laws. Following is a summary of crimes that occurred on BTC facilities during and 2006, 2007, and 2008:

	2006	2007	2008
Murder			
Murder and Non-Negligent Manslaughter	0	0	0
Negligent Manslaughter	0	0	0
Rape			
Forcible	0	0	0
Non-Forcible	0	0	0
Robbery	0	0	0
Aggravated Assault	0	0	0
Burglary	2	0	0
Motor Vehicle Theft	0	0	0
Arson	0	0	0

Statistics about Arrests on Campus Facilities

Local police agencies report the following information regarding arrests on BTC facilities during 2006, 2007, and 2008:

	2006	2007	2008
Liquor Law Violations	0	0	0
Drug Abuse Violations	0	1	1
Weapons Possessions	2	0	0

BTC encourages cooperation with local police to monitor and record information concerning criminal activity involving BTC students or recognized student organizations, but occurring away from BTC facilities. BTC will cooperate with local law enforcement authorities who may request BTC staff to verify information (e.g. students' status, ages, residence, etc) about students.

Sex Offender Registry

Federal law requires BTC to provide Information where students can obtain Information about registered sex offenders in the state or community. The Wisconsin Sex Offender Registry is maintained by the Wisconsin Department of Corrections. Information is available on the department's website at http://widocoffenders.org.

Discrimination and Harassment Policies

BTC, through its commitment, will affirmatively attempt to provide an environment free of harassment for all employees and students. Harassment of students and employees of BTC is unacceptable and will not be tolerated. BTC deplores such conduct as an abuse of authority. BTC, in compliance with Title VII of the 1964 Civil Rights Act, Title Ix of the 1972 Education Amendments, Section 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act, prohibits harassment by supervisors, co-workers, students, and non-employees on the basis of sex, race, national origin, disability, or other protected status person.

BTC has no tolerance for discriminatory, harassing, or racist behaviors. Specifically, the Blackhawk Technical College District Board actively complies with all state and federal equal opportunity and affirmative action laws, rules, executive orders, and policies. It is the policy of BTC not to discriminate in employment on the basis of age, race, creed, color, religion, handicap, marital status, sex, national origin, ancestry, arrest record, conviction record, sexual orientation, or membership in the National Guard, state defense force, or any reserve component of the military forces of the United States or this state. BTC does not discriminate against students on the basis of race, color, creed, religion, sex, national origin, disability, ancestry, age, sexual orientation, pregnancy, marital status, or parental status. Discrimination means the difference in treatment in any service, program, course, or facility of BTC on the basis of these protected statuses.

Inquiries regarding equal opportunity and possible discrimination may be directed to one of the following individuals. Their area of expertise, office location at the Central Campus, and telephone number are noted:

Brian Gohlke, Vice-President, Human Resources,
Affirmative Action Officer, Administration Center
(608) 757-7773

Linda Brown, Student Services, Title IX Officer,
Central Campus, (608) 757-7670

Renea Ranguette, ADA Officer,
Administration Center, (608) 757-7700

Wanda Sloan, Diversity Specialist, Human Resources,
Administration Center, (608) 757-7745

Your written concerns can be sent to any of these individuals at: Blackhawk Technical College, 6004 S County Road G, P.O. Box 5009, Janesville, WI 53547-5009

Harassment is unwanted, deliberate, or repeated unsolicited comments, slurs, demeaning references, gestures, graphic materials, physical contacts, solicitation of favors, advances, or other adverse treatment based on a protected group status when:

1. Submission to such conduct is made either explicitly or implicitly a term or condition of an individual's employment, student status, or academic participation.
2. Submission to or rejection of such conduct by an individual is used as the basis for employment or academic decisions affecting an individual.
3. The conduct has the purpose or effect of substantially creating an intimidating, hostile, or offensive environment which tangibly affects or interferes with an individual's job performance or other employment or academic opportunities.

Alleged acts of harassment and discrimination may be violations of equal employment or educational opportunity policies under which BTC operates. Discipline may be imposed for violations of this policy in accordance with the procedures outlined in The Student Disciplinary Procedure.

Privacy and Access to Student Records

The Family Education Rights and Privacy Act (FERPA) affords you certain rights with rights with respect to your education records. They are:

1 The right to inspect and review your education records within 45 days BTC receives a request for access.

You should submit to the Registrar written requests that identify the record(s) you wish to inspect. The Registrar will make arrangements for access and notify you of the time and place where the records may be inspected.

2 The right to request the amendment of your education records that you believe are inaccurate or misleading.

You may ask BTC to amend a record that you believe is inaccurate or misleading. You should write to the V.P. of Student Services, clearly identify the part of the record you want changed, and specify why it is inaccurate or misleading.

If BTC decides not to amend the record as you requested, BTC will notify you of the decision and advise you, of your right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to

the student when notified of the right to a hearing.

3 The right to consent to disclosures of personally identifiable information contained in the student's education records, except to the extent that FERPA authorizes disclosure without consent.

One exception which permits disclosure without consent is disclosure to school officials with legitimate educational interests. A school official is a person employed by BTC in an administration, supervisory, academic or support staff position; a person or company with whom has contracted (such as an attorney, auditor, or collection agent); a person serving on the Board of Trustees; or a student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his or her tasks A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibility. Upon request, BTC discloses education records without consent to officials of another school in which a student seeks or intends to enroll.

4 The right to file a complaint with the U.S. Department of Education concerning alleged failures by Blackhawk Technical College to comply with the requirements of FERPA. The name and address of the Office that administers FERPA is: Family Policy Compliance Office, U.S. Dept. of Education, 600 Independence Avenue, SW, Washington, DC 20202-4605

The Blackhawk Technical College Board has designated the following information as directory information: your name, address, telephone number, date and place of birth, major field of study, dates enrolled, credits earned toward a degree/diploma, most recent prior school attended, degree/diploma, honors/awards and dates received, and participation in activities.

Directory information may be released without your prior written consent unless you specifically request that the information be withheld. Any requests to withhold directory information must be made in writing to the Registration Office. Your request will remain in effect until you state, in writing, that the information should no longer be withheld. Requests to withhold only certain categories of directory information cannot be accommodated. Parents of students do not have automatic access to their children's student records. Any student wanting to grant access to their records to another party can complete a Release of Information which is available at Student Services or can be accessed on the BTC website.

Retraining Guarantee Policy

BTC is committed to educational excellence. The education and training offered at BTC is designed to enable you to acquire job entry occupational skills needed for full participation in the workforce. BTC stands behind the training provided and will guarantee to provide at least six (6) additional credits of retraining, at no cost to you, under the following conditions:

- Your employer certifies that you lack the target job competencies specified in the educational program normally expected of a job entry-level employee, or
- You have not secured employment within six months following graduation

To be eligible for the guaranteed retraining you must have successfully completed and graduated from a one-year technical diploma, two-year technical diploma, or associate degree program. In addition, you must have registered for services provided through BTC's Employment Development Service located in the Career Center and actively pursued employment in your occupational field or a related field. Other guidelines may also apply. For more information on BTC's Guaranteed Retraining Policy, contact the Student Services Office at (608) 757-7713.

Unattended Children

Children may not be brought and left unattended, for any reason, in any of BTC's buildings or facilities (including parking lots and surrounding areas). Children will also not be allowed in classrooms and instructional areas during the scheduled classes. Children are defined as minors under the age of 18 who are not enrolled in BTC programs or courses. Children found unattended in BTC facilities will be turned over to authorities for appropriate action. Parents need to make adequate arrangements for the care of child(ren) while attending classes.

Student Life

Awards Program

The honors recognition program culminates in late April at the annual Awards Banquet and Reception sponsored by the Student Government Association. At the program, individuals are recognized for their academic achievements, participation in clubs and student organizations, and contributions to the community and BTC.

BTC Ambassadors

Student Ambassadors are a select group of students who represent BTC, as well as their own programs, to our student body and local communities. They serve as orientation leaders, tour guides, speak to groups in area schools and community organizations, and assist with the many events that take place on campus. Ambassadors develop leadership and teamwork skills that will benefit them in their careers. Candidates are selected through a screening and interview process during the spring semester. Selected students serve as Ambassadors during the following academic year.

Clubs and Organizations

Student organizations provide valuable experiences to students by fostering leadership, personal development, career opportunity, and community relations. They are considered an integral part of the total educational experience at BTC. Students may choose from the following organizations:

Association of Information Technology Professionals (AITP)

The AITP is open to students interested in Computer Information Systems. During the year, as a member, you will be involved in community service projects, social functions, field trips, and fund raising projects.

Aviation Club
The purpose of the Aviation Club is to promote aviation-related activities, both educationally and recreationally. Membership is open to any student, not just aviation students. As a member of the Aviation Club you will have opportunities to develop leadership skills while enjoying the excitement of aviation.

Business Professionals of America (BPA)
The mission of BPA is **"**To contribute to the preparation of a world-class workforce through the advancement of citizenship, academic, and technological skills." This club is open to all students interested in business related fields. Students have the opportunity to compete at a local, state and national level in business competitions.

Campus Crusade for Christ
The BTC Chapter for Campus Crusade for Christ is open to all students. Students involved will participate in community service, leadership events and be part of a community that shares the values of faith, fruitfulness and growth.

Criminal Justice Association
This club is an organization of interested students and staff working together to enhance training and education in the Criminal Justice program, to develop interest in the many fields Police Science offers, and to have fun while attending BTC.

Early Childhood Education Club
The Early Childhood Education Club provides students interested in the Early Childhood Education with opportunities to develop citizenship, leadership, and professional skills, become involved in career development programs, and participate in community service projects, while also offering students the opportunity to take part in professional growth activities. The club annually sponsors an educational seminar and thank you reception for early childhood educators.

Epicurean Club
The Epicurean Club enables Culinary Arts students to participate in educational activities which enhance their program. Students have the opportunity to show off their talents at various competitions throughout the year.

Fire Protection Technician Club
This club is open to all students interested in learning more about the field of fire protection and fire science. This program works with local community agencies to gain professional development experience and provide community service.

Health Occupations Students of America (HOSA)
The Health Occupations Students of America (HOSA) is available to all students interested in Health Occupations. The organization helps to develop leadership, citizenship, personal and professional responsibility, as well as promoting various service projects throughout the District. On-campus activities are also part of the organization's programming.

Industrial Occupations Club
The Industrial Occupations Club gives students the chance to acquire a sense of belonging to American industry and an enthusiasm for learning. As a member of this club, you will have numerous opportunities for leadership development, community and school service, educational experiences, and socialization programs. As an Industrial Occupations Club member, you will be able to help promote and sustain American industrial technology.

Multi Ethnic Cultural Association (MECA)
Members of this club represent the diverse background of students involved in campus and community activities. Members are encouraged to promote goodwill, develop leadership skills, and achieve academically. Fund raising is a major function of the club to help sponsor annual scholarship awards for active members.

Phi Theta Kappa Honor Society
Phi Theta Kappa is the official honor society of two year institutions and community colleges. The purpose of Phi Theta Kappa is to promote scholarship, develop leadership, and provide service and fellowship for students qualifying for this organization. Membership is determined by academic achievement and through invitation only. For more information on membership please contact the office of Student Life.

Postsecondary Agriculture Student Organization (PAS)
The PAS organization meeting primarily at the Monroe campus, but is open to all BTC students. PAS works with students who are interested in agriculture, agribusiness and natural resources. The purpose of PAS is to provide opportunities of individual growth, leadership and career preparation.

Outdoors Club
The Outdoors Club is open to all BTC credit students. It was formed in January, 1997 to promote and provide students with an educational experience outside the classroom, teach students lifelong sports and recreational skills while promoting lifelong health and wellness. The club participates in SGA and promotes on- and off-campus activities.

Veterans Club
The purpose of the Veterans Club is to aid in the transition from military life to college life. This organization is a chance for veterans and other students to socialize, share problems, perform public service and get current, accurate information on veteran's issues.

Fitness Center

The Blackhawk Technical College Fitness Center is located in the Central Campus and features over 16 pieces of modern fitness equipment. Credit students qualify to receive a free Fitness Center membership because of a generous donation by the Student Government Association. These funds came from segregated fees, which every BTC credit student pays in addition to regular tuition. All Non-Credit student memberships cost $25 per year. Faculty, staff and administration of Blackhawk Technical College can use the facility for only $50 per year. The fee is non-refundable and is valid from September-August of each year.

Job Placement/Employment Development

BTC provides a link between employers, students, and alumni. A listing of current employment opportunities, labor force information, and materials to help you be successful in a job search are available. Wisconsin and federal job listings are also

available through the Internet.

If you are a prospective graduate, you are encouraged to contact the Career Center for more information.

Student Government Association (SGA)

The purpose of the Student Government Association (SGA) is to promote citizenship and leadership among the student body, foster a spirit of democracy and unity in student activities, and encourage mutual understanding among students, administration and staff. SGA is composed of representatives from each program and club who meet during the activity period to discuss and act on issues of importance to the student body. Some other opportunities for students involved in SGA are:

Wisconsin Student Government

The Wisconsin Student Government (WSG) of the Wisconsin Technical College System is a statewide organization comprised of elected representatives from each of the 16 technical colleges in Wisconsin. The Board of Governors of WSG is an advocacy group for technical college students at the local, state, and national levels.

Student Handbook/Planner

The Student Handbook/Calendar-Planner contains important dates and occurrences throughout the year at BTC. Student Handbook/Calendars-Planners will be distributed one per student.

Outstanding Student Achievement

This award is for students in the top 10 percent of their program who are graduating with a 3.25 or above grade point average. Students must be nominated by instructors. Selection is also based on leadership qualities and class participation.

Special Recognition Award

This award is not based on academic standing. It recognizes students who have shown initiative in attaining their goals, provided leadership and support to their fellow students, and contributed toward the continued success of their program or BTC in general. Up to five students may be nominated per program. Nomination is done by instructors.

Special Service Award

This award is for students who have participated in the BTC student clubs/organizations. It is for service and is not based on academic standing.

Student Representative to the District Board

BTC was one of the first technical colleges in Wisconsin to formally have a student representative to the Board. Elected by the Student Government Association, the student representative serves in a non-voting position and acts as the liaison between the Board and the student body. The term of office is one year with elections held annually in the spring semester.

Student Network of Activities and Programming (SNAP)

The Student Network of Activities and Programming (SNAP) plans campus-wide social, recreational, and educational activities. This committee is open to all students. Student members are involved in choosing entertainers for campus programs, and marketing and promoting campus-wide events. Students involved with SNAP will gain professional experience in marketing, planning, negotiation and communication.

Student Newspaper

The Blackhawk Flyer is a publication created and produced by volunteer students. All students are encouraged to submit articles and express their viewpoint on issues concerning them. The staff of editors, photographers, reporters, and salespeople strives to keep everyone informed of campus happenings and issues facing technical education.

PROGRAM INFORMATION

Associate Degrees

These programs are organized to provide day and evening educational opportunities at the two-year associate degree level. The overall objective is the creation of an atmosphere of inquiry and learning in which students are guided in their pursuit of the understanding, appreciation, knowledge, and skills essential to their active and effective participation in their home, occupational, and civic lives.

The specific objective is to prepare students for entry into or advancement in occupations which depend on technical information and on an understanding of the laws and principles of mathematics, science, and technology relevant to modern design, production, distribution, and service.

Associate degree programs require successful completion of a minimum of 64 semester credit hours of course work of which 32 must have been courses dealing with the major field of instruction. At least 25 percent of these semester hours must have been earned at the institution awarding the degree. The distribution of course credits may vary according to the type of degree program in which the student is enrolled.

Apprentice Programs

Apprenticeship training is a formal training agreement that combines on-the-job training with related theoretical and practical classroom instruction. The term of training may vary from one to six or more years, depending on the trade. Upon successful completion of the apprenticeship, the student is issued a recognized certificate of completion.

To become an apprentice, the first step is to select a trade or occupation. Application procedures vary by trade and location. Most apprentices begin at approximately fifty percent of the current skilled rate. There are currently over 300 occupations in apprenticeship. A list of these may be obtained from: State of Wisconsin, Wisconsin Department of Workforce Development, Bureau of Apprenticeship Standards, 201 E Washington Ave, Room E100 PO Box 7972 Madison, WI 53707; phone (608) 266-3332. For more information, please contact the BTC Transportation, Agriculture, and Apprenticeship Office at (608) 743-4471.

Diploma and Certificate Programs

Certificate programs include a grouping of only those courses which are essential to prepare a student for successful employment in specific occupations. Certificates may be awarded for completion of an educational offering not described under diploma or associate degree program criteria by the department that has responsibility for the program.

Diploma programs provide more extensive training on a broader base in a more complex work area. This training leads to greater employment opportunity and advancement possibilities.

Diploma programs may be less than one year, one year, or two years in length. Occupational skills course work comprises a minimum of 80 percent of the total class time spent in these programs. Supportive related course work may constitute the remaining curricular requirements. Related instruction for apprenticeship is included as a diploma program.

Tech Prep-School-to-Work

MISSION: To make education relevant so that all students find value in pursuing options to continue in post-secondary education and be successful in career and life-long learning.

Tech Prep is a federally funded program administered through the Wisconsin Technical College System. It works in coordination with School-to-Work, Work-based Learning and Youth Apprenticeship initiatives. The Blackhawk Tech Prep Consortium is comprised of 13 Public School Districts in Rock and Green Counties, UW-Whitewater, and CESA 2. The Tech Prep Consortium engages in activities that support partnerships between employers, labor, educators, and other community members to build a high quality educational system that is designed to focus students on a career path for the future. The consortium meets monthly to determine implementation of activities and to jointly share information and resources.

The Tech Prep initiative works closely with secondary students and educators, from grades 7-14, to create a seamless transition between consortium high schools and Blackhawk Technical College. This seamless transition is established through a variety of connecting activities. These activities include:

1. **The development of articulation agreements** between area high schools and the technical college.
    a. An articulation agreement grants high school students the opportunity to earn technical college credit while enrolled in high school, saving students (and parents) time and money while giving students a head start on their college degree.
2. **Career Exploration opportunities** are offered jointly by Blackhawk Technical College and Tech Prep for students in grades 6-12. These include: Sixth Grade On Campus Days, Tech Knowledge College for grades 7-10, "World Of" Career Exploration Days for grades 9-12, Preview Days for grades 11-12.
3. **Professional development** for area educators from grades 7-14 is also coordinated and provided through Tech Prep. These experiences are designed to emphasize rigorous and relevant applied learning, while connecting to the Wisconsin Model Academic Standards. Opportunities include: PK-16 Professional Development Summer Institute, Educator Externships, Joint Tech Prep Partnership Projects that are supported by $500 grants, Workshops on Assistive Technology, Self Advocacy, Industry Certifications like Microsoft Office Specialist or IC3 certifications, and other individualized training opportunities.

Academic Support Division

The Academic Support Division faculty and staff provide basic skills education, GED/HSED instruction, classes for English Language Learners, and support services which assist students to prepare for and succeed in post-secondary education, employment, family, and community settings. The Division works closely with other divisions of Blackhawk Technical College as well as local schools and industry to develop programs to meet educational needs in the community.

The division provides an array of services in response to students' unique circumstances, abilities, and goals. Instruction is provided via classroom, workshop, tutorial computer, CD Rom and personal individualized assistance through our Learning Centers. Our instructional staff is sensitive to the concerns of adult students who desire to complete or continue their education. We are equipped to provide students with supportive services and referrals as well as personal support.

A pre-assessment of academic needs (TABE) is required. Material fees may apply. Contact the BTC Learning Centers:

Central Campus

6004 S Cty Rd G, Janesville WI 53546-9548, **(608) 757-7676**

Beloit Center

50 Eclipse Center, Beloit WI 53511-3550, (**608) 757-7741**

Green County/Monroe Campus

210 4th Ave., Monroe WI 53566-1033, **(608) 328-8204**

Rock County Job Center

1900 Center Ave., Janesville WI 53546-2801, **(608) 741-3566**

GED Testing Service®

A program of the American Council on Education

General Education Development (GED) and High School Equivalency (HSED) Credentials

The GED and HSED tests measure high school-level knowledge and skills. The tests are designed to measure the academic outcomes students normally acquire by completing a typical high school program of study.

Additional information can be obtained by contacting (608) 757-7666 or 1-(800) 498-1282 ext 7666.

Adult High School

This program allows many adults to complete a High School Diploma in cooperation with their home high school. Students who did not finish high school may often be able to do so at BTC in one of several ways. In most high school districts, a student can plan with the local counselors and the BTC staff to complete the requirements for a high school diploma. This is done by combining Basic Skills Education instruction with past credits earned and work experiences. The course work can be offered solely at BTC, at the district high school, or both. The minimum age for participation is 18 years, 6 months and Wisconsin residency is required.

Basic Skills Education (BSE)

This program is open to all adults of the district who need to improve basic academic skills and/or self-confidence before or simultaneous to vocational program enrollment. Basic skills and career awareness classes are also components of several of the high school completion options which BTC provides. BSE classes are offered throughout Rock and Green Counties at various community and workplace sites in addition to BTC's Central Campus and Monroe Campus, and the centers at Beloit and the Rock County Job Center.

Some Basic Skills Education courses are designed to give specific preparation for vocational or technical courses. These courses have been set up with the cooperation of a particular division to provide the basic skills necessary for entry into its programs.

For the student who has been away from school for a long time, or whose high school preparation was deficient, BSE classes can provide the review and basic skill development that may make the difference between success and failure in a vocational/technical program.

All programs in this section are offered at **NO COST** to the student; however, there may be an assessment or materials fee.

CALC-Computer Assisted Learning Center

CALC combines small group instruction and computer technology to teach a variety of basic skills in a way that develops the core abilities that employers desire. Students demonstrate personal responsibility, time management, ability to work cooperatively, and the use of technology as they work through their individual learning plans within the framework of a structured curriculum. Flexible scheduling allows students to accelerate learning and meet individual goals. At one end of the CALC instructional program are basic language skills such as beginning reading, writing, and vocabulary for English and non-English speakers. Instruction continues across a range ending at higher level reading, language, and math competencies needed in many vocational programs. A trained instructor is always available to assist and guide students as they progress at their own pace in this personalized education program. This program is particularly effective for students who need non-traditional schedules and for those who prefer a lab setting over a formal class setting.

ELL-English Language Learning

ELL provides Basic Skills Education instruction in speaking, listening, reading, and writing skills for adults whose native language is not English. The stress is on speaking the English necessary for employment and to function in a new community. ESL classes are provided AT NO COST on a need basis in various community locations throughout the Blackhawk District.

Family Literacy Programs

Blackhawk Technical College works in cooperation with the Beloit and Janesville Public Schools to provide parenting, classes for English Language Learners (ELL), and basic skills instruction. The Even Start Family Literacy programs provide a family-centered learning model for parents who wish to improve basic literacy and to complete their GED or HSED testing program. Effective parenting skills are reinforced by bringing children and parents together for joint learning experiences.

High School Contracting

This is a cooperative effort to provide educational alternatives to at-risk students and to comply with the Compulsory School Attendance Laws. 118.15. It offers high school credit and GED/HSED courses for students referred by and enrolled in district high schools. This program aids the public schools by providing in-school youth with a chance to make up or add on credits.

Learning Centers

In the Learning Centers students study at their own pace to earn high school diplomas, prepare to take GED/HSED tests, prepare to enter vocational programs or post-secondary studies and obtain assistance with vocational studies.

Subjects are presented through self-study materials and audio-visual presentations. Individualized instruction allows the student to learn at his/her own rate. Students arrange their study schedules and study the number of hours per day that they wish. An instructor is available to offer guidance and assistance as needed or requested. The Learning Centers are open at convenient hours. Students are encouraged to stop in during their free time.

RECAP Project

The Rock County Education and Criminal Addictions Program (RECAP) is a cooperative program between Blackhawk Technical College and the Rock County Sheriff's Department. With the goal of reducing recidivism, the program provides Basic Skills Education, counseling on overcoming addictions, cognitive intervention, work, and community service.

Supplementary Services for Students with Disabilities

Appropriate assistance or program modifications for visually impaired, hearing impaired, learning disabled, cognitively disabled, emotionally disabled, or physically disabled students who need assistance to better insure success in their chosen

vocational program. There is no cost to individuals or referring agencies for persons who meet the criteria listed. The Special Populations Instructor will also travel to outreach centers to assist in necessary adaptations. Please call (608) 743-4422 Voice/TTY for assistance.

Tutorial and Instructional Assistance

Tutorial and classroom instructional assistance is available for students enrolled in technical diploma and associate degree programs. Individual instruction helps students with their study skills and academic subjects at the Central Campus during weekdays and selected evenings.

GED-General Education Development Certificate
HSED-High School Equivalency Diploma

This fulfills the high school diploma requirement for most jobs. It is acquired by successfully completing five exams. The GED/HSED option is an attractive alternative for those non-high school graduates who have little or no high school credit accumulated. The General Education Development Certificate (GED) is issued by the State Department of Public Instruction (DPI) to a student upon satisfactory completion of five exams. A High School Equivalency Diploma (HSED) is also issued by the State through BTC based on attainment of three additional requirements to the GED. The minimum age is 18 years, six months.

State Department of Public Instruction-approved testing centers for the Blackhawk Technical College District are at the Central Campus, Beloit Learning Center, Monroe Campus, Rock County Job Center, and the Rock County Jail. A list of regularly-scheduled testing dates, times, and locations is available each semester. This information is also announced in the local media or may be obtained by contacting one of the Learning Centers.

Classes for GED/HSED preparation are available throughout the Blackhawk Technical College District. Call specific center for schedule.

Vocational Training for Special Needs/At Risk Youth Program

The Vocational Training for Special Needs/At Risk Youth program is a cooperative effort between CESA #2, BTC, and district high schools. This articulation program provides high school special needs/at risk students with "hands-on" exploration and experience through enrollment in mini courses. The mini courses are specifically designed to give a basic overview of skills needed to succeed in BTC technical programs.

Wingspan

Retention and career development services for nontraditional students, those students enrolled in programs comprised of 25% or fewer of their gender, and displaced homemakers, those who are widowed, divorced, separated, or who have a disabled spouse. Services include brush-up classes, financial assistance, and job seeking skills assistance. All services are provided in a caring and confidential manner.

Services include:

- Career planning workshops
- Individual career development assistance
- Referrals to community and college-based resources
- Individual assistance for personal advocacy
- Academic and personal skills enhancement

Referrals to financial resources including scholarships, traditional financial aid resources, and other community resources available.

Contact the Wingspan Coordinator at (608) 757-7656.

Basic Skills Courses

Basic skills education courses can carry 1-3 credits and may meet from 2-6 hours per week, BSE credits do not transfer into degree programs. **Students may need to purchase books and materials.**

Course No.	Course Name
73-851-713	BSE Communications 1
73-854-713	BSE Math 1
73-856-713	BSE Science 1
73-858-713	BSE Reading 1
73-859-713	BSE Social Science 1
73-862-713	BSE Employability Skills/Career Decisions 1
74-851-762	BSE Communications 2, Communications Review Storefront
74-851-764	BSE Communications 2
74-854-762	BSE Math 2, Math Review Storefront
74-854-764	BSE Math 2
74-856-762	BSE Science 2, Science Review Storefront
74-856-764	BSE Science 2
74-858-762	BSE Reading 2, Reading Review Storefront
74-858-764	BSE Reading 2
74-859-762	BSE Social Science 2, Social Science Review Storefront
74-859-764	BSE Social Science 2
74-860-764	BSE Computer Basics
74-862-764	BSE Employability Skills/Career Decisions 2
75-861-711	ESL Beginning Literacy Communications
75-861-714	ESL Beginning Literacy Math
75-861-715	ESL Beginning Literacy
75-861-718	ESL Beginning Literacy Reading
75-861-731	ESL Low Beginning, Communications
75-861-734	ESL Low Beginning Math
75-861-735	ESL Low Beginning
75-861-738	ESL Low Beginning Reading

75-861-751 ESL High Beginning Communications
75-861-754 ESL High Beginning Math
75-861-755 ESL High Beginning
75-861-758 ESL High Beginning Reading
75-861-771 ESL Low Intermediate Communications
75-861-774 ESL Low Intermediate Math
75-861-775 ESL Low Intermediate
75-861-778 ESL Low Intermediate Reading
75-861-791 ESL High Intermediate Communications
75-861-794 ESL High Intermediate Math
75-861-795 ESL High Intermediate
75-861-798 ESL High Intermediate Reading
75-861-701 ESL Advanced Communications
75-861-704 ESL Advanced Math
75-861-705 ESL Advanced
75-861-708 ESL Advanced Reading

76-851-791 ASE High School English
76-851-793 ASE Literature and Composition
76-853-791 ASE American History A
76-853-792 ASE American History B
76-854-790 ASE General Math
76-854-791 ASE Intro to Algebra and Geometry
76-854-792 ASE Pre-Algebra A
76-854-793 ASE Pre-Algebra B
76-854-794 ASE Algebra 1A
76-854-775 ASE Algebra 1B
76-854-796 ASE Geometry A
76-854-797 ASE Geometry B
76-854-798 ASE Algebra 2A
76-854-799 ASE Algebra 2B
76-856-791 ASE General Science
76-856-793 ASE Physical Science
76-856-794 ASE Biology Prep
76-856-797 ASE Anatomy and Physiology Prep
76-856-799 ASE Chemistry Prep
76-858-790 ASE College Prep Reading
76-859-790 ASE Government
76-859-791 ASE Social Studies
76-859-792 ASE Current Social Issues
76-859-793 ASE Sociology
76-859-794 ASE Economics

76-851-771 BSE Communication 3, GED
76-851-772 BSE Communication 3, GED Review
76-854-771 BSE Math 3, GED
76-854-772 BSE Math 3, GED Review
76-856-771 BSE Science 3, GED
76-857-771 BSE Health, HSED
76-858-771 BSE Reading 3, GED
76-859-771 BSE Social Science 3, GED
76-859-773 BSE Social Science 3, Civics, HSED
76-862-771 BSE Employability Skills/Career Decisions 3
76-890-771 BSE Study Skills for College and Vocational Students
77-851-755 BSE Communications Skills for Workplace Learning Centers
77-854-755 BSE Math for Workplace Learning Centers
77-854-781 BSE Math 3, General Math Review
77-854-776 BSE Math 3, Pharmacology Math
77-854-777 BSE Math 3, Radiography Math
77-854-778 BSE Math 3, Nursing Math
77-854-779 BSE Math 3, Geometry
77-854-785 BSE Math 3, Allied Health Professions
77-854-787 BSE Math 3, Algebra and Geometry for B and I
77-854-789 BSE Math 3, Modu-Math, Algebra
77-856-779 BSE Science 3, Pharmacology Prep
77-856-781 BSE Science 3, Science Review
77-856-783 BSE Science 3, Non-Human Biology
77-856-785 BSE Science 3, Anatomy and Physiology Prep
77-856-787 BSE Science 3, Chemistry Prep
77-856-789 BSE Science 3, Physics Prep
77-856-792 BSE Science 3, Electronics Prep
77-857-781 BSE Health
77-858-781 BSE Reading 3, Efficient College Reading
77-858-783 BSE Reading 3, Reading for Health Professions
77-858-785 BSE Reading 3, Medical Terminology Prep
77-859-781 BSE Social Science 3, Social Science Review
77-862-781 BSE Employability Skills/Career Decisions 3
77-862-789 BSE Career Planning for Single Parents and Displaced Homemakers
77-890-781 BSE Study Skills for College and Voc. Students

COURSE DESCRIPTIONS

851-713 BSE Communications 1
Introductory course includes basics of punctuation, spelling, capitalization as needed for written expression in everyday situations. Basic sentence and paragraph construction will be included.

854-713 BSE Math 1
Develops number concepts, mathematical language and whole number topics. This level introduces fractions, decimals, measurements and geometric shapes. Students use critical thinking skills to problem solve, perform computations, estimate results, interpret and develop data, work with appropriate technology and apply mathematics to real-world situations.

856-713 BSE Science 1
Introduces basic science terminology and concepts. Students will explore general science topics using the scientific method to focus on relationships between the student's life experiences and job or learning goals.

858-713 BSE Reading 1
Introduces basic reading skills needed by adults for everyday living. The students expand their vocabulary by learning to recognize and pronounce words. Emphasis is placed on understanding the material read, including books, computer software and newspaper articles. A variety of instructional approaches will be used.

859-713 BSE Social Science 1
An introduction to the basic concepts of social science, including history, geography, government, economics, political science and behavioral science. Emphasis is on general knowledge and application to everyday life, such as local government, community agencies and resources, geography and history as it relates to the immediate environment.

862-713 BSE Employability Skills/Career Decisions 1
Introductory course designed to make the student aware of the skills needed for various careers. Students will have the opportunity to learn about careers, to explore their own basic skill needs and to review reading, writing and math skills with computer or textbook.

851-762 BSE Communications 2, Communications Review Storefront
This course develops communication skills needed for the math, social studies and science tests of the GED. The majority of the content and skill requirements will be in communications.

851-764 BSE Communications 2
Develops conventions of English structure, usage, and mechanics in order to write and expand ideas. Includes practice in writing, correcting and revising as needed for the GED test at the pre-GED level. Stress will be on expressions of ideas and opinions.

854-762 BSE Math 2, Math Review Storefront
This course develops math skills needed for the math, social studies and science GED tests at the pre-GED level. The majority of content skill requirements will be in math.

854-764 BSE Math 2
Reviews Level I content and develops fractions, decimals, measurements, mathematical language, percents, ratios and proportions. This level introduces basic algebra and geometry concepts. Students will use critical thinking skills to problem solve, perform computations, estimate results, interpret and develop data, work with appropriate technology and apply mathematics to real-world situations.

856-762 BSE Science 2, Science Review Storefront
This course develops science and reading skills needed for the GED tests at the pre-GED level. The majority of the content and skill requirements will be in science.

856-764 BSE Science 2
Develops basic scientific knowledge as applicable to problems and experiences in our world. Will include biology, earth science, physics and chemistry concepts, and the application, analysis and evaluation of them. This course introduces students to the skills needed for the GED test at the pre-GED level.

858-762 BSE Reading 2, Reading Review Storefront
Course focuses on reading in the content areas. Includes skills of comprehension, application, and analysis as needed for the GED content area tests at the pre-GED level.

858-764 BSE Reading 2
Students use word analysis strategies, build vocabulary and comprehend at an inferential and critical level. These readers apply prior experience and knowledge to a variety of written and illustrative materials and transfer reading skills to the workplace, school and everyday life. These readers set goals and manage time and resources. The student is prepared to study for high school or high school equivalency requirements.

859-762 BSE Social Science 2, Social Science Review Storefront
This course allows students to work on any area in the social sciences that they need to review to be successful in later course work, on the GED tests, or in their career.

859-764 BSE Social Science 2
Develops general knowledge in the areas of history, economics, political science, geography and behavioral sciences, as they relate to realistic decision-making and problem solving. The content will be global in nature and include current events and issues that stress the interdependence of individuals and nations. It will introduce higher level thinking skills needed for the GED test.

860-764 Computer Basics
This course is offered only to students enrolled in basic skills courses and covers elementary computer skills such as file management; document formatting, creating and management; using the Internet; basic e-mail and information management.

862-764 BSE Employability Skills/Career Decisions 2
Develops general information involved with career choices including self-concept, values, needs and abilities. Occupational information and expansion of vocational choices are included. Outside speakers are invited to share information. Hands on

experience includes filling out forms, interviews and study of resumes.

861-711 ESL Beginning Literacy Communications
Instruction and practice in the use of formal and informal conversational language. Students build vocabulary and learn to use numbers, emergency and health language, identify types of jobs and classroom objects. Basic pronunciation, speaking, and listening strategies are developed. Basic grammar and writing skills are introduced and practiced. Programs are infused with and enhanced by technology.

861-714 ESL Beginning Literacy Math
Develops language and skills needed for beginning math. Topics include number concepts, mathematical language and whole numbers. This level introduces fractions, decimals, measurements and geometric shapes. Students develop critical thinking skills to problem solve, perform computations, estimate results, interpret and develop data, work with appropriate technology and apply mathematics to real-world situations.

861-715 ESL Beginning Literacy
Students develop basic language skills in the area of speaking, listening, reading and writing in the context of real-life survival skills. It is aimed at developing the listening comprehension and oral skills of beginning level learners of English. Students at this level function minimally, if at all, in English.

861-718 ESL Beginning Literacy Reading
Instruction to teach discrimination and correct orientation of the English alphabet, to introduce symbol/sound relationships, and the meaning of common signs and symbols. Students learn to recognize personal information print, use maps, calendars, and picture dictionaries. Students also begin to develop basic comprehension strategies at this level.

861-731 ESL Beginning Communications
Instruction to improve basic communication skills including: speaking, listening, pronunciation, writing, and grammar. Students learn to write and speak using simple past, present and future verb forms, generate simple affirmative and negative statements and questions, discriminate sounds, and respond to simple imperatives. Computer technology will assist students.

861-734 ESL Low Beginning, Math
Reviews ESL Beginning Math content and develops language and skills needed for Beginning/Intermediate Math. Concepts covered include fractions, decimals, measurements, mathematical language, percents, ratios and proportions. This level introduces basic algebra and geometry concepts. Students will use critical thinking skills to problem solve, perform computations, estimate results, interpret and develop data, work with appropriate technology and apply mathematics to real-world situations.

861-735 ESL Low Beginning
Classes at this level provide relevant language in real-life contexts. This class uses an experience centered approach to give student survival skills as quickly as possible. This program provides plenty of opportunity to use language, while developing grammatical skills. Students at this level will begin to form simple sentences and be able to communicate with others. Students learn about standard social norms in the United States, the work ethic in the Unites States, and how to apply basic study skills. Computer technology is infused into the curriculum.

861-738 ESL Low Beginning, Reading
Instruction to improve basic reading skills and expand vocabulary. Students learn to comprehend and respond to a range of printed material, employ a variety of comprehension strategies, recognize formal and informal language, and develop fluency.

861-751 ESL High Beginning, Communications
Instruction to improve speaking, listening, pronunciation, writing, and grammar skills. Students learn to use the writing process to compose short paragraphs and workplace reports, develop an awareness of language patterns, utilize rules of grammar, use formal and informal conversational language and respond to multi-step process directions. Computer technology is used to enhance the learning experience. Students will learn to use word processing tools.

861-754 ESL High Beginning, Math
This course introduces basic concepts and language skills needed in algebra and geometry such as signed numbers, powers and roots, algebraic expressions, equations, rectangular coordinates, polynomials, angles, triangles and plane and solid figures. This course allows the student to work on areas in math that they need to be successful in later course work or in their career.

861-755 ESL High Beginning
Students learn about school services and how to access them. They will participate in formal and informal conversations about legal and basic human rights. Students learn to write cover letters, resumes, and to complete job applications. Development of study skills is stressed, and students will learn to apply learning and test taking skills and strategies and actively participate in the learning process.

861-758 ESL High Beginning, Reading
Instruction to improve reading skills and expand vocabulary. Students improve comprehension skills and learn to respond critically to a range of printed material. Employability vocabulary and the use of workplace terminology are expanded. Students develop greater fluency and increase their reading rate.

861-771 ESL Low Intermediate, Communications
Learners will identify sounds of English, use basic pronunciation strategies, and discriminate speech. Formal and informal conversational language skills will be developed through participation in a variety of activities. Learners will use sustained speech to give short explanations, descriptions, and process directions.

861-774 ESL Low Intermediate, Math
Learners will use critical thinking skills to solve problems using fractions, decimals, percents, and proportions. Basic algebra and geometry concepts will be introduced.

861-775 ESL Low Intermediate
Learners will use pre-employment resources such as classified ads, employment agencies, web sites and the Rock County Job Center to complete a variety of assignments and tasks. Employer expectations such as punctuality, attitude, team work, and appreciation for diversity will be discussed. Learners will

participate in activities to prepare for interviews.

861-778 ESL Low Intermediate, Reading
Learners will demonstrate comprehension of a range of printed materials including road signs, safety signs, newspaper articles, rhythm chants, short narratives, and fairy tales. Comprehension strategies studies will include recognition of compound words, homonyms, prefixes, and suffixes. Learners will demonstrate an awareness of a variety of language patterns and utilize rules of grammar to form statements and questions in simple and continuous tenses.

861-791 ESL High Intermediate, Communications
Learners will discriminate speech, display active listening skills, and increase survival language. Formal and informal conversational language will be practiced. Learners will be expected to use sustained speech to generate two-person dialogues about familiar topics and share experiential stories. There will be instruction and practice using a variety of grammatical structures including the perfect tenses and tag questions.

861-794 ESL High Intermediate, Math
Learners will be introduced to basic concepts and language skills needed in algebra and geometry such as signed numbers, equations, rectangular coordinates, polynominals, angles, triangles, and plane and solid figures.

861-795 ESL High Intermediate
Learners will identify the raise-promotion process, discuss the purpose of personnel files, discuss employer expectations, and identify discriminatory practices. Interview etiquette will be discussed and practiced. Activities will lead to greater understanding of American cultural practices such as volunteerism, competitiveness, parenting, and neighborhood interaction.

861-798 ESL High Intermediate, Reading
Learners will analyze a variety of printed material and identify main ideas, supporting details, predict outcomes, make inferences, and draw conclusions. Sources will include textbooks, newspapers, magazines, school notices, schedules, nutrition labels, and consumer instructions. Learners will use the writing process to compose organized paragraphs.

861-701 ESL Advanced Communications
Learners will discriminate common stress patterns, reductions, intonation, pitch patterns, and thought groups. Learners will utilize rules of grammar to form affirmative and negative statements and questions using simple, continuous, perfect and perfect continuous tenses. The use of conditional sentences and active/passive voice will be explored. Learners will be expected to use sustained speech to participate in discussions about unfamiliar topics, share experiential stories, and present oral reports of various types.

861-704 ESL Advanced Math
This course focuses on the application of skills to solve word problems. Learners will apply concepts of whole numbers, fractions, decimals, percents, proportion, algebra, and geometry to solve multiple step word problems.

861-705 ESL Advanced
Learners in this course will analyze the systems in the world of work in the U.S. including chain of command, steps to filing a grievance, resolution of discriminatory practices, insurance options, and networking. All learners will develop resumes and practice writing cover letters as well as participate in mock interviews. Career options will be explored using a variety of materials and techniques.

861-708 ESL Advanced Reading
Learners will demonstrate comprehension of a variety of written work including short stories, consumer warnings, software instructions, newspapers, magazines, and college catalogues. Activities include identification of main idea and details, making inferences, identification of author's bias, and the identification of characters, setting, and plot. The writing process will be used to construct multiple-paragraph compositions. Learners will use reference tools including the dictionary, thesaurus, atlas, encyclopedia, software and the Internet.

851-791 ASE High School English
This course prepares students in writing concise and accurate sentences and paragraphs by focusing on basic grammar, punctuation, and spelling.

851-793 ASE Literature and Composition
This course helps students improve both basic reading skills and critical thinking skills. Specific skills covered include: recognizing words in context, recalling facts, keeping events in order, making inferences and understanding main ideas.

853-791 ASE American History A
Covers the time beginning with cultures existing on the North American continent prior to European exploration and discovery to the end of the 19th Century. Units include: Native Americans, independence, westward expansion, the Civil War, reconstruction and the rise of industry.

853-792 ASE American History B
Covers the time beginning with the turn of the century through the 1980's. Units include: World War I, the Twenties, the Great Depression, World War II, the Cold War, civil rights and recent changes.

854-790 ASE General Math
This course provides students with a review of basic math principles addressing whole numbers, decimals, fractions, and units of measurement. Lessons include consumer math needs in the area of shopping, budgeting, maintaining household financial accounts, etc.

854-791 ASE Intro to Algebra and Geometry
This course introduces basic concepts in algebra and geometry such as signed numbers, powers and roots, algebraic expressions, equations, rectangular coordinates, polynomials, angles, triangles and plane and solid figures. These concepts will be applied to problems in business, industry and/or the health occupations.

854-792 ASE Pre-Algebra A
This course introduces algebraic equations and problem solving by reviewing topics in integers, number theory, fractions,

probability, decimals and percents.

854-793 ASE Pre-Algebra B
This course is a continuation of Pre-Algebra A. Algebraic concepts are developed further in areas of analyzing data, number line, coordinate planes, square roots and right triangles, polynomials, and finding volume and surface area.

854-794 ASE Algebra 1A
This course introduces students to the concept of algebraic expressions and the use of equations and polynomials, and their practical application to solve problems in relation to real-life situations.

854-775 ASE Algebra 1B
This course continues the concepts of Algebra 1A and expands to the elements of analytical geometry, systems of equation, radicals and exponents, quadratics, relations and functions. Trigonometry and statistics are also introduced.

854-796 ASE Geometry A
This course covers plane geometry, proofs, parallelism, congruent triangles, polygons, special quadrilaterals and similarity.

854-797 ASE Geometry B
This course is a continuation of Geometry A and covers right triangles, coordinate geometry, circles, area, loci, figures in space and transformations.

854-798 ASE Algebra 2A
This course is continuation of Algebra 1 and will further develop concepts in linear equations and inequalities, functions, linear systems in two variables, polynomials, higher degree equations, rational expressions, radical and exponents, complex numbers and polynomial equations.

854-799 ASE Algebra 2B
This course is a continuation of Algebra 2A. This course covers coordinate geometry, conic sections, exponential and logarithmic functions, statistics, sequences and series, linear systems, determinants, trigonometric functions, solving triangles, graphing trigonometric functions and trigonometric identities.

856-791 ASE General Science
This course provides students with insights into biology, the human body, matter and energy, the earth and its place in the universe.

856-793 ASE Physical Science
This course introduces students to concepts in physics and chemistry. Topics include forces, motion, electricity, magnetism, sound, light, heat, energy, atomic structure, the periodic table, acids, bases, and organic chemistry.

856-794 ASE Biology Prep
This course provides an overview of biology. Topics include the diversity of life, body systems, animal and plant behavior, disease, genetics, change in living things and ecology.

856-797 ASE Anatomy and Physiology Prep
This course prepares students for a college course in anatomy and physiology. Basic concepts in studying the human body are covered along with study skills to help the student become a "self-learner."

856-799 ASE Chemistry Prep
Students learn basic chemical principles by listening to lecture, participating in class discussions and laboratory experiments.

858-790 ASE College Prep Reading
This course concentrates on developing high level comprehension and reasoning skills, stressing vocabulary development, reading flexibility and rate, study skills and critical thinking skills.

859-790 ASE Government
The civic course is an overview of the American government and how it impacts and influences the lives of American citizens. Areas of concentration are colonization, the constitution, branches of government, checks and balances, the Bill of Rights, state and local governments and citizen's responsibility.

859-791 ASE Social Studies

Concentrates heavily on content in the areas of history, economics, geography, political science and behavioral sciences.

859-792 ASE Current Social Issues
This course reviews the federal government and then moves on to look at major domestic policy issues followed by major foreign policy issues.

859-793 ASE Sociology
Introduces students to the basic social concepts of the intercultural discipline of sociology. Concepts include culture, localization, social stratification, and five institutions, including family, political, economics, religion, and education.

859-794 ASE Economics
This is a course in basic survival economics. It covers many of the basic theories such as: supply and demand, economic systems, scarcity, opportunity cost, markets, prices, etc. Besides theory, there will also be instruction in some personal survival economics as well.

851-771 BSE Communications 3, GED
A continuation of Communications 2. Expansion of English structure, usage and mechanics with emphasis on writing skills needed for the essay component of the GED Writing Skills test.

851-772 BSE Communications 3, GED Review
This course develops communication skills needed for the math, social studies and science GED tests. The majority of content and skill requirements will be in communications. The content required in the science and social studies portion of the GED tests will be incorporated within this class.

854-771 BSE Math 3, GED
Introduction to algebra and geometry. A continuation of BSE, Math 2. Provides more advanced, higher level thinking and problem solving skills needed for the GED test.

854-772 BSE Math 3, GED Review
This course develops math skills needed for the math, social studies and science GED tests. The majority of content and skill requirements will be in math. The content required in the science and social studies portion of the GED tests will be incorporated within this class.

856-771 BSE Science 3, GED
A continuation of Science 2. Concentrates on higher level comprehension, application, analysis and evaluation skills needed for the GED test. Includes topics in biology, chemistry, earth science and physics.

857-771 BSE Health, HSED
Overview of general health practices needed for healthy adult and family living. Allows students seeking a Wisconsin state HSED to meet the requirements of that diploma.

858-771 BSE Reading 3, GED

Develops reading in the content areas, including literature interpretation, science, social studies and math. Test taking skills and study skills are stressed. This course is geared toward the GED tests utilizing simulated GED test taking, multi-media presentations, and computer software and test practice work-books.

859-771 BSE Social Science 3, GED
Concentrates heavily on content in the areas of history, economics, geography, political science and the behavioral sciences. Also provides instruction preparing individuals to understand themselves and society. Includes a study of basic terms, inquiry and observation methods that provide background for life application. Course will be appropriate for GED completion.

859-773 BSE Social Science 3, Civics, HSED
This course is an overview of the American government and how it impacts and influences the lives of American citizens. Areas of concentration are colonization, the constitution, branches of government, checks and balances, the Bill of Rights, state and local governments and citizen responsibility. Students who finish 30 hours of instruction in this course meet the citizenship requirement for the HSED certification.

862-771/862-781 BSE Employability Skills/Career Decisions 3
Classroom activities provide students with awareness of their own interests, values and abilities. Students will be assisted in making appropriate career choices, and in making application for training, employment or financial aid.

890-771/890-781 BSE Study Skills for College and Vocational Students
This course uses the textbook Becoming a Master Student to develop the skills necessary to be a successful college student. Students will learn how to study a textbook, how to take notes, how to write papers and how to interact assertively and cooperatively with fellow students, with teachers and significant others. They will also learn about campus and community resources, health, time and money management, and memory techniques. Speakers with expertise in the topics to be covered will be invited to class throughout the semester as their schedules permit. In class discussions, students share with each other the techniques that have worked for them.

851-755 BSE Communications Skills for Work Place Learning Centers
Participants in this course will learn how to increase their reading comprehension; use punctuation, spelling and capitalization rules as needed for written expression in everyday situations; write complete sentences and paragraphs; and demonstrate the ability to use listening and speaking skills. Participants will also learn problem solving, critical thinking and conflict resolution skills using work related materials when appropriate. Emphasis will be placed on skill enhancement that is immediately transferable to professional or personal use by the participants. Course work may also be used in preparation for the GED test.

851-780/851-781 BSE Communications 3 Review
This course allows the students to work on any area in writing that they need to review to be successful in later course work or in their career. A variety of methods can be used in reviewing writing skills, including workbooks, work sheets, computer software and video tapes. An instructor will be available to guide students through their learning to achieve a predetermined goal.

854-755 BSE Mathematics for Work Place Learning Centers
Participants in this course will learn how to effectively use the basic concepts of whole numbers, fractions and decimals as they apply to either professional or personal use. The course will also provide specific preparation in the areas of algebra and geometry that could be used in vocational/technical programs or employment. Instruction will also be available for site specific math needs (example: pre-S.P.C. training or metric conversion). Participants will also learn problem solving skills using work related materials when appropriate. Course work may also be used in preparation for the GED test.

854-780/854-781 BSE Math 3, General Math Review
This course allows students to work on any area in math that they need to review to be successful in later course work or in their career. A variety of methods can be used to learn math, including workbooks, work sheets, computer software and video tapes. An instructor will be available to guide students throughout their learning to achieve a predetermined goal.

854-776 BSE Math 3, Pharmacology Math
Designed for students entering Associate Degree Nursing program, specifically preparing for the Pharmacology Math Test that the ADN students take during Fundamentals. Topics include decimals, fractions, metric measurements, and calculating the amount of medication to be administered.

854-777 BSE Math 3, Radiography Math
Designed for students entering the Radiography program. Topics include decimals, fractions, percents, metric measurements, conversions, significant figures, scientific notation, working with formulas and solving for the unknown. Special emphasis will be placed on problems related to the field of radiography.

854-778 BSE Math 3, Nursing Math
Designed for students entering the Associate Degree Nursing program. Topics include decimals, fractions, percents, metric measurements, conversions, concentrations, significant figures, scientific notation, working with formulas, and solving for the unknown. Special emphasis will be placed on preparing for the math tests required by the ADN program.

854-779 Math 3, Geometry
Designed for students entering business, industry and/or the health occupations. Topics include basic concepts in geometry such as signed numbers, powers and roots, equations,

rectangular coordinates, polynomials, angles, triangles and plane and solid figures.

854-785/854-786 BSE Math 3, Allied Health Professions
Designed for students entering the Health Care Associate, Medical Assistant, Dental Assistant, and other health related programs. Topics include decimals, fractions, percents, metric measurements, conversions, temperature, blood pressure, and accounting.

854-787 BSE Math 3, Algebra and Geometry for Business and Industry
Designed for students entering business or industrial occupations that need an introduction to algebra and geometry. Provides problem-solving skills in using formulas that are used in business math, technical math and science courses.

854-789 BSE Math 3, Modu-Math, Algebra
This computer program uses practical video segments geared toward improving basic math skills. Students get the essential instruction, including drill and practice, required for complete mastery of basic operations involving whole numbers, fractions, decimals, percents, and signed numbers. The introductory algebra course covers basic concepts; order of operations; adding, subtracting and multiplying laws; problem solving; inequalities; graphing; factoring; quadratics and more. Students may use this for the Electrical Apprenticeship, AND, Radiography, Dental Hygiene, and PTA algebra requirements.

856-779 BSE Science 3, Pharmacology Preparation
This course prepares those students entering the Associate Degree Nursing program. The course will be an introduction to pharmacology, one of the hardest courses taken by nursing students. In addition, students will develop other skills needed for success (and survival) in the nursing program, such as test taking strategies and writing papers in APA format. (Students who need help with the math required for the nursing program should take "Algebra for the Health Professions," informally known as "Nursing Math" or "Pharmacology Math.")

856-781 BSE Science 3, Science Review
This course allows students to work on any area in science that they need to review to be successful in later course work or in their career. A variety of methods can be used to learn science, including workbooks, work sheets, computer software and video tapes. An instructor will be available to guide students throughout their learning to achieve a predetermined goal.

856-783 BSE Science 3, Non-Human Biology
This course covers basic biological principles. Together with anatomy and physiology it is equivalent to a full-year of high school biology. The course will emphasize topics in microbiology and genetics.

856-785 BSE Science 3, Anatomy and Physiology Prep
Prepares students for the college level courses of anatomy and physiology needed by nursing, physical therapy, and other health related programs. Competency objectives are based on the skills needed to be successful in future courses in anatomy and physiology. Basic concepts in anatomy and physiology are covered along with study skills to help students become "self-learners."

856-787 BSE Science 3, Chemistry Prep
Designed for students entering particular vocational/technical programs that require basic knowledge of chemistry. Students learn basic chemical principles by listening to lectures, participating in class discussions and laboratory experiments. Equivalent to a full-year of high school chemistry.

856-789 BSE Science 3, Physics Prep
Designed for students with an interest in vocational/technical programs with courses in physics, such as Technical Science 1 and 2, and Physical Therapy Assistant Physics. Competency objectives are based on particular program needs.

856-792 BSE Science 3, Electronics Prep
This course prepares students for courses in electronics offered by various programs. Basic scientific principles of electronics will be covered showing practical applications of various mathematical skills.

857-781 BSE Health
This course teaches the basics of health for the individual, family, and community. Mental and emotional health will be discussed as well as first aid, substance abuse, consumer health, environmental health, and death and dying.

858-781 BSE Reading 3, Efficient College Reading
This course concentrates on developing efficient college reading stressing vocabulary, reading, reading flexibility and rate, study skills and critical thinking needed for post-secondary and vocational programs.

858-783 BSE Reading 3, Reading for Health Professions
This course develops comprehension skills to the level needed for success in college and vocational course work. It also aims at developing higher level reading and thinking skills for personal development. Students learn a variety of strategies which they apply to readings on interesting contemporary health topics. Students utilize a wide range of printed and illustrative materials including articles from magazines and newspapers.

858-785 BSE Reading 3, Medical Terminology Prep
This course is designed to prepare students to succeed in a credit medical terminology class. Students learn study skills and learning strategies such as concentration and memorization techniques. Individual learning styles are assessed and personal study plans are developed. Students learn and demonstrate time management and test taking techniques.

859-781 BSE Social Science 3, Social Studies Review
This course allows students to work on an area in the Social Sciences that they need to review to be successful in later course work or in their career.

862-781 BSE Employability Skills/Career Decisions 3
Classroom activities provide students with awareness of their own interests, values and abilities. Students will be assisted in making appropriate career choices and in making application for training, employment or financial aid

862-789 Career Planning for Single Parents and Displaced Homemakers

This course assists single parents and displaced homemakers by helping them build self-esteem and by aiding them in career decision making. Participants will identify and prioritize their values, identify interests and skills through testing, consider career alternatives, including good wage occupations, and set career related goals. Students will also learn techniques for stress reduction, assertiveness, self-image improvement, goal setting, and decision making.

890-781 BSE Study Skills

This class is designed to assist new and continuing students in the development of affective and coping skills, and study skills. The students develop a variety of learning strategies including test taking and note taking skills, study skills, computer skills, and organization/time management skills. The course will also include an orientation to campus, information about other support agencies, training in self-advocacy, and development of an individualized educational plan.

General College Courses

Intro to College Writing (831-103) is required for students who need additional preparation in order to be successful in General Education's Written Communication (801-195). Intro to College Reading (838-104) is required for students who need additional preparation in order to be successful in General Education's Intro to Psychology (809-198), Developmental Psychology (809-188), Economics (809-195), Sociology (809-196), and General Anatomy and Physiology (806-177). Pre-Algebra (834-109) is required for students with low COMPASS scores prior to entering into General Education Math courses. (Pre-Algebra reviews basic mathematical concepts starting with whole numbers and progressing through quadratics). Students will be placed into these courses based on entry test scores. Intro to College Writing introduces the basic principles of composition in writing, paragraphs, and multi-paragraph documents. Specific writing principles covered include: development, unity, and coherence as well as a review of grammar, mechanics, and sentence structure. Intro to College Reading introduces the basic principles of reading comprehension improvement including finding main ideas and supporting details, identifying relationships, making inferences. It also introduces the principles of vocabulary development. These courses are tuition and fee bearing; however, the credits earned do not apply to a program.

835-104 Student Success **1 Credit**

Develops tools and strategies that support success in the college environment. Focuses on study skills, college resources, goal setting, and management of time required to achieve student's goal. Students should take this course prior to or during the first semester of their program. This is an Institutional requirement for graduation for all students.

General Education

Mission: General Education prepares students for life in the global community by helping them develop a core of knowledge, skills, and attitudes essential for personal and professional success.

Vision: Be a vital, integral partner in BTC's programming.

General Education is an essential part of occupational programming and the institution as a whole. It is the role of General Education in the Associate Degree and Technical Diploma programs to provide an educational core of knowledge that enables students to integrate their education into the context of the larger society. Classroom activities in communication, social science, mathematics, and natural science are developed in an applied, integrated curriculum to reflect real world work situations specific to program areas while also preparing students to be lifelong learners.

General Education Methods of Delivery

The General Education Division prides itself on its flexibility. Classes are offered in a variety of formats including traditional, IPTV, Accelerated Learning (ACCEL), Internet and web-enhanced. These alternative delivery systems should be selected carefully.

Traditional:

These courses meet several times weekly over a 17-week period. Instructors meet face-to-face with students in a traditional classroom setting.

IPTV (two-way video and audio):

Instructors meet face-to-face with students in studios both on- and off-site. Activities mirror regular classroom instruction with paperwork generally faxed between sites.

ACCEL:

These courses generally meet four hours one evening per week for six to eight weeks. Students are expected to work in learning teams and complete a significant amount of work outside scheduled class hours. These courses were designed for working adults whose knowledge and expertise are an important part of the learning process.

Web-enhanced: Course that uses web-based technology to supplement a traditional course but does not reduce face-to-face time requirements. To be successful students should have regular access to a computer with Internet capability.

Hybrid:

Course that blends online and face-to-face delivery to reduce a portion of the seat time required. A substantial proportion of the content is delivered online with only about one-third of class meeting time required on campus.

Internet:
A course where all of the content is delivered online with no face-to-face requirement. May require an on campus or online orientation, or other campus visits (testing).

Required for Associate Degree (21-30 Credits)

Students should check with their program advisor or counselor for the specific program requirements.

The General Education core for associate degree programs consists of 6-15 additional credits from the following disciplines:

Communication – 6 credits required:

Course #	Course Title	Credits
801-195	Written Communication	3
801-196	Oral/Interpersonal Communication	3
801-197	Technical Reporting *(Pre-requisite: Written Communication)*	3
801-198	Speech *(May be substituted for 801-196)*	3

Social Science – 3 credits required:

809-103	Thinking Critically and Creatively	3
809-166	Introduction to Ethics: Theory and App	3
809-172	Race, Ethnic and Diversity Studies	3
809-174	Social Problems	3
809-195	Economics	3
809-196	Introduction to Sociology	3

Behavioral Science – 3 credits required:

809-159	Abnormal Psychology	3
809-198	Introduction to Psychology	3
809-199	Psychology of Human Relations	3
809-188	Developmental Psychology	3
809-199	Psychology of Human Relations	3

Math and/or Science - 3 credits required

(Check with your program advisor or counselor for the specific program requirements.)

Electives - 0-6 credits required.

(Check with your program advisor or counselor for the specific program requirements.)

Technical Diploma and Certificate programs also require certain General Education courses to fulfill program requirements. It is important for students to determine the General Education requirements for their particular programs.

Following is a list of current General Education courses and descriptions. Not every course is offered every semester and the number of students registering for a course determine whether or not the course is taught a particular semester.

General Education Course Descriptions

140-101 Spanish Language and Culture **3 Credits**
This course is an introduction to the basic concepts of the Spanish language and culture.

140-102 Spanish Language and Culture II: Emergency Services Personnel **3 Credits**
This is an intermediate level course for emergency services personnel to use the Spanish language in police-related and emergency situations. Also included is an introduction to aspects of Hispanic culture that will help effectiveness in police-related and emergency situations.

Pre-requisite: 140-101 Spanish Language and Culture or demonstrated knowledge of basic Spanish

801-195 Written Communication **3 Credits**
Develops writing skills which include prewriting, drafting, revising, and editing. A variety of writing assignments is designed to help the learner analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Also develops critical reading and thinking skills through the analysis of a variety of written documents. ***Word processed assignments and a 5-7 page research paper are required.***

Pre-requisite: Minimum COMPASS writing score of 70

801-196 Oral/Interpersonal Communication **3 Credits**
Focuses upon developing speaking, verbal and nonverbal communication, and listening skills through individual presentations, group activities, and other projects.

Pre-requisite: Minimum COMPASS reading score of 73

801-197 Technical Reporting **3 Credits**
The student will prepare and present oral and written technical reports. Types of reports may include lab and field reports, proposals, technical letters and memos, technical research reports, and case studies. Designed as an advanced communication course for students who have completed at least the pre-requisite introductory writing course.

Pre-requisite: 801-195 Written Communication

801-198 Speech **3 Credits**
Explores the fundamentals of effective oral presentation to small and large groups. Topic selection, audience analysis, methods of organization, research, structuring evidence and support, delivery techniques, and other essential elements of speaking successfully, including the listening process, form the basis of the course.

Pre-requisite: Minimum COMPASS reading score of 73

801-311 Communication **2 Credits**
This course reviews the grammar and writing skills that an adult learner needs to write clearly, concisely, and persuasively on the job. Students will produce a variety of job-related documents such as: business memos, letters, and short reports. The course will provide techniques that will improve the effectiveness with which learners communicate interpersonally, and within small groups. Students will learn to prepare and deliver oral presentations.

Pre-requisite: Minimum COMPASS writing score of 38

801-390 Communication for Health Professions 2 Credits
This course reviews the grammar and writing skills that an adult learner needs to write clearly, concisely, and persuasively on the job. Students will produce a variety of job-related documents such as: business memos, letters, and short reports. The course will provide techniques that will improve the effectiveness with which learners communicate interpersonally, and within small groups. Students will learn to prepare and deliver oral presentations. Students will learn special skills needed to write an effective cover letter and resume. Students will learn skills that will help them communicate effectively with patients or customers.

Pre-requisite: Minimum COMPASS writing score of 38

804-106 Introduction to College Math 3 Credits
This is an introductory level course designed to review and develop fundamental concepts of arithmetic, algebra, geometry, and statistics. Emphasis will be placed on computational skills and applications of rational numbers; problem solving skills with rations, proportions, and percent; basic principles and application of algebra, geometry, graphing, and statistics; measurement skills in U.S. Customary and Metric Systems; and the use of calculators as a tool.

Pre-requisite: Minimum COMPASS Pre-algebra score of 44

804-107 College Mathematics 3 Credits
This course is designed to review and develop fundamental concepts of mathematics pertinent to the areas of: 1) arithmetic and algebra; 2) geometry and trigonometry; and 3) probability and statistics. Special emphasis is placed on problem solving, critical thinking and logical reasoning, making connections, and using calculators. Topics include performing arithmetic operations and simplifying algebraic expressions, solving linear equations and inequalities in one variable, solving proportions and incorporating percent applications, manipulating formulas, solving and graphing systems of linear equations and inequalities in two variables, finding areas and volumes of geometric figures, applying similar and congruent triangles, converting measurements within and between U.S. and metric systems, applying Pythagorean Theorem, solving right and oblique triangles, calculating probabilities, organizing data and interpreting charts, calculating central and spread measures, and summarizing and analyzing data.

Pre-requisite: Minimum COMPASS Pre-algebra score of 44

804-110 Elementary Algebra with Applications 3 Credits
This course offers traditional algebra topics with applications. Learners develop algebraic problem solving techniques needed for technical problem solving and for more advanced algebraic studies. Topics include linear equations, exponents, polynomials, rational expressions, and roots and radicals. Successful completion of this course prepares learners to succeed in technical mathematics courses.

Pre-requisite: Minimum COMPASS Pre-algebra score of 44

804-113 College Technical Mathematics 1A 3 Credits
Topics include: solving linear, quadratic, and rational equations; graphing; formula rearrangement; solving systems of equations; percent; proportions; and operations on polynomials. Emphasis will be on the application of skills to technical problems. Successful completion of College Technical Mathematics 1A and College Technical Mathematics 1B is the equivalent of College Technical Mathematics 1.

Pre-requisite: Minimum COMPASS Algebra score of 46

804-114 College Technical Mathematics 1B 2 Credits
This course includes the following topics: measurement systems; computational geometry; right and oblique triangle trigonometry; and trigonometric functions on the unit circle. Emphasis will be on the application of skills to technical problems. Successful completion of or concurrent enrollment in College Technical Mathematics 1A is required for course enrollment. Successful completion of College Technical Mathematics 1A and College Technical Mathematics 1B is the equivalent of College Technical Mathematics 1.

Pre-requisite: 804-114 College Technical Mathematics 1A

804-115 College Technical Mathematics 1 5 Credits
Topics include: solving linear, quadratic, and rational equations; graphing; formula rearrangement; solving systems of equations; percent; proportions; measurement systems; computational geometry; right and oblique triangle trigonometry; trigonometric functions on the unit circle; and operations on polynomials. Emphasis will be on the application of skills to technical problems.

Pre-requisite: minimum COMPASS Algebra score of 46
Recommended: High school algebra or equivalent

804-116 College Technical Mathematics 2 4 Credits
Topics include: vectors; trigonometric functions and their graphs; identities; exponential and logarithmic functions and equations; radical equations; equations with rational exponents; dimension of a circle; velocity; sine and cosine graphs; complex numbers in polar and rectangular form; trigonometric equations; conic sections; and analysis of statistical data. Emphasis will be on the application of skills to technical problems.

Pre-requisite: 804-115 College Technical Mathematics 1

804-117 Business Mathematics 3 Credits
This course is designed to build your knowledge of math including whole numbers, decimals, fractions, percents, formulas, equations, and statistics. These skills will be reinforced in business applications including bank records, payroll, discounts, markup and markdown, interest calculations, annuities, depreciation, inventory and more.

Pre-requisite: Minimum COMPASS Pre-algebra score of 44

804-118 Intermediate Algebra with Applications 4 Credits

This course offers algebra content with applications. Topics include properties of real numbers, order of operations, algebraic solution for linear equations and inequalities, operations with polynomial and rational expressions, operations with rational exponents and radicals, algebra of inverse, logarithmic and exponential functions.

Pre-requisite: Minimum COMPASS Algebra score of 46 AND 804-110 Elementary Algebra with Applications OR high school algebra and geometry

804-123 Math with Business Applications 3 Credits
This course covers...real numbers, basic operations, linear equations, proportions with one variable, percents, simple interest, compound interest, annuity, apply math concepts to the purchasing/buying process, apply math concepts to the selling process, and basic statistics with business/consumer applications.

Pre-requisite: Minimum COMPASS Pre-algebra score of 44

804-133 Mathematics and Logic 3 Credits
Students will apply mathematical problem solving techniques. Topics will include symbolic logic, sets, algebra, Boolean algebra, and number bases.

Pre-requisite: Minimum COMPASS Pre-algebra score of 44; Recommended: One year of high school algebra AND completion or concurrent enrollment in 801-195 Written Communication

804-144 Math of Finance 3 Credits
Students will create financial timelines to solve financial problems. They will solve problems involving simple and compound interest. Students will use discounting to solve problems. They will calculate the components of ordinary and complex annuities. Students will solve problems using financial formulas, business calculators, and or tables. Finally, students will use descriptive statistics and spreadsheet applications to interpret financial data.

Pre-requisite: Minimum COMPASS Algebra score of 46 AND high school algebra OR 804-110 Elementary Algebra

804-189 Introductory Statistics 3 Credits
Students taking Introductory Statistics display data with graphs, describe distributions with numbers perform correlation and regression analyses, and design experiments. They use probability and distributions to make predictions, estimate parameters, and test hypotheses. They draw inferences about relationships including ANOVA.

Pre-requisite: Minimum COMPASS Algebra score of 46 OR 804-106 Introduction to College Math OR 2 years of high school or higher algebra in last four years OR one semester of college algebra OR COMPASS Algebra score of 46. Recommended: Introductory computer skills to include spreadsheets

804-196 Trigonometry with Applications 3 Credits
Topics include circular functions, graphing of trigonometry functions, identities, equations, trigonometric functions of angles, inverse functions, solutions of triangles complex numbers, DeMoivre's Theorem, polar coordinates, and vectors.

Pre-requisite: 804-110 Elementary Algebra with Applications AND Minimum COMPASS Algebra score of 66

804-304 Math Fundamentals 2 Credits
Offered in fall semester only.

This one semester course consists of self-paced instructional units. It is intended to give the student a review of the basic principles of arithmetic *(which includes whole numbers, common and decimal fractions, ratios, proportions and percents),* as well as an introduction to algebra, scientific notation, powers and roots of numbers, and an introduction to trigonometry and vectors. *(This course is similar to General Mathematics minus three units of study. General Mathematics may be used to satisfy the Math Fundamentals requirement.)*

Pre-requisite: Minimum COMPASS Pre-Algebra score of 25

804-306 Shop Mathematics I 2 Credits
This course includes the basic principles of arithmetic beginning with whole numbers and common fractions, and continuing through decimals, percentages, ratios, proportions and averages, measurements, use of constants and coordinate systems. These principles are applied to typical shop problems throughout the course.

Pre-requisite: Minimum COMPASS Pre-Algebra score of 25 Recommended: 1 year of high school math

804-308 Shop Mathematics II 2 Credits
This course is a continuation of Shop Mathematics I and includes the study of the properties of circles, volumes and surface areas of various solids, an introduction to practical algebra and trigonometric principles used in solving right triangles as well as applications of the sine and cosine law in solving oblique triangles.

Pre-requisite: 804-306 Shop Mathematics I

806-108 Applied Anatomy and Physiology 5 Credits
This course is designed to acquaint the PTA student with joint structure and function, human movement, normal posture, gait patterns and biomechanics. Critical thinking skills are encouraged so as to analyze the locations, relationships, and functions of the musculoskeletal systems. The central nervous system's influence on muscle tone and the integration of muscle action to produce motion are examined. The development of observation and palpation skills is emphasized. Goniometry as an evaluation tool is also introduced.

Pre-requisites: 806-131 Anatomy and Physiology AND 806-154 General Physics 1

806-110 Forensic Science (Criminalistics) 3 Credits
Forensic Science is a course designed to provide students of law enforcement with an appreciation of the capabilities and limitations of scientific analysis of crime scene evidence. All functions of a basic crime lab are discussed with emphasis on relating methods of analysis to the proper collection and packaging of evidence. Laboratory exercises are designed to expand upon and reinforce lecture material.

806-112 Principles of Sustainability 3 Credits
Prepares the student to develop sustainable literacy, analyze the interconnections among the physical and biological sciences and environmental systems, summarize the effects of sustainability on health and well-being, analyze connections among social, economic, and environmental systems, employ energy conservation strategies to reduce the use of fossil fuels, investigate alternative energy options, evaluate options to current waste disposal and recycling in the U.S., and analyze approaches used by your community to promote and implement sustainability.

806-118 Metal Science 3 Credits
Offered in spring semester only.

This is a one-semester course in basic physics and metallurgy principles for the Technical College student. The course reviews accuracy and precision of measurements, introduces calculations

with units and conversions within and between systems of measurements, formula rearranging, and applications in problem solving. Basic topics include properties of matter, metallurgy, material properties, material testing, force, motion (linear and circular), energy, power, and simple machines. The topics of heat, electricity, and magnetism are also introduced in the class. Emphasis is placed on the application of the laws and principles of physics to practical problems found in the machine shop and industry.

806-131 Anatomy and Physiology 4 Credits
Anatomy and Physiology teaches the fundamentals of structure and function of the human body to health occupations students. The learning process is accomplished through lecture, demonstration, and a "hands-on" laboratory experience. Anatomy and Physiology introduces the student to the location of all human organs and organ systems. It teaches the student the functional operation of each organ and organ system and how each of these functions relates to other organs and organ systems for the health and well being of the entire organism.

806-134 General Chemistry 4 Credits
Covers the fundamentals of chemistry. Topics include the metric system, problem-solving, periodic relationships, chemical reactions, chemical equilibrium, properties of water; acids, bases, and salts; and gas laws.

Pre-requisite: 804-118 Intermediate Algebra OR minimum COMPASS Algebra score of 46

806-139 Survey of Physics 3 Credits
This course emphasizes understanding basic physics concepts through laboratory investigation and applications. Topics include kinematics, dynamics, work, energy, power, temperature, heat, waves, electricity, magnetism, electromagnetic waves, optics, and atomic and nuclear physics.

806-151 Technical Science I 3 Credits
This course is designed to give the student a background in the fundamental principles of physics and applications of those principles in the technical and industrial fields. The major areas of study include measurements, mechanical relations of forces and motions, work, power and energy (linear and circular). If time permits, basic machines and fluid mechanics will also be covered. Sufficient mathematical treatment is given to the materials so that the students can apply the principles in a quantitative manner. The laboratory work includes computer-aided study and the appropriate experiments to illustrate the application of the physical principles.

Pre-requisite: 804-115 College Technical Mathematics I OR 804-113 College Technical Mathematics 1A AND 804-114 College Technical Mathematics 1B

806-152 Technical Science II 3 Credits
This course is a continuation of Technical Science I with a study of heat, wave motion and sound, light and optics, and an introduction to electricity and magnetism. Sufficient mathematical treatment is given to the materials so the student can apply the principles in a quantitative manner. The laboratory work includes computer-aided study and the appropriate experiments to illustrate the application of the physical principles.

Pre-requisite: 806-151 Technical Science I

806-154 General Physics 1 4 Credits
Presents the applications and theory of basic physics principles. This course emphasizes problem-solving, laboratory investigation, and applications. Topics include unit conversion and analysis, vectors, translational and rotational kinematics, translational and rotational dynamics, heat and temperature, and harmonic motion and waves.

Pre-requisite: 804-115 College Technical Mathematics 1 OR 804-113 College Technical Mathematics 1A AND 804-114 College Technical Mathematics 1B

806-177 General Anatomy and Physiology 4 Credits
Examines basic concepts of human anatomy and physiology as they relate to health sciences. Using a body systems approach, the course emphasizes the interrelationships between structure and function at the gross and microscopic levels of organization of the entire human body. It is intended to prepare health care professionals who need to apply basic concepts of whole body anatomy and physiology to informed decision-making and professional communication with colleagues and patients. *(This course also provides the foundation, and is pre-requisite to Advanced Anatomy and Physiology.)*

Pre-requisite: High school or college chemistry with a grade of C or better AND Minimum COMPASS reading score of 73

806-179 Advanced Anatomy and Physiology 4 Credits
Advanced Anatomy and Physiology is the second semester in a two-semester sequence in which normal human anatomy and physiology are studied using a body systems approach with emphasis on the interrelationships between form and function at the gross and microscopic levels of organization. Instructional delivery within a classroom and laboratory setting. Experimentation within a science lab will include analysis of cellular metabolism, the individual components of body systems such as the nervous, neuro-muscular, cardiovascular, and urinary. Continued examination of homeostatic mechanisms and their relationship to fluid, electrolyte, acid-base balance and blood. Integration of genetics to human reproduction and development are also included in this course.

Pre-requisite: 806-177 General Anatomy and Physiology with a grade of C or better

806-186 Introduction to Biochemistry 3 Credits
Provides students with skills and knowledge of organic and biological chemistry necessary for application within Nursing and other Allied Health careers. Emphasis is placed on recognizing the structure, physical properties and chemical reactions of organic molecules, body fluids, and acids. Additional emphasis is placed on biological functions and their relationships to enzymes, proteins, lipids, carbohydrates and DNA.

Pre-requisite: High school or college chemistry with a grade of C or better

806-189 Basic Anatomy 3 Credits
Examines concepts of anatomy and physiology as they relate to health careers. Learners correlate anatomical and physiological terminology to all body systems.

806-194 Survey of Anatomy and Physiology 3 Credits
This course is designed to assist the Medical Administrative Specialist and the Medical Coder with the transcription of medical notes, information, and documented application of medical, surgical, and human anatomy terminology and provide a basic understanding of human physiology.

806-197 Microbiology 4 Credits
This course examines microbial structure, metabolism, genetics, growth and the relationship between humans and micro-organisms. Disease production, epidemiology, host defense mechanisms and the medical impact of microbes in the environment, industry, and biotechnology are also addressed.

Pre-requisite: 806-177 General Anatomy and Physiology with a grade of C or better

806-199 General, Organic, and Biological Chemistry 4 Credits
Inorganic and organic chemistry. Topics include lab safety, measurement, elementary problem solving, atomic structure, periodicity, chemical bonding, types of chemical reactions, properties of water, acids, bases, and salts, types of solutions and calculations of concentrations, gas laws, oxidation-reduction concepts, ionization, pH and buffers, hydrocarbons, types of organic compounds and functional groups, biochemical compounds including lipids, carbohydrates, proteins, and nucleic acids.

Pre-requisite: High school or college chemistry with a grade of C or better

806-315 Applied Science 2 Credits

Offered in spring semester only.

This one semester course in basic physics principles reviews accuracy and precision of measurements and introduces calculations with units and conversions within and between systems of measurements. Formula rearranging and applications to problem solving are reviewed. Basic physics topics such as properties of matter, mechanical principles of force, motion (linear and circular), energy, power and machines, heat, electricity, and magnetism are also studied. Emphasis is placed on the applications of the laws and principles of physics to practical problems. The use of vectors is demonstrated in forces, velocities, and electrical transformers.

Pre-requisite: 804-304 Math Fundamentals

806-333 Aviation Physics 2 Credits
This is a one-semester course in basic physics principles for aviation maintenance technicians. It includes a review of the units of measurement and conversions along with the properties of fluids. Mechanics *(linear motion, equilibrium, energy, power, circular motion and machines),* heat *(temperature scales, specific heats and transfer),* along with sound *(wavelength, frequency, speed and intensity)* are included. Special emphasis is given to problems applying these principles to the particular area of technology.

Recommended: High school algebra

809-103 Thinking Critically and Creatively 3 Credits
This course provides instruction in the vital, realistic, and practical methods of thinking which are in high demand in all occupations of substance today. Decision making, problem solving, detailed analysis of ideas, troubleshooting, argumentation, persuasion, creativity, setting goals and objectives, and more are considered in depth as the student applies specific thinking strategies and tools to situations in a wide variety of workplace, personal, academic, and cultural situations. Classroom instruction is demonstration, discussion, project and teamwork based. Assignments range from the short and simple to the detailed and complex. Reality and practicality are the focuses all through the course.

These skills are in high demand by employers. Having this course in your background can significantly enhance your appeal as an employee. It certainly will make you a more adept and confident person.

Pre-requisite: Minimum COMPASS Reading score of 73

809-159 Abnormal Psychology 3 Credits
The course in Abnormal Psychology surveys the essential features, possible causes, and assessment and treatment of the various types of abnormal behavior from the viewpoint of the major theoretical perspectives in the field of abnormal psychology. Students will be introduced to the diagnosis system of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV). In addition, the history of the psychology of abnormality will be traced. Cultural and social perspectives in understanding and responding to abnormal behavior will be explored as well as current topics and issues within abnormal psychology.

Pre-requisite: 809-198 Introduction to Psychology AND Minimum COMPASS reading score of 73

809-166 Introduction to Ethics: Theory and Application 3 Credits
This course provides a basic understanding of the theoretical foundations of ethical thought. Diverse ethical perspectives will be used to analyze and compare relevant issues. Students will critically evaluate individual, social and/or professional standards of behavior, and apply a systematic decision-making process to these situations.

Pre-requisite: Minimum COMPASS reading score of 73

809-172 Race, Ethnic and Diversity Studies 3 Credits
Race, Ethnic and Diversity is a course that draws from several disciplines to reaffirm the basic American values of justice and equality by teaching a basic vocabulary, a history of immigration and conquest, principles of transcultural communication, legal liability and the value of aesthetic production to increase the probability of respectful encounters among people. In addition to an analysis of majority/minority relations in a multicultural context, the topics of ageism, sexism, gender differences, sexual orientation, the disabled and the American Disability Act (ADA) are explored. Ethnic relations are studied in global and comparative perspectives.

Pre-requisite: Minimum COMPASS reading score of 73

809-174 Social Problems **3 Credits**
Explores the causes of and possible solutions to selected social problems such as inequality, crime and deviance, and poverty. Students will examine the interrelationship of social problems and their roots in fundamental societal institutions.

Pre-requisite: 806-196 Introduction to Sociology AND minimum COMPASS reading score of 73

809-188 Developmental Psychology **3 Credits**
Developmental Psychology is the study of human development throughout the lifespan. This course explores developmental theory and research with an emphasis on the interactive nature of the biological, cognitive, and psychosocial changes that affect the individual from conception to death. Application activities and critical thinking skills will enable students to gain an increased knowledge and understanding of themselves

Pre-requisite: Minimum COMPASS reading score of 73

809-195 Economics **3 Credits**
This course is designed to give an overview of how a market-oriented economic system operates, and it surveys the factors which influence national economic policy. Basic concepts and analyses are illustrated by reference to a variety of contemporary problems and public policy issues. Concepts include scarcity, resources, alternative economic systems, growth, supply and demand, monetary and fiscal policy, inflation, unemployment and global economic issues.

Pre-requisite: Minimum COMPASS reading score of 73

809-196 Introduction to Sociology **3 Credits**
Introduces students to the basic concepts of sociology: culture, socialization, social stratification, multi-culturalism, and the five institutions, including family, government, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, social organization, and workplace issues.

Pre-requisite: Minimum COMPASS reading score of 73

809-198 Introduction to Psychology **3 Credits**
This introductory course in psychology is a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings.

Pre-requisite: Minimum COMPASS reading score of 73

809-199 Psychology of Human Relations **3 Credits**
Explores the relationship between the general principles of psychology and our everyday lives. Students are given the opportunity to achieve a deepened sense of awareness of themselves and others. This understanding enables students to improve their relationships with others at work, in the family, and in society.

Pre-requisite: Minimum COMPASS reading score of 73

809-352 Skills for Successful Employees **2 Credits**
This course seeks to ready the student for employment by discussing specific "human" skills that lead to success on the job. The topics presented may include: the importance of having a good attitude; the need to recognize that customers "buy" much more than a clearly defined product or service; and knowing how to treat customers, how to influence them, how to handle complaints, and how to sell. Students will also become aware of the need for self-organization, for innovation, for teamwork, and for effective management.

Pre-requisite: Minimum COMPASS reading score of 73

Workforce Training, Economic Development and Outreach to Our Communities

Each year more than 3,500 Green and Rock County incumbent workers, job seekers, and adult learners look to Blackhawk Technical College to fill their need to be lifelong learners. Whether you come as an individual, business, or community organization you can participate in learning programs in Beloit, Janesville or Monroe, at one of the BTC outreach learning centers, or at the business where you are employed.

Business and Community Development

The Business and Community Development Division provides business and professional development seminars and workshops, customized training services, experiential learning programs, continuing education opportunities, and an array of short-term courses in a variety of settings. This division also schedules learning opportunities for individuals seeking enrichment, or furthering their knowledge and skills for work or fun. Business and Community Development staff work directly with business and industry, education, community organizations and others to customize training and consulting services that can include onsite or on-campus training, workshops, seminars and technical assistance consulting services.

Customized training and business consulting is the core of the services provided by the Business and Community Development Division (BCD). Our professional staff can assess your business and training needs and then design and deliver services that help your business or organization meet its goals. Training and consulting can be provided at your site or at any of the College centers or campuses. Business seminars, organizational analyses, employee skills assessments, business planning assistance, and facilitation services are also available.

A dedicated manager will work with you to match the right trainer or consultant to your organization's needs. This individual will assist in creating solutions to your specific issues by custom designing curriculum and activities for you. Your manager can also guide you to State of Wisconsin funding assistance that may be available to help offset your training investment.

Recent examples of training and consulting services that have been provided through the Business and Community

Development Division include topics such as:

- Analytical Thinking
- Computer Software
- Critical Core Employee Skills
- Customer Relations Management
- Ed-Venture Program Activities
- First Aid/CPR
- Forklift Operation
- Human Resource Management
- Industry Related
- Information Technology
- Leadership Development
- Maintenance Related
- OSHA Training
- Personnel Mentoring
- Project Management
- Quality Management
- Sales and Marketing
- Strategic Planning
- Supplier Relations Management
- Time Management

Managers, Training and Consulting Services

BCD Managers are available to assist businesses and organizations with their training, consulting, and facilitation needs.

For information, contact the Business and Community Development Office at (608) 757-7728

Clients Trainer Training

Our clients include businesses and organizations from the following sectors:

- Manufacturers
- Transportation and Distribution Facilities
- Construction and Skill Trades
- Protective Services
- Community-based Residential Facilities
- Community-based Organizations
- Education
- Health Care
- Food Processing
- Finance and Accounting
- Real Estate, Insurance, Appraisal

ED-Venture Program

Ed-Venture programming is part of a unique and powerful approach to training.

An Ed-Venture is composed of a mix of physically and mentally challenging elements designed to provide a metaphor for how individuals and teams handle risk, challenge of change and fear. Each of the elements can be used in a variety of scenarios to target the goals your organization seeks to accomplish.

The "challenge by choice" approach allows each participant to measure success by their aspirations. If a participant chooses not to attempt an event, we respect this decision and offer other ways in which the person can participate including providing support through belaying, coaching, or spotting.

Contact our staff to assist your team development through experiential education techniques that focus on trust, communication, group interaction, problem solving, and critical thinking.

Continuing Education Courses

Explore the variety of non-credit vocational and enrichment classes designed for upgrading skills or personal development. We offer more than 400 courses annually at our campus sites as well as seven outreach centers. For a current listing of courses, visit our website at www.blackhawk.edu and click on the link for "Non-credit classes." Or, to explore the courses available on line, click on the Community Education page.

Outreach Education
Blackhawk Technical College has outreach centers throughout Rock and Green Counties. Rock County outreach centers include Beloit, Edgerton, Evansville, Milton, and BTC's Center for Transportation Studies. Green County outreach centers are the Monroe High School and the Monroe Senior Center.

Develop and Upgrade Your Skills
Enhance your skills or jump start a new career by acquiring the tools needed to excel on the job. Continuing education classes offer an affordable option for exploring new areas of interest.

Enrich Your Life
Try something different. Or do something you've always wanted to do but never had the time. Personal enrichment classes are a great way to explore new interests or keep both physically and mentally active. From art to woodworking and cooking to wellness, Blackhawk Technical College probably has something new that will help enrich your life.

Teach a Class

Interested in teaching a class? Or perhaps you have an idea for a new course. If so, please contact our continuing education coordinator and learn what opportunities might be available to you.

Staff contact information, and detailed current information about Blackhawk Technical College's workforce training and economic

development services available through the Business and Community Development Division can be found at: www.blackhawk.edu.

Outreach Education

Blackhawk Technical College has outreach centers in six locations throughout Rock and Green Counties. The Monroe Campus of Blackhawk Technical College is located just off the Highway 11 bypass in Monroe. This full-service, handicapped accessible Center has three state-of-the-art computer labs and a distance learning lab linking it to Central Campus. At the Monroe Campus, students may choose from a selection of full associate degree, one year diplomas and short term certificates as well as the general education core courses for all associate degrees offered through the college. Additionally, annually more than 100 continuing education classes, educational and financial aid counseling, and GED/HSED preparation and testing services are offered. Up-to-date training for Green County employers and employees supports regional workforce development. Students are served in learning activities featuring small class size and a personalized learning environment at the Monroe Campus.

Outreach centers have their own full- or part-time center coordinators who are responsive to the training and educational needs of their communities. Following are BTC's Outreach Continuing Education Centers:

- Beloit Center
- Edgerton
- Evansville
- Milton
- Rock County Job Center
- Monroe
- Center for Transportation Studies

In the smaller centers, classes are usually held in local school facilities and course offerings include both credit and non-credit classes in the areas of business, family and consumer education, industrial occupations, personal development and service occupations. Adult Basic Education and GED/HSED preparation courses are located in several centers throughout the district as well.

Through the outreach centers, BTC provides district residents the opportunity to upgrade job skills, begin credit programs, and take enrichment classes close to home in their local communities. More than 1,700 courses are offered annually through BTC's Monroe Center, Continuing Education Programs, and Business and Community Development Division.

College Programs

Accounting

Associate of Applied Science Degree

This Associate of Applied Science degree program prepares its graduates for entry-level positions in a variety of business enterprises. Students are provided with an opportunity to develop their intellectual, interpersonal, and communication skills, along with their professional orientation. Students learn to solve accounting problems both manually and with the aid of computers. In addition, the educational experience enables students to develop the motivation for lifelong learning.

Program Outcomes–
Upon completion of this program, you will be able to:

- Prepare financial statements and process financial transactions throughout the accounting cycle
- Analyze financial and business information to support planning and decision-making
- Perform payroll preparation, reporting, and analysis tasks
- Perform cost accounting preparation, reporting, and analysis tasks
- Perform individual and/or organizational tax accounting preparation, reporting, and analysis tasks
- Identify and analyze internal controls to reduce risk

Graduates from this program have found employment as:

- Accounts Payable/Receivable Clerk
- Payroll Clerk
- Accounting Clerk
- Assistant Accounting Manager
- Accountant
- Accounting Assistant
- Office Accountant

Helpful High School Courses-
The following are not required for admission into this program but help students prepare for this degree:

- Accounting
- Algebra
- Business Math
- English
- Bookkeeping
- Economics
- Computers (Keyboarding, Word, Excel)
- DECA and FBLA Leadership

The Accounting Program is also offered as an on-line degree. Interested students should contact a Student Services advisor for information.

835-104 – Student Success
Students should take this course prior to or during their first semester of their program. This is an institutional requirement for all students

	Course Name	Credits	Lec-Lab
Semester 1			
101-111	Accounting I	4	2 - 4
101-130	Accounting Information Systems	3	3 - 0
103-116	Introduction to MS Word	1	0 - 2
106-145	Information Technology Essentials	3	2 - 2
801-195	Written Communication	3	3 - 0
804-123	Math with Business Applications	3	3 - 0
Semester 2			
101-105	Accounting Spreadsheets [1]	3	1 - 4
101-112	Accounting II[1]	4	2 - 4
101-135	Payroll Accounting [1]	2	1 - 2
101-136	Computerized Accounting[1]	1	0 - 2
801-196	Oral/Interpersonal Communication	3	3 - 0
809-166	Intro. to Ethics: Theory and Application	3	3 - 0
Semester 3			
101-113	Accounting III[1]	4	2 - 4
101-123	Income Tax Accounting	4	3 - 2
101-125	Cost Accounting[1]	4	2 - 4
809-195	Economics	3	3 - 0
809-198	Introduction to Psychology	3	3 - 0
Semester 4			
101-109	Financial Analysis[1]	3	2 - 2
101-124	Applied Income Tax[1] OR	2	0 - 4
101-128	Supervised Occupational Experience[1]	3	varies
101-131	Accounting Databases[1]	2	1 - 2
101-137	Career Development in Accounting[1]	1	1 - 0
809-196	Introduction to Sociology	3	3 - 0
103-178	Advanced Excel[1]	2	0 - 4
	Elective[2]	3	varies
	TOTAL CREDITS	**67-68**	

[1]Course has Pre-requisites.

[2] Recommended electives:

101-150	AIPB Certified Bookkeeper Review[1]	3	2 - 2
102-160	Business Law	3	3 - 0
103-126	Introduction to QuickBooks	1	0 - 2

Short-Term Credit-based Certificate Options:

- Small Business Accounting (28 credits) Certificate 99-9129
- Accounting Assistant (32 credits) Certificate 99-9101
- Tax Preparation Specialist (19 credits) Certificate 99-9132

Students may choose to receive a certificate upon satisfactory completion of the required courses within the Accounting Program. Students selecting this option may return to BTC at a later date (in accordance with the College's advanced standing policy) to complete the Associate of Applied Science Degree in Accounting.

COURSE DESCRIPTIONS

101-105 Accounting Spreadsheets 3 Credits
This course provides hands-on experience in reporting financial data utilizing a popular spreadsheet program. The course focuses on the application of spreadsheet software in the Accounting profession. ***Pre-requisites:106-145 Information Technology Essentials, 804-123 Math with Business Applications, 101-111 Accounting I***

101-109 Financial Analysis 3 Credits
This is a capstone course for fourth semester accounting students that offers a simulated work experience for a career in the accounting profession. Topics include budgeting, forecasting, financial statement preparation and financial analysis. Emphasis is placed on spreadsheets. ***Pre-requisites: 101-125 Cost Accounting, 101-113 Accounting III***

101-111 Accounting I 4 Credits
This is an introductory course to the basic structure of accounting. Fundamental accounting concepts and principles are presented with their application to the analysis and recording of business transactions through the use of problems and a practice set. The course focus is on journalizing, posting, preparing financial statements, accounting for merchandisers, purchases, and banking transactions. A working knowledge of Microsoft Office is highly recommended.

101-112 Accounting II 4 Credits
Accounting II is a continuation of Accounting I. Account groups are studied for their composition, valuation, recognition, and appropriate accounting treatment. The accounting groups focused on are: receivables, inventory, fixed assets, and current liabilities. In addition, managerial/cost accounting concepts and principles, and cost-volume-profit analysis are introduced. ***Pre-requisites: 101-111 Accounting I, 804-123 Math with Business Applications, 103-116, Introduction to MS Word***

101-113 Accounting III 4 Credits
This is a continuation of Accounting II. The course focus is on accounting for long-term liabilities, partnerships, corporations, and preparing the statement of cash flows. A comprehensive practice set allows students a practical application of accounting theories. ***Pre-requisites: 101-112 Accounting II, 101-105 Accounting Spreadsheets***

101-123 Income Tax Accounting 4 Credits
Federal and state income tax laws are covered as related to the individual taxpayer. Emphasis is on learning to research and interpret tax laws and regulations. The student will study the law, then apply the law to illustrative cases and prepare appropriate tax

forms.

101-124 Applied Income Tax **2 Credits**
This course provides hands-on experience in preparing federal and state income tax returns for people in the community through the VITA program. Customer relations are an important component of this course. ***Pre-requisite: 101-123 Income Tax Accounting***

101-125 Cost Accounting **4 Credits**
This course focuses on the study of cost accounting, blending theory with practical application of problems and case studies. Cost systems presented include the job order cost system and the process cost system. Emphasis is on cost accumulation using actual and standard costing, as well as managerial cost decision making. ***Pre-requisites: 101-112 Accounting II, 101-135 Payroll Accounting, 101-105 Accounting Spreadsheets***

101-128 Supervised Occupational Exp. – 2nd Year **3 Credits**
In this course, second-year students interview for accounting work-based learning placements within business and industry. Once selected, students will apply their knowledge and skills in an accounting work environment under the supervision of an employer. ***Pre-requisites: 101-105 Accounting Spreadsheets, 101-112 Accounting II, 101-130 Accounting Information Systems, 101-135 Payroll Accounting, 101-136 Computerized Accounting***

101-130 Accounting Information Systems **3 Credits**
This course helps students develop their professional judgment as accountants while studying the flow of information in an organization. Using scenarios, each transaction cycle is analyzed and studied for internal control weaknesses. Based on the analysis, the students are required to identify ways to strengthen any weakness identified. Students will learn flowcharting techniques and principles of system design.

101-131 Accounting Databases **2 Credits**
Students learn Microsoft Access and then are divided into teams to apply database concepts in an accounting information system using Access. The system stresses the use of good internal controls. Emphasis is on teamwork and good design techniques. A working knowledge of Microsoft Windows is expected. ***Pre-requisites: 101-130 Accounting Information Systems, 101-113 Accounting III***

101-135 Payroll Accounting **2 Credits**
This course emphasizes methods of computing wages and salaries, methods for keeping payroll records and the preparation of government reports. Included is a project requiring the student to record all the payroll information for a business during a three-month operating period. ***Pre-requisites: 101-111 Accounting I, 804-118 Intermediate Algebra***

101-136 Computerized Accounting **1 Credit**
This course is designed to build the bridge between a manual accounting system and a computerized system, explaining the "behind-the-scenes" actions of the computerized system. A popular computerized accounting software package is used to record business transactions within a computerized system and produce financial statements and various other reports for management. This course is designed to provide the user with an intermediate level of proficiency in a computerized accounting software package. ***Pre-requisite: 101-111 Accounting I or equivalent experience***

101-137 Career Development in Accounting **1 Credit**
This course prepares students to use strategies for seeking, obtaining, and retaining employment in accounting and finance related positions. Students develop a job search plan, prepare a resume and cover letter, complete application forms, and prepare for job interviews. Students build a professional profile and finalize a personal portfolio. It is highly recommended that 101-109 Financial Analysis be taken concurrently. This course is intended for students who are in their fourth semester of the two year degree. ***Pre-requisites: 101-113 Accounting III, 101-125 Cost Accounting***

101-150 AIPB Certified Bookkeeper Review **3 Credits**
This course is a preparatory course for the national American Institute of Professional Bookkeepers (AIPB) Certified Bookkeeper examination. Students will study adjusting entries, correction of accounting errors, payroll accounting, depreciation, inventory, and internal controls. Upon completion of this course, each student will have reviewed all six parts of the Certified Bookkeeper examination. ***Pre-requisites: 101-111 Accounting I, 101-112 Accounting II, 101-135 Payroll Accounting or equivalent experience***

102-160 Business Law **3 Credits**
This course is designed to provide the student with a working knowledge of law as it relates to the rights and responsibilities of businesses and individuals. Emphasis is placed on torts, contracts, case analysis, ethics, and social responsibility, particularly in the business context.

103-116 Introduction to MS Word **1 Credit**
Learn to use Microsoft Word 2007 as a word processor to create documents such as reports, letters, and research papers. You can even publish brochures, newsletters, and announcements with additional training. Students will learn to create, edit, format and print a variety of business and school documents and become proficient with powerful editing tools such as spelling and grammar checkers, Thesaurus, and Autocorrect.

103-126 Introduction to QuickBooks **1 Credit**
This course is designed to provide the user with a basic level of proficiency in the popular QuickBooks software. QuickBooks is used to record business transactions and produce financial statements and various other reports for management. A working knowledge of Microsoft Windows and a basic knowledge of the accounting cycle are recommended.

103-178 Advanced Excel **2 Credits**
Course covers advanced features of Microsoft Excel such as what if analysis, input tables, spreadsheet consolidation, data tables and queries, object linking and imbedding, filters and pivot tables, macros, Visual Basic for Applications, and charting features. ***Pre-requisite: 101-105 Accounting Spreadsheets***

106-145 Information Technology Essentials **3 Credits**
This course provides an introduction to computers and information processing terms, hardware, software, networks, and buying a computer. Major topics also include effective use of a web browser, Microsoft Outlook's electronic mail, calendar, and

contacts modules, and the basics of Windows operating system. Touch keyboarding skills are recommended.

General Education Courses:

801-195	Written Communication	3 Credits
801-196	Oral/Interpersonal Comm.	3 Credits
804-118	Intermediate Algebra	3 Credits
809-166	Introduction to Ethics	3 Credits
809-195	Economics	3 Credits
809-196	Introduction to Sociology	3 Credits
809-198	Introduction to Psychology	3 Credits

Administrative Professional

Associate of Applied Science Degree

Are you interested in a variety of tasks? Do you like being active on the job? Are you a people person but also thrive on technology? If so, the Administrative Professional associate degree program might be just for you!

Blackhawk Technical College's Administrative Professional program is designed to prepare tomorrow's office managers, administrative professionals, and business professionals who want to position themselves to take on greater responsibilities and duties. You'll learn about managing complex office procedures, using business technology, planning meetings and events, coordinating projects, and more. Graduates will become valued administrative professionals equipped with technology, communication, and professional skills. Potential careers are available in diverse settings including business, industry, local government, healthcare, and service organizations. Why not start preparing for your future today at Blackhawk Technical College?

Program Outcomes
Upon completion of this program, you will be able to:

- Apply organizational skills in managing the operations of an office, department, or team.
- Lead and manage office operations in business, government, or community-based organizations.
- Create accurate and high quality written documents which are free of grammar and punctuation errors.
- Plan, coordinate, and manage office projects.
- Plan meetings and events including working with customers, vendors, and others.
- Manage office documents including financial, human resources, and business communications.
- Demonstrate proficiency with office technologies including websites, Intranets, and business software applications.
- Select and use appropriate technology to meet customer needs, organizational goals or team objectives.
- Communicate professionally through verbal and written communication techniques.
- Work effectively and solve problems in teams and diverse work groups.
- Apply business related software and hardware for office productivity.
- Solve problems and think critically.
- Lead by example
- Work effectively in today's modern, fast-paced, and ever changing global business environments.
- Display professionalism through confidentiality, respect for others, critical thinking, and dependability.

Potential employment includes:

- Administrative Professional
- Human Resources Assistant
- Administrative Coordinator
- Administrative Specialist
- Executive Assistant
- Office Manager/Supervisor
- Project Coordinator
- Support Professional

Helpful High School Courses:

- Touch keyboarding skill of 40 wpm or higher for 5 minutes with 5 or fewer errors. Keyboarding, Skillbuilding and Keyboarding Applications courses are available at BTC
- English composition
- Computer applications
- Advanced standing may be available for some courses; check with your high school counselor

835-104 – Student Success
Students should take this course prior to or during their first semester of their program. This is an institutional requirement for all students

	Course Name	Credits	Lec-Lab
Semester 1			
106-145	Information Technology Essentials	3	2 - 2
106-146	Word Processing Applications[1]	3	1 - 4
106-157	Intro to Office Administration Careers	1	1 - 0
106-181	Office Professionalism	3	3 - 0
801-196	Oral/Interpersonal Communications	3	3 - 0
804-106	Introduction to College Math	3	3 - 0
Semester 2			
106-133	Business Writing and Document	3	1 - 4

	Formatting[1]		
106-153	Administrative Office Procedures[1]	3	2 - 2
106-159	Business Spreadsheets	3	2 - 2
106-165	Business Presentations/Training	2	1 - 2
809-195	Written Communications	3	3 - 0
809-199	Psychology of Human Relations	3	3 - 0
Semester 3			
101-102	Office Accounting	3	2 - 2
106-182	Office Project Management[1]	3	2 - 2
106-156	Business Databases	3	2 - 2
106-183	Meeting and Event Planning	3	3 - 0
809-172	Race, Ethnic, and Diversity Studies	3	3 - 0
Semester 4			
106-184	Web Technologies for Office Mgmt	3	2 - 2
106-155	Publication Design and Production	3	2 - 2
106-158	Supervised Occupational Experience[1]	1	0 - 4
106-160	Administrative Office Management[1]	3	2 - 2
809-166	Intro to Ethics: Theory and Application	3	3 - 0
809-196	Introduction to Sociology	3	3 - 0
	TOTAL CREDITS	**64**	

[1] Course has Pre-requisites.

Short-Term Credit-Based Certificate Options:

- Business Technology (28 credits) Certificate 99-9121
- Customer Service Associate (16 credits) Certificate 99-9130
- Office Assistant (16 credits) Certificate 99-9119

Students may choose to receive a certificate upon satisfactory completion of the required courses in the Administrative Professional Associate Degree Program. With this certificate, you will be better prepared for entry level positions. Students selecting this option may return to BTC at a later date (in accordance with the College's advanced standing policy) to complete the Administrative Professional Associate of Applied Science Degree.

COURSE DESCRIPTIONS

101-102 Office Accounting 3 Credits
Office Accounting is a basic course in accounting principles and bookkeeping procedures. Topics include journalizing and posting transactions, preparing worksheets, adjusting and closing entries, and preparing the financial statements. Emphasis is on the service enterprise and accounting for cash.

106-133 Business Writing and Document Formatting 3 Credits
Document Formatting further develops keyboarding skills and emphasizes the efficient production of correctly formatted professional business documents. Additionally, the class will focus on applying correct grammar/spelling/punctuation/word usage to business communications and the use of appropriate communication style. ***Pre-requisite: 106-146 Word Processing Applications***

106-145 Information Technology Essentials 3 Credits
This course provides an introduction to computers and information processing terms, hardware, software, networks, and buying a computer. Major topics also include effective use of a web browser, Microsoft Outlook's electronic mail, calendar, and contacts modules, and the basics of Windows operating system. Touch keyboarding skills are recommended.

106-146 Word Processing Applications 3 Credits
Students use word processing software to create, format, and edit business documents applying features such as headers/footers, macros, merge, templates, tables, columns, outlines, fonts, and graphics. Software functions, theory and production will be assessed. ***Pre-requisite: Touch keyboarding speed of 40 words per minute and basic computer skills.***

106-153 Administrative Office Procedures 3 Credits
This course covers office procedures concepts and practices. Students will develop proofreading skills for identifying and correcting punctuation, grammar, spelling, and usage errors. This course also includes editing skills for improving format, consistency, clarity, conciseness, and completeness. Activities require applying proofreading and editing skills to realistic business communications in both print and electronic formats. In addition, students learn the Association of Records Managers and Administrators (ARMA) filing rules through experience with various filing methods in a practice simulation. Students will also be introduced to file maintenance procedures, supplies, and equipment. Critical-thinking, problem solving, and job performance skills in a global business environment are also included. Touch keyboarding and basic word processing skills are helpful. ***Pre-requisite: 106-145 Information Technology Essentials***

106-155 Publication Design and Production 3 Credits
Utilizing software such as Photoshop Elements and Adobe InDesign, students will combine the technology of the personal computer, scanners, digital cameras, color printers, and desktop publishing software with specific design and layout concepts. Students will apply the proper use of typefaces, graphics, tables, text and user-defined boxes, horizontal and vertical rules to the design and layout of newsletters, brochures, and other documents. The pace of this course is based on touch keyboarding skill of 40 words per minute and basic computer skills.

106-156 Business Database 3 Credits
This course is designed to teach the basic elements of Microsoft Access. Applications will include the creation of a database; finding, displaying, and deleting records; providing listings and reports; making tables; and managing mailing lists. Basic computer skills are expected.

106-157 Intro to Office Administration Careers 1 Credit
This orientation course provides an introduction to BTC's Administrative Professional program and its requirements, selected BTC and external resources, and requirements of an administrative professional. Informational interviews at area

companies and/or guest speakers will be part of this course. Whenever possible, this course should be taken during the student's first semester.

106-158 Supervised Occupational Exp 1 Credit.
Administrative Professional
This course consists of 72 hours of practical experience in an office environment. Students will be expected to obtain a job and demonstrate technical and interpersonal skills necessary for office employment. BTC instructors will coordinate management of students in approved positions under the supervision and guidance of cooperating employers. Students will also finalize employment portfolios and other employment-related documents. ***Pre-requisite: Students should have satisfactorily completed all core courses in semesters 1, 2, and 3 of the Administrative Professional Associate Degree program before taking this course.***

106-159 Business Spreadsheets 3 Credits
Using Microsoft Excel, students will learn the elements of a spreadsheet: worksheet capabilities (create, modify, enhance, save, print, and erase worksheets), graphing capabilities (create graphs, bar charts, and pie charts), and database capabilities (create, sort, and query). Basic computer skills are expected.

106-160 Administrative Office Management 3 Credits
This capstone course focuses on the leadership role for office management and enhances skills necessary to provide organizational and technical support in a contemporary office setting. Topics covered include project management, research, travel and meeting planning, financial information, emerging technologies, and career development. ***Pre-requisite: 106-182 Office Project Management, 106-133 Business Writing and Document Formatting, 106-153 Administrative Office Procedures***

106-165 Business Presentations/Training 2 Credits
Microsoft PowerPoint software will be used to create dynamic, professional-looking presentations. In addition, emphasis will be placed on developing training skills that will include analyzing/determining training needs, understanding learning styles, development of resources/curriculum, using presentation/training technologies, and evaluating training success. Touch keyboarding and basic word processing skills are necessary.

106-181 Office Professionalism 3 Credits
The mission of the course is to empower students to enhance performance through personal self-management. The course, which is built around "Tom Rath's StrengthsFinder", provides an opportunity to develop both personally and professionally in effectively dealing with change. In addition, students will focus on the soft skills of team building and customer service through the use of problem-based video "field-trips".

106-182 Office Project Management 3 Credits
This course will introduce students to Microsoft Office Project and Visio. This project-based course will have students apply basic skills and strategies for making effective business decisions, explore theory and application of project management, develop business acumen, and apply problem solving tools/techniques to business situations through the integration of the software resources presented. ***Pre-requisite: 106-145 Information Technology Essentials***

106-183 Meeting and Event Planning 3 Credits
This course is designed to teach students to work effectively with different cultures, determine meeting attendees, manage a meeting budget, preparation of minutes, and coordination of meeting resources. Additionally, students will develop travel profiles, complete trip follow-up and explore compliance of international requirements. Touch Keyboarding and basic word processing skills are necessary. ***Pre-requisite: 106-159 Business Spreadsheets.***

106-184 Web Technologies for Office Management 3 Credits
Intended to introduce students to advanced applications used by office professionals, this course provides an introduction to programs such as Adobe Acrobat, Illustrator, and Dreamweaver, Microsoft Publisher, and/or other computer applications used by administrative professionals. Students will apply basic skills and strategies for designing and maintaining a website and/or class intranet while exploring web office processes and procedures.

General Education Courses:

801-195	Written Communication	3 Credits
801-196	Oral/Interpersonal Communication	3 Credits
804-106	Introduction to College Mathematics	3 Credits
809-166	Introduction to Ethics: Theory and Applications	3 Credits
809-172	Race, Ethnic and Diversity Studies	3 Credits
809-196	Introduction to Sociology	3 Credits
809-199	Psychology of Human Relations	3 Credits

Agribusiness

One-Year Technical Diploma

The Agribusiness Specialist program provides students with the skills and experience for future agricultural employment in a variety of settings including: production, service and supply, marketing and sales, research, and agricultural tourism. Emphasis will be on career leadership, agribusiness management, safe and sustainable agriculture, and renewable energy. Further emphasis will be on leadership skills and agricultural tourism.

Program Outcomes

- Evaluate Agribusiness management and technology use to enhance management practices to increase profitability.
- Apply management practices to produce agronomic crops in a profitable manner.
- Apply management practices to produce livestock products in a profitable manner.
- Identify potential career choices and apply skills necessary to gain employment.
- Research and utilize appropriate resources to solve problems.
- Use appropriate verbal communication techniques in personal and professional settings.

- Follow all safety and precautionary measures when working in agribusiness.
- Utilize strategies to market agricultural products based on predicted trends in agribusiness.
- Appreciate the diversity of agriculture and the use of sustainable practices

Graduates from this program have found employment as:

- Farm, Ranch and other Agricultural Manager
- Chemical/Fertilizer Applicator
- Farm Products Purchasing Agent
- Crop Scouting Associate
- Agricultural Product Sales Agent
- Agricultural Research Technician
- Agricultural Marketing Specialist
- Nutrient Management Specialist
- Seed, Feed, Chemical, Fertilizer Associate

835-104 – Student Success
Students should take this course prior to or during their first semester of their program. This is an institutional requirement for all students

	Course Name	Credits
Semester 1		
006-101	Contemporary Issues in Sustainability	1
006-102	Emerging Ag Technologies	2
006-116	Intro to Soils	3
006-169	Career Development in Agriculture	2
006-180	Animal Science	3
801-196	Oral Communication	3
804-107	College Math OR	3
804-304	Math Fundamentals	2
Semester 2		
006-160	Plant Science	3
006-163	Agribusiness Business	3
006-103	Ag Commodity Marketing	1
006-104	Special Topics in Agriculture	1
006-105	Nutrient Management	3
006-106	Agriculture Externship	1
006-107	Pest Management Principles/ Applicator Training	3
006-108	CDL Training	1
	TOTAL CREDITS	**32**

COURSE DESCRIPTIONS

006-116 Introduction to Soils 3 Credits
This course provides fundamental knowledge of soils and growth media. Course topics include soil formation and development, soil components, soil profile, soil classification, and soil conservation. Participants will experience soils concepts through the completion of hands-on activities.

006-101 Contemporary Issues in Sustainability 1 Credit
This course examines the role of agriculture and consumers in today's society. Emphasis will be placed on economically profitable, environmentally sound and socially responsible agricultural practice for farm and agribusiness operations.

006-169 Career Development in Agriculture 2 Credits
This course is designed to assist students in developing career leadership skills for the agriculture industry. Units of study include: goal setting, strengths finder, career opportunities, employment preparation, industry issues, and the role of professional organizations in agriculture.

006-180 Animal Science 3 Credits
This course provides fundamental knowledge of the animal science field. Topics include animal health, animal environments, anatomy and physiology, genetics and reproduction, animal feedstuffs, and job related safety. Participants will experience concepts through the completion of hands-on activities.

006-102 Emerging Agriculture Technologies 2 Credits
This course provides classroom and field experience to expose students to the latest developments in agricultural technology for agribusinesses applications. Emphasis will be geared toward providing students experience in technical problem-solving and computer applications for agri-businesses and farm operations.

006-160 Plant Science 3 Credits
This course provides fundamental knowledge of plant components and their functions. Topics include pollinating and propagating plants, germinating seeds, plant nutrients, and factors affecting photosynthesis, respiration, and transpiration. Participants will experience plant components and their functions through completion of hands-on activities

006-163 Agribusiness Management 3 Credits
Topics studied in this course are agriculture agencies; records and accounts; sources of credit, insurance, enterprise budgeting, cash flow, net worth; and business organization. Students will learn about the organization and structure of agricultural businesses; resource evaluation, policy development and implementation, functions of management, and laws and taxes that affect business.

006-105 Nutrient Management 3 Credits
Students focus on profitable crop production methods using commercial products, nutrient credits, and rotational practices. Students learn how to interpret soil test reports, balance soil pH, meet nutrient requirements, and make product recommendations based upon economic, environmental, and legal criteria. Students will study field mapping based on global positioning systems and variable rate technology.

006-107 Pest Management Principles/ Custom Applicator's Training 3 credits
Students will learn principles and methods used in the control of pests found in the production of agricultural commodities. Preparation for the Wisconsin Commercial Pesticide Applicator licensing will include: restricted use regulations, applicator safety, environmental safety, equipment calibration, and product label interpretation. Course topics include: pesticide mode of action, interpretation of aerial photos, and integrated pest management (IPM).

006-104 Special Topics In Agriculture 1 Credit
This course is an opportunity for students to learn from professionals in the fields of agronomy, finance and livestock nutrition and management as well as full-time crop, livestock and dairy producers. Learners will connect with professionals in the field of agricultural production and agribusiness. Students will be able to do this through linking with the Farm Business and Production Management Program from November through March.

006-103 Ag Commodity Marketing 1 Credit
Learners will develop an understanding of the principles of marketing, relative to basic economic theory. We will examine the marketing process from production through delivery to the ultimate consumer including product differentiation, direct marketing, and competitive advantage.

006-108 CDL Training 1 Credit
A course designed to prepare students to take the Department of Transportation (DOT) General CDL examination as well as receive DOT endorsements for air brakes, hazardous materials, doubles and triples. A CDL is a very valuable certification for all types of agribusiness employment. Completion of these exams could lead to a student receiving their driving permit which would allow them to drive a commercial truck with a licensed CDL driver in the passenger seat.

006-106 Agribusiness Occupational Experience 1 Credit
This course is an opportunity for students to gain hands-on experience with agribusinesses within their area of interest or as career exploration. Participants will build a network of potential employers upon completion of the Agribusiness Specialist program.

Air Conditioning, Heating, Cooling and Refrigeration Technology

HVAC/R is one of the fastest growing industries in the world today. With the changing laws involving refrigerants and the influx of digital control systems, there is a constant need for qualified service technicians to work on HVAC/R equipment. A service technician will have to continually update his/her skills to keep up with the changing industry.

This program will provide proper training for people interested in a career in the heating, ventilation, air conditioning and refrigeration (HVAC/R) field. The technician will be prepared for employment in a variety of areas including servicing, installing, designing, estimating, and selling HVAC systems for commercial and residential applications. The most modern equipment, test instruments, and computers are used for instruction.

After completing the HVAC/R associate degree program, students may wish to pursue additional training in heating, ventilation, and air conditioning engineering. Credit for many of the associate degree courses may be transferred to a four-year institution. The student needs to confirm which courses are transferable with the accepting college.

Program Outcomes
Upon completion of this program, you will be able to:

- Perform HVAC/R service and repair operations in compliance with published safety standards
- Promote customer satisfaction
- Operate tools and equipment according to process published in operator's manual and/or demonstrated in class
- Service and/or repair/replace defective components established in equipment specific repair manual and/or electronic service information systems
- Diagnose root cause of problems by comparing test results to an established standard
- Efficiently complete tasks within the expected time frame for an entry level technician

Graduates from this program have found employment as:

- HVAC/R Service Technician
- HVAC/R Service Installation Technician
- HVAC/R Sales Representatives
- HVACR Maintenance Technician

Career Outlook:

There is a constant demand for comfort systems, and trained HVAC/R technicians are sought to operate and maintain these systems. Graduates of this program often obtain work as installation technicians, service technicians, sales representatives, and maintenance technicians.

835-104 – Student Success
Students should take this course prior to or during their first semester of their program. This is an institutional requirement for all students

	Course Name	Credits	Lec-Lab
Semester 1			
601-110	Air Conditioning Fundamentals	3	2 - 2
601-115	Electrical Fundamentals	3	2 - 2
601-125	Mechanical Systems - Drawing and Interpretation	3	2 - 2
631-120	Industrial Computer Applications	3	2 - 2
801-196	Oral/Interpersonal Communication	3	3 - 0
804-107	College Mathematics	3	3 - 0
		18	22

Semester 2

601-120	Refrigeration Fundamentals	3	2 - 2
601-130	Heating Systems	3	2 - 2
601-135	Electrical Controls and Systems[1]	3	2 - 2
801-195	Written Communication	3	3 - 0
809-196	Introduction to Sociology	3	3 – 0
		15	18

Semester 3

601-140	Control Circuit Applications[1]	3	2 - 2
601-150	Air Conditioning Applications[1]	3	2 - 2
601-155	Refrigeration Applications[1]	3	2 - 2
809-195	Economics	3	3 - 0
809-198	Introduction to Psychology	3	3 - 0
		15	18

Semester 4

601-145	Heating System Applications[1]	3	2 - 2
601-160	Hydronic Systems	3	2 - 2
601-165	Electronic Energy Management Systems[1]	3	2 - 2
601-175	Servicing and Troubleshooting HVAC/R Equipment[1]	3	2 - 2
809-172	Race, Ethnic and Diversity Studies	3	3 – 0
		15	19
	TOTAL CREDITS	**63**	

[1]Course has Pre-requisites.

COURSE DESCRIPTIONS

601-110 Air Conditioning Fundamentals 3 Credits
Air Conditioning Fundamentals is a course designed to teach the principles of operation of commercial and residential air conditioning systems as encountered in the HVAC/R servicing and installation business. This course is almost entirely theory with some laboratory covering the use of measuring instruments during operation of HVAC/R systems. All aspects of safety will be emphasized and reviewed throughout the course.

601-115 Electrical Fundamentals 3 Credits
A sound electrical background is essential in order to become a successful HVAC/R technician. Electrical Fundamentals provides experience with electrical theories, circuits, devices, and equipment. This is a combination lecture/lab course involving hands on experience with HVAC/R electrical components. There will also be an introduction to electrical diagram reading and drawing along with computer-aided tutorials. Electrical safety will be thoroughly discussed and reviewed during the course.

601-120 Refrigeration Fundamentals 3 Credits
This course will study the function and operation of the basic components in the refrigeration cycle along with learning the use of service tools the HVAC/R technician will utilize on the job. Refrigeration Fundamentals is a combination lecture/lab course in which the students will be able to apply theory to the lab using actual HVAC/R equipment. Computer simulators will be introduced as teaching aids. On the job and lab safety will be emphasized.

601-125 Mechanical Systems-Drawing and Interpretation 3 Credits
In this course, instruction will be given in design, application, blueprint reading, symbols and drawings of mechanical systems. Outlays of various heating and cooling systems in relation to architectural buildings are used. Proper mechanical schematics, isometric piping, and flow diagrams are discussed and drawn.

601-130 Heating Systems 3 Credits
The study of principles of the operation of commercial and residential heating systems, as encountered in the HVAC/R servicing and installation business, make up this course. Forced air systems utilizing gas combustion systems will be covered along with electric heating systems. This course is a balance of theory and application.

601-135 Electrical Controls and Systems 3 Credits
This course is designed to give the student an understanding of the operation of various types of control devices and how combinations of these devices can be applied and varied to secure the desired conditions in heating and cooling systems. Students will interpret and draw in depth wiring diagrams using actual HVAC/R equipment. Computers will also be utilized in the studying of wiring diagrams. This course is mostly application oriented, with a review of electrical theory and safety. ***Pre-requisite: 601-115 Electrical Fundamentals***

601-140 Control Circuit Applications 3 Credits
This course is designed to teach systems application of electrical controls in the HVAC/R field. Control Circuit Applications will continue to emphasize the understanding of wiring diagrams along with troubleshooting controls, mechanical and electro-mechanical controls, electronic control circuits, and HVAC/R control applications. This course is a combination of lab and theory. ***Pre-requisite: 601-135 Electrical Controls and Systems***

601-145 Heating System Applications 3 Credits
Heating System Applications covers the operation, maintenance and service of gas, propane and oil fired heating equipment. In addition, this class will also cover the operation and service procedure for heat pumps. This course is a balance of theory and application. ***Pre-requisite: 601-130 Heating Systems***

601-150 Air Conditioning Applications 3 Credits
This course includes the installation and service of air conditioning systems, including types of fan systems, duct service and fabrication techniques, load calculating and estimating and air and fluid measurements. This course is a combination of classroom presentation and lab. ***Pre-requisite: 601-110 Air Conditioning Fundamentals***

601-155 Refrigeration Applications 3 Credits
This course involves servicing of commercial refrigeration systems using meters and service tools. Studies and calculations are made of commercial refrigeration systems, along with the design and selection of equipment. Refrigeration Applications is primarily hands on with some theory. ***Pre-requisite: 601-120 Refrigeration Fundamentals***

601-160 Hydronic Systems 3 Credits
This course involves instruction and laboratory work on hydronic and steam systems. Students will be able to design, install, start-up and service gas and oil fired systems. This course is a combination of classroom presentation and lab.

601-165 Electronic Energy Management Systems 3 Credits
Major types of automatic electrical control systems are described and compared. Programs, sensing and control points, signal transmission and processing, and other peripheral equipment which make up a complete building monitoring and control automation system are also explored. Students will be able to utilize computer controls either on the HVAC/R equipment or at a computer station to evaluate equipment operation. This course is a mixture of lecture along with some lab work. ***Pre-requisite: 601-135 Electrical Controls and Systems***

601-175 Servicing and

Troubleshooting HVAC/R Equipment 3 Credits
Various methods of troubleshooting and servicing of HVAC/R systems are studied. Utilizing manufacturer's guidelines and service tools, the student will demonstrate customer relations, mechanical aptitude and bookkeeping skills that are essential to becoming a well rounded service technician. The students will also perform computer simulated service calls to reinforce knowledge. This class is almost entirely hands on. ***Pre-requisites: 601-140 Control Circuit Applications, 601-150 Air Conditioning Applications, 601-155 Refrigeration Applications or equivalent work experience***

631-120 Industrial Computer Applications 3 Credits
The Industrial Computer Applications course is designed to meet the need for foundational computer training in industrial occupations. Using a self-paced, modular format, the ICA course is flexible to meet the needs of students with varying backgrounds in computer usage. Topics covered include: PC parts identification (including communications ports), operating system usage, file management, word processing, spreadsheet usage, and Internet usage.

General Education Course Requirements:

801-195	Written Communication	3 Credits
801-196	Oral/Interpersonal Communication	3 Credits
804-107	College Mathematics	3 Credits
809-172	Race, Ethnic and Diversity Studies	3 Credits
809-195	Economics	3 Credits
809-196	Introduction to Sociology	3 Credits
809-198	Introduction to Psychology	3 Credits

Apprenticeship

Formal apprenticeship training in Wisconsin began in 1911, the same year the current Wisconsin Technical College System was founded. Today the apprenticeship process is an arrangement involving employers, apprenticeship committees, state government, technical colleges, and individuals who want to learn a skilled craft through on-the-job training and applied classroom instruction. The State of Wisconsin recognizes more than 300 occupations through apprenticeship. Many individuals, including women and minorities, have discovered that apprenticeship training offers an opportunity for a good-paying career.

More information on apprenticeship training in Wisconsin can be found at the Bureau of Apprenticeship Standards website (http://dwd.wisconsin.gov/apprenticeship/default.htm) or by calling (608)266-3332. Information is also available through the U.S. Department of Labor Bureau of Apprenticeship and Training at (608) 441-5377.

How Do I Start?

Looking for an apprenticeship is like looking for a job. Start by learning all you can about the skilled occupation of interest. Talk to people who are currently employed in the trade, employers and employers' associations, high school counselors, the local technical college, and labor unions.

To be eligible for apprenticeship, you must meet the application and testing procedures of the trade in which you wish to participate. The rules and policies for apprenticeship training vary depending on the requirements of the occupation. Apprenticeship is not an on-demand program. All applicants must apply and be accepted into a program through the respective committee or sponsor.

Application information for occupations served by BTC is available from the contacts listed under the specific trade areas below:

BTC provides apprenticeship instruction in the following trades:

Electrical

Electricians lay out, install, and test electrical fixtures; they also install electrical wire systems used to provide heat, light, power, air conditioning, and refrigeration in homes, office buildings, factories, hospitals, and schools. They install conduit, greenfield, and other materials and connect electrical machinery, equipment, and controls. Electricians use a wide variety of hand tools to perform various tasks. Journey level electricians must master both mechanical and technical skills. They must understand the use of meters and specialized testing equipment, be adept at troubleshooting, and understand the theory behind the transmission of electrical energy. Work is performed both indoors and outdoors in a variety of weather conditions.

Applications and information on application procedures for construction electrical apprenticeships are available from:

Associated Builders and Contractors of Wisconsin, Inc.
5330 Wall Street • Madison, WI 53718
(800) 829-9926 • www.abcwi.org

South Central Area Electrical Joint Apprenticeship Committee
17 South River Street *(Back Entrance)*
Janesville, WI 53545 • (608) 752-0321

Maintenance Mechanic/Millwright

Millwright apprentices learn to repair and maintain machinery and mechanical equipment using hand tools, power tools, precision measuring and testing equipment; observe mechanical devices in operation and, listening to their sounds, locate causes of trouble; be capable of analyzing problems and completing needed repairs; dismantle devices to gain access to and remove defective parts using hoists, cranes, hand tools and power tools; complete repairs and maintain operations in accordance with diagrams, sketches, operation manuals and manufacturers' specifications; perform preventive maintenance procedures; adjust functional parts of devices and control instruments using hand tools, levels plumb bobs and straightedges; inspect used parts to determine changes in dimensional requirements using rules, calipers, micrometers and other measuring instruments; lubricate and service hydraulic and pneumatic devices; complete performance tests on equipment; set up and operate power equipment to make replacement parts for small repair on machinery; start and maintain service schedules recommended by equipment manufacturers; work with and maintain electrical equipment; and repair and maintain hand and power tools used in daily operations.

Information on the Maintenance Mechanic/Millwright Apprenticeship Program can be obtained by contacting the Bureau of Apprenticeship Standards Field Representative at: 2125 Commercial Avenue, Madison, WI 53704 or by phone at (608) 246-7900.

Plumbing

Plumbers install pipes for water, gas, sewage, and drainage systems. They also install sanitary facilities such as lavatories, toilets, tubs, bathroom fixtures, drinking fountains, and laundry equipment. Plumbers install pipe systems, using both hand and power tools to cut, bend and thread pipes, and to make welded and soldered joints. Plumbers must also run tests on their installations to assure that the system is functioning properly and meets the Plumbing Code. They are often called upon to clear pipelines and drains and to make repairs on faucets, valves, and leaky pipes.

Applications and information on application procedures for plumbing apprenticeships are available from:

Associated Builders and Contractors of Wisconsin, Inc.

5330 Wall Street • Madison, WI 53718

(800) 829-9926 • www.abcwi.org

Madison Area Plumbers, Sheet Metal, Steamfitters Joint Apprenticeship and Training Committees

5940 Seminole Centre Ct., Suite #102

Madison, WI 53711 • (608) 288-1414 OR

Madison Area Plumbers, Sheet Metal, Steamfitters Joint Apprenticeship and Training Committees

1058 Matheson Street

Janesville, WI 53545 • 608) 754-3484

Associate Degree in Technical Studies-Journeyworker

The Associate Degree in Technical Studies-Journeyworker is designed for individuals who possess a Journey level Certificate with a minimum of 400 hours of apprenticeship-related instruction from the Wisconsin Technical College System or equivalent. This degree builds upon previous technical training through the addition of 21 credits of general education. It is designed to enhance technical apprenticeship training by providing courses in social science, math, behavioral science, communications, and student-selected Associate Degree-level courses**.** For additional information call (608) 743-4471.

Program requirements

Possess a Wisconsin Apprenticeship Completion Certificate issued by the Department of Workforce Development-Bureau of Apprenticeship Standards registered program which includes a minimum of 400 hours of prescribed apprentice related technical instruction in the Wisconsin Technical College System.

Complete all prescribed WTCS apprentice related technical instruction. Possession of the DWD-BAS Wisconsin Apprenticeship Completion Certificate AND successful completion of all prescribed coursework fulfills the 39 credit minimum technical studies requirement of the Technical Studies – Journeyworker Associate of Applied Science degree.

Meet the WTCS Associate of Applied Science Degree requirement for a minimum of 21 credits of General Education distributed across the following categories:

Communications	6 credits
Social Science	3 credits
Behavioral Science	3 credits
Math and/or Science	3 credits
Additional General Education	6 credits

Complete at least 25% of the total program credits through coursework undertaken at BTC

Automotive Technician

The Automotive Technician program prepares students to perform factory recommended maintenance procedures and to diagnose and repair performance problems of engine, transmission, steering, suspension, heating, cooling, brake, and electrical systems in cars and trucks. The program provides knowledge and skill in the use of hand and machine tools, automotive parts, online service references, computerized equipment and other technical equipment required to maintain and service increasingly complex automotive vehicles. Automotive Technician students also prepare

for the challenging field of performance diagnostics. Emphasis is placed on problem-solving skills, including the use of diagnostic equipment such as lab oscilloscopes, scan tools and digital volt meters. Students are taught through practical shop and classroom experiences.

The Blackhawk Technical College Automotive Technician program is an Automotive Service Excellence (ASE) certified two-year program designed to prepare the student for passing ASE exams as the requisite professional experience is obtained.

Program Outcomes –
Upon completion of this program, you will be able to:

- Demonstrate professionalism appropriate for the auto service industry
- Perform diagnosis, service, and repair of automotive internal combustion engines
- Perform diagnosis, service, and repair of automotive automatic transmission/transaxle systems
- Perform diagnosis, service, and repair of automotive manual drive train and axles systems
- Perform diagnosis, service, and repair of automotive steering and suspension systems
- Perform diagnosis, service, and repair of automotive brake systems
- Perform diagnosis, service, and repair of automotive electrical/electronic systems
- Perform diagnosis, service, and repair of automotive heating and air conditioning systems
- Perform diagnosis, service, and repair of automotive engine performance systems

Graduates from this program have found employment as:

- Automotive Line Technician
- Automotive Specialty Technician
- Diagnostic Technician
- Service Manager
- Parts Manager
- Automotive Equipment and Part Sales
- Automotive Business Owner/Manager

835-104 – Student Success
Students should take this course prior to or during their first semester of their program. This is an institutional requirement for all students

	Course Name	Credits	Lec-Lab
Semester 1			
404-338	Service Fundamentals	2	1 - 2
404-343	Automotive Machine Shop	1	1 - 1
404-345	Brake Service	4	2 - 5
404-346	Steering and Suspension Service	4	2 - 5
404-348	Service Simulation	2	0 - 6
801-311	Communication	2	3 - 0
Semester 2			
404-339	Engine Service	4	2 - 5
404-342	Heating and Air Conditioning Service	4	2 - 5
404-347	Drive Train Service I	3	2 - 3
404-349	Service Management	1	0 - 2
804-304	Math Fundamentals	2	3 - 0
806-315	Applied Science	2	3 - 0
Semester 3			
404-350	ASE Certification Review	1	2 - 0
404-351	Electronic Engine Control Fund.	4	2 - 5
404-353	Emission Control Service and Cert.	1	1 - 1
404-356	Electrical Service	4	2 - 5
404-357	Electronic Engine Control Diagnosis	2	1 - 3
Semester 4			
404-352	Computerized Fuel Systems Service	2	1 - 3
404-354	Engine Performance Testing	4	2 - 5
404-355	Drive Train/Transaxle Service II	2	1 - 3
404-358	Service Internship	2	0 - 8
450-315	Customer Service Fundamentals	2	3 - 0
	TOTAL CREDITS	**55**	

The competencies developed for successful completion of this two-year automotive diploma program will satisfy the related standards required by ASE and their certificate program.

COURSE DESCRIPTIONS:

404-338 Service Fundamentals 2 Credits
Introduction to the automotive service facility. Safety, basic hand tool and power tools application is defined to help the prospective automobile technician work safely and efficiently. Students will learn how to use both comprehensive and manufacturer's shop manuals to perform basic under-hood and under-car services.

404-339 Engine Service 4 Credits
This course is designed to introduce the student to the theory of gasoline engine operation and design. The course also includes methods of diagnosis, disassembly, measurement, and reassembly. Emphasis is placed upon diagnostic ability and skill development.

404-342 Heating and Air Conditioning Service 4 Credits
This course provides a basic understanding of the automobile cooling and air conditioning system. Theory of air conditioning is defined. Emphasis is placed on laboratory performance and related skills development.

404-343 Automotive Machine Shop **1 Credit**
This course is designed to acquaint the student with automotive machine shop practices. It gives the student an opportunity to correctly use tools such as the outside micrometer, telescoping gage, drill press, brake rotor and drum lathe, and other measuring instruments. Both English and metric systems are covered in this course.

404-345 Brake Service **4 Credits**
The student is introduced to the fundamentals of automotive brake systems including drum, disc, hydraulic, power, and antilock systems. Brake measurement is a high priority.

404-346 Steering and Suspension Service **4 Credits**
The student is introduced to basic wheel alignment, suspension systems, and steering systems. Computerized four-wheel alignment is a high priority in this course.

404-347 Drive Train Service I **3 Credits**
This course is designed to introduce the student to the fundamentals of the power train. Emphasis is placed on the diagnosis and repair of differentials and manual transmissions.

404-348 Service Simulation **2 Credits**
This course is designed to introduce the student to shop operating procedures. Students can obtain credit for part-time employment in an automotive related work environment.

404-349 Service Management **1 Credit**
The student becomes familiar with the use of service related documents and procedures in this course. Emphasis is placed on shop liability and state and federal laws concerning automotive servicing.

404-350 ASE Certification Review **1 Credit**
This course is designed to prepare the student for ASE certification.

404-351 Electronic Engine Control Fund. **4 Credits**
This course is designed to introduce the student to computerized engine controls and related electrical components. Emphasis is placed on theory of operation and diagnostics using state of the art diagnostic equipment. Special emphasis will be placed on skillfully understanding and using shop manuals for related systems.

404-352 Computerized Fuel Systems Service **2 Credits**
The student is introduced to various computerized fuel systems. Topics covered are: electronic fuel injection, throttle body injection systems, port fuel injection, multi-port injection systems and sequential injection systems. Emphasis is placed on diagnostics and development of skills in using sophisticated diagnostic equipment.

404-353 Emission Control Service and Cert. **1 Credit**
This course is designed to help the student develop skills necessary to diagnose, adjust, replace, or repair emission related component parts by skillfully demonstrating the use of diagnostic equipment.

404-354 Engine Performance Testing **4 Credits**
This course is designed to maintain OBD II computerized vehicles and develop systematic repair procedures through the use of shop manuals and sophisticated diagnostic equipment. Emphasis is placed on drivability problems.

404-355 Drive Train/Transaxle Service II **2 Credits**
This course is designed to introduce the student to automatic transmission and transaxle service.

404-356 Electrical Service **4 Credits**
This course is designed to help the students learn how to diagnose and repair electrical problems related to automobile accessories. Emphasis is placed on skillfully understanding and testing procedures necessary for repair.

404-357 Electronic Engine Control Diagnosis **2 Credits**
This course is a composite of all computerized systems. Emphasis is placed on electrical skills, diagnostic procedure, drivability problems, and repair. An overview of engine computer function, computerized fuel delivery, emission controls, and computer chassis control is included.

404-358 Service Internship **2 Credits**
Students wishing for hands-on shop experience can obtain four credits for on-the-job training related directly and in cooperation with a service facility. Prior consent of automotive instructor is required. The student completes a comprehensive study after successfully completing the intern requirements.

450-315 Customer Service Fundamentals **2 Credits**
This course is designed to instruct students on the principles of service calls and customer relations skills needed for the successful service technician.

General Education Course Requirements:

801-311	Communication	2 Credits
804-304	Math Fundamentals	2 Credits
806-315	Applied Science	2 Credits

Aviation Maintenance Technician

Aviation Maintenance Technicians keep aircraft in peak operating condition, perform scheduled maintenance, make repairs, and complete inspections required by the Federal Aviation Administration (FAA). Technicians may work on many types of aircraft, such as jets, propeller-driven airplanes, and helicopters, or, for efficiency, may specialize in one section of a particular type of aircraft, such as engine, hydraulic system, or electrical system. As a result of technological advances, technicians spend increasing amounts of time repairing electronic systems such as computerized controls. In small, independent shops, technicians usually inspect and repair many different types of aircraft. The student learns to make decisions on the airworthiness of aircraft structures, systems, engines, propellers and components after performing inspections, repairs, alterations and maintenance on airworthy aircraft engines and components.

The student is trained to work on piston and jet powered aircraft, helicopters, piston and turbine engines. Students are required to do work of the highest airworthy standards. Maturity and ability to do precision work is essential for success in this program.

Program Outcomes
Upon completion of this program, you will be able to:

- Integrate safety protocol
- Locate and interpret repair specifications, processes, and procedures
- Operate tools and equipment
- Remove and replace components
- Repair defective components and systems
- Service components or systems
- Diagnose the condition of components or systems
- Maintain academic status
- Maintain attendance requirements per Federal Aviation Administration FAR 147 Manual

Graduates from this program have found employment as:

- Aircraft Mechanic
- Aviation Maintenance Technician
- Aircraft and Engine Mechanic
- Aircraft Apprentice
- Repairman
- Aircraft Inspector
- Aircraft Sheet Metal Technician

Career Outlook:

There is a high demand for qualified aviation maintenance technicians. Opportunities exist in both general and commercial aviation. Upon completion of this two-year program, graduates are qualified to take Federal Aviation Administration written, oral and practical tests. The program offers training on the same airworthy aircraft and engines as found in the field.

835-104 – Student Success
Students should take this course prior to or during their first semester of their program. This is an institutional requirement for all students

	Course Name	Credits	Lec-Lab
Semester 1			
402-305	Aviation Basic Science I	2	3 -1
402-306	Aviation Basic Electricity	2	3- 1
402-307	Materials and Processes I	3	3 - 2
402-308	Aircraft Metal Structures	3	3 - 2
402-309	Basic Turbine Engines	2	2 - 2
801-311	Communication	2	3 - 0
806-333	Aviation Physics	2	3 - 1
Semester 2			
402-334	Aviation Basic Science II	2	2 - 2
402-335	Aircraft Systems I	3	3 - 2
402-336	Aircraft Electrical Distribution Systems	3	3 - 3
402-337	Materials and Processes II	3	3 - 2
402-338	Nondestructive Inspection Techniques	2	1 - 2
402-339	Turbine Engine Systems	3	3 - 3
Semester 3			
402-344	Aircraft Assembly and Rigging	3	3 - 2
402-345	Aircraft Propellers	2	2 - 2
402-346	Aircraft Electrical Charging Systems	2	2 - 2
402-347	Aircraft Nonmetal Structures	2	2 - 2
402-348	Basic Reciprocating Engines	4	4 - 3
402-349	Advanced Turbine Engines	3	3 - 2
Semester 4			
402-390	Aircraft Landing Gear	2	2 - 2
402-391	Aircraft Systems II	3	3 - 2
402-392	Aircraft Electronics	2	2 - 1
402-393	Reciprocating Engine Systems	4	4 - 3
402-394	Advanced Reciprocating Engines	3	3 - 3
402-395	Aircraft Inspection	2	2 - 1
	TOTAL CREDITS	**64**	

Note: Courses are taken in sequential order by semester unless otherwise approved by the instructor.

COURSE DESCRIPTIONS

402-305 Aviation Basic Science I **2 Credits**
This course will introduce the beginning student to ground handling, ground movement, and servicing of a variety of aircraft to include the proper selection of appropriate fuels, oils, and hydraulic fluids. The student will start, ground operate and secure aircraft. The student will also be introduced to aircraft fuel management systems, including fueling, dumping, transferring and defueling. The student will be introduced to aircraft technical data and be required to read and interpret this data accurately through the study of various FAA and manufacturer publications. The student will write descriptions on work performed, and accurately complete various forms, records, and reports.

402-306 Aviation Basic Electricity **2 Credits**
This course will introduce beginning students to the basics of direct current and alternating current electricity. The student will be able to calculate and measure voltage, current, and resistance in both direct current and alternating current electricity. The student will use a multimeter and be introduced to basic circuit schematics.

402-307 Materials and Processes I **3 Credits**
This course will introduce the student to the materials and processes used on airframes and power plants. The student will fabricate fluid lines, study heat- treating and aircraft hardware, and make precision measurements. The student will gas weld, arc weld, solder and braze, and inspect welded joints.

402-308 Aircraft Metal Structures **3 Credits**
In this course the student will study and use special fasteners for metal structures. The students will layout, bend, form, and repair sheet metal structures and components.

402-309 Basic Turbine Engine **2 Credits**
This course will introduce the beginning student to the basic operation of aircraft turbine power plants. The student will be introduced to turbine engines theory and study each section of the turbine engine. The student will disassemble an aircraft turbine engine and study and repair lubrication systems and components.

402-334 Aviation Basic Science II **2 Credits**
During this course, the aviation student is introduced to aircraft drawings, weight, and balance. The student will use aircraft drawings, symbols and schematics. The student will make various drawings and sketches and will perform complete weight and balance checks on an aircraft using blueprints, charts and graphs, and record the data appropriately.

402-335 Aircraft Systems I **3 Credits**
During this course the student will be introduced to hydraulic and pneumatic power systems as well as aircraft heating, cooling and pressurization systems. The student will study and repair hydraulic and pneumatic system components and service and troubleshoot hydraulic systems. The student will become familiar with aircraft air cycle machines as well as heaters and vapor cycle systems used for heating and cooling.

402-336 Aircraft Electrical Distribution Systems **3 Credits**
This course uses the principles learned in Aviation Basic Electricity and applies them to the aircraft's electrical distribution system. The student will study and service lead acid and nickel cadmium batteries. The student will also select wires, crimp, splice, and repair pins and sockets of aircraft electrical connectors. The student will study and service wiring, controls, switches, indicators and protective devices in airframe and engine electrical distribution systems.

402-337 Materials and Processes II **3 Credits**
This course will introduce the student to the process of corrosion and how to identify it, remove it, and treat it on aircraft. The student will also study aircraft finishing materials and apply trim, letters, and finishing materials and be able to identify defects in aircraft finishes.

402-338 Nondestructive Inspection Techniques **2 Credits**
In this course the student will explore the rapidly expanding field of nondestructive testing. The student will study and select appropriate testing methods for aircraft applications and will also perform dye penetrant, eddy current, ultrasonic, and magnetic particle inspections on test samples and on aircraft and aircraft parts.

402-339 Turbine Engine System **3 Credits**
This course is an extension of Basic Turbine Engines and further explores aircraft turbine engines. In this course the student will study starting systems, fuel metering and fuel systems. The student will study turbine engine ignition systems, as well as turbine driven auxiliary power units. The student will reassemble a turbine engine throughout the progress of this course.

402-344 Aircraft Assembly and Rigging **3 Credits**
In this course the student will be introduced to basic aircraft aerodynamics so as to understand how and why aircraft are constructed the way they are. The student will study the theory of flight for both fixed wing and rotary wing aircraft. The student will balance, assemble, and rig aircraft structures as well as primary and secondary control surfaces. The student will be taught to check alignment of structures and how to rig both fixed wing and rotary wing aircraft.

402-345 Aircraft Propellers **2 Credits**
In this course the student will study propellers driven by both reciprocating and turbine aircraft engines. The student will study, inspect, and service propellers and propeller control systems. The student will learn to install and remove propellers and repair aluminum blades.

402-346 Aircraft Electrical Charging Systems **2 Credits**
This course builds upon Aviation Basic Electricity and Aircraft Electrical Distribution Systems. The student will study how electrical power is supplied to the distribution system. The student will study, disassemble, assemble and check generators and alternators. The student will study and inspect integrated constant speed drive generators. The student will inspect, adjust, and troubleshoot alternating and direct current electrical systems. The student will study how charging systems are regulated, and adjust regulators.

402-347 Aircraft Non-metal Structures **2 Credits**
This course will introduce the student to airframe structures that are not made of metal. The student will review the use of wood and fabric materials in aircraft construction and then study the use of composite structures. The student will study and use special fasteners for non-metal structures. The student will study, inspect, and repair bonded structures, fiberglass structures, honeycomb, and composite structures. The student will study the use of plastics in aircraft and inspect and repair plastic components.

402-348 Basic Reciprocating Engines **4 Credits**
This course will introduce the beginning student to the basic operation of aircraft reciprocating power plants. The student will be introduced to reciprocating engine theory and study each section of the reciprocating engine. The student will disassemble an aircraft reciprocating engine and study and repair lubrication systems and components.

402-349 Advanced Turbine Engines **3 Credits**
This course will build upon Basic Turbine Engines and Turbine Engine Systems by requiring the student to install a turbine engine on an aircraft. Concurrently, the student will study and install or inspect induction systems, cooling, and exhaust systems. The student will be able to run, inspect, and check a turbine engine installation. The student will study and accomplish troubleshooting

of operating turbine engine installations.

402-390 Aircraft Landing Gear 2 Credits
This course will introduce the student to aircraft landing gear, struts, wheels, tires, brakes, steering systems, and anti-skid systems. The student will learn to safely jack aircraft as they study and service each of these systems or components. Basic electricity skills are essential to properly understand and service anti-skid systems.

402-391 Aircraft Systems II 3 Credits
In this course, the student will draw upon previous knowledge of electricity, physics, drawing, turbine engines, and aircraft systems to study and understand various aircraft supporting systems. The student will study instrument systems, including flight and engine instruments, fluid, temperature, pressure, and quantity systems, remote position indicating systems, weather, and stall warning systems. The student will be able to remove and install aircraft instruments and perform instrument static system leak checks. The student will study landing gear position systems, and ice and rain protection systems, as well as fire detection and suppression systems. Basic electricity skills are essential to properly understand and service these systems.

402-392 Aircraft Electronics 2 Credits
This course will build upon Aviation Basic Electricity, Aircraft Electrical Distribution Systems, and Aircraft Electrical Charging Systems in order to help the student understand basic electronics as appropriate for an entry level Aviation Maintenance Technician. The student will study and interpret aircraft electrical circuit diagrams including solid-state devices and logic functions. The student will study electronic flight instrument systems, electronic flight communication and navigation systems, and autopilot and approach coupling systems. The student will study, inspect, and repair antenna installations.

402-393 Reciprocating Engine Systems 4 Credits
This course is an extension of Basic Reciprocating Engines and further explores aircraft reciprocating engines. In this course the student will study airframe and reciprocating engine fuel systems, and overhaul a carburetor. The student will study, service, and troubleshoot fuel metering and fuel injection systems. The student will study, install, and inspect ignition systems. Throughout the progress of this course, the student will reassemble a reciprocating engine.

402-394 Advanced Reciprocating Engines 3 Credits
This course will build upon Basic Reciprocating Engines and Reciprocating Engine Systems by requiring the student to install a reciprocating engine on an aircraft or run stand. Concurrently, the student will study reciprocating engine induction systems including heat exchangers, superchargers and turbochargers, air intakes, and induction manifolds. The student will study cooling and exhaust systems. The student will be able to run, inspect, and check a reciprocating engine installation. The student will study and accomplish troubleshooting of operating reciprocating engine installations.

402-395 Aircraft Inspection 2 Credits
This course will serve to encapsulate all of the skills the technician-in-training has learned up to this point. The student will study various FAA and manufacturer publications. The student will exercise the privileges of FAR Part 65, in a simulated setting, by inspecting an aircraft and its powerplant. The student will write descriptions of work performed, and accurately complete various forms, records, and reports.

General Education Course Requirements:

801-311	Communication	2 Credits
806-333	Aviation Physics	2 Credits

Business Management

Associate of Applied Science Degree

The Associate of Applied Science degree in Business-Management prepares students for entry-level careers in business related occupations. The training provides broad and foundational business skills in managing business operations, including marketing, finance, personnel, team leadership, business technologies and business communications. The program emphasizes the five functions of management: planning, organizing, staffing, directing, and controlling. General Education supporting outcomes include written, oral and interpersonal communications, mathematics, economics, psychology, social sciences, and ethics. Elective courses provide students with an opportunity to customize a degree to their career interests.

Program Outcomes–
Upon completion of this program, you will be able to:

- Plan and prioritize projects and tasks, including goal setting and resource allocation
- Organize roles, goals, procedures and relationships to promote organizational effectiveness and efficiency
- Direct individuals and/or processes to accomplish organizational objectives and effectively manage human resources, including recruiting, hiring and supervision
- Communicate business information effectively, with professionalism, tact, and diplomacy
- Control processes and demonstrate basic financial proficiency
- Establish and maintain business relationships with internal and external customers
- Design, implement, and assess business strategies based on consumer needs and market changes
- Recommend ethical and legal business decisions utilizing knowledge of business laws and governmental regulations

Graduates from this program may find employment as:

- Assistant Store Manager
- Branch Manager
- Buying and Planning Specialists
- Customer Service Manager

- Department or District Manager
- Distribution Center Manager
- Entrepreneur/Owner
- General Management Occupations
- Human Resources
- Shift Managers
- Store and Operations Specialties Managers
- Team Leaders

Students can expect many benefits from pursuing the Business-Management program at Blackhawk Technical College. For example you will find:

- A learner-centered environment that is conducive to learning entry-level career and technical skills
- Active learning through team projects and group activities
- Business leaders and professionals from the community are frequent guest speakers
- Career Center support services including resume writing and job search assistance
- Case studies addressing lessons learned from small businesses and corporate settings
- Company tours and on-site classes bring the classroom to the business world
- Employer sponsored Internships and other work-based learning activities
- Employer advisory committee input into program design and implementation
- Faculty designed hands-on curricula designed to address real-world business applications
- Faculty members certified by the Wisconsin Technical College System
- Faculty members with typically both advanced degrees and related work experience

Career Preparation Helpful High School Courses:

A high school degree or GED/HSED diploma is required. Courses in business, marketing, accounting, computers, mathematics, written and oral communications, and related co-op programs are helpful.

Future Opportunities

If you are interested in a baccalaureate degree upon completion of the program, check with a program counselor or advisor and the institution you plan to attend regarding the transfer of credits from Blackhawk Technical College. This program may transfer to one or more four-year institutions, but the amount of credits may vary.

Short-Term Credit-Based Certificate Options:
Lodging and Hospitality Mgmt (33 credits) 99-9124
Small Business Management (29 credits) 99-9110
Customer Service Associate (16 credits) 99-9130
Accounting Assistant (32 credits) 99-9101
Business Technology Certificate (28 credits) 99-9121

Students may choose to receive a certificate upon satisfactory completion of the required courses in the Business Management Associate Degree Program. With this certificate, you will be better prepared for entry level positions. Students selecting this option may return to BTC at a later date (in accordance with the College's advanced standing policy) to complete the Business Management Associate of Applied Science Degree.

835-104 – Student Success
Students should take this course prior to or during their first semester of their program. This is an institutional requirement for all students

	Course Name	Credits	Lec-Lab
Semester 1			
102-110	Business Career Planning	1	1 - 0
102-148	Introduction to Business	3	3 - 0
104-102	Marketing Principles	3	3 - 0
103-106	Introduction to MS Office	3	3 - 0
801-195	Written Communication	3	3 - 0
801-196	Oral/Interpersonal Communication	3	3 - 0
Semester 2			
102-115	Management Principles[1]	3	3 - 0
102-137	Business Communications	1	1 - 0
102-160	Business Law	3	3 - 0
104-104	Selling Principles	3	3 - 0
804-123	Math with Business Applications	3	3 - 0
809-166	Introduction to Ethics: Theory and Application	3	3 - 0
Semester 3			
101-117	Accounting Fundamentals[1]	3	3 - 0
102-120	Small Business Management[1]	3	3 - 0
196-191	Supervisor as a Leader	3	3 - 0
809-195	Economics	3	3 - 0
809-198	Introduction to Psychology	3	3 - 0
Semester 4			
102-121	Customer Service Management	3	3 - 0
102-125	Supervised Occupational Experience-Business[1]	2	0 - 8
102-130	Business Finance and Budget Management[1]	3	3 - 0
196-193	Human Resource Management	3	3 - 0
809-172	Race, Ethnic and Diversity Studies	3	3 - 0
	Elective[2]	3	3 - 0
	TOTAL CREDITS	**64**	

[1]Course has Pre-requisites.

[2]Recommended Electives:

102-100	Intro to Entrepreneurship and Innovation	3	3 - 0
102-122	Intro-Business Sustainability Planning	3	3 - 0
102-135	Lodging Management	3	3 - 0
102-150	Global Business Fundamentals	3	3 - 0

COURSE DESCRIPTIONS

101-117 Accounting Fundamentals 3 Credits
This course is an introduction to accounting from a non-accountant's perspective. Learning objectives emphasize general accounting terminology and concepts, the effects of transactions on financial statements, the relationships between financial statements, and the interpretation of financial statement information using an analytical approach. ***Pre-requisites: 804-123 Math with Business Applications***

102-100 Intro to Entrepreneurship and Innovation 3 Credits
This course will incorporate lecture and discussion materials to improve students' understanding of basic business and entrepreneurship topics. It will include a hands-on component involving interaction with local employers, and community leaders will expose participants to business and management career opportunities available to AAS program graduates.

102-110 Business Career Planning 1 Credit
Students will focus on personal and professional preparation for a career in business related occupations. Course covers interpersonal and intrapersonal success skills including self-esteem, understanding human behavior, creative problem solving and decision making, effective communication skills, time management, setting priorities, and organizational techniques. Job search strategies will be introduced.

102-115 Management Principles 3 Credits
Students will receive a comprehensive overview of the functions and principles of management that leads to success in the operating climate of modern businesses. The five functions of management will be introduced and applied to business operational problem-solving. ***Pre-requisites: 102-148 Introduction to Business and 801-195 Written Communication***

102-120 Small Business Management 3 Credits
The course provides a detailed study of all phases of managing a small business. Specific problems of small operations such as financing, developing, staffing, and growing a small business are analyzed. Management topics such as quality, leadership, applications of technology, legal issues and more will be applied to isolating significant problems and implementing solutions. Current issues and trends in entrepreneurship will be included. ***Pre-requisites: 102-115 Management Principles and 104-102 Marketing Principles***

102-121 Customer Service Management 3 Credits
Customer Service Management examines the role of managing customer service to add value and achieve a firm's long-term goals. Topics include the purpose of customer service staff and using conflict resolution techniques to handle difficult customer service situations. Emphasis is placed on management duties and communication to provide customer satisfaction for both internal and external customers.

102-122 Intro to Business Sustainability Planning 3 Credits
Learners in this course will be introduced to current topics influencing business practices relative to business sustainability. Concepts include green business, planning business sustainability programs, and leading corporate social responsibility efforts that may provide a foundation for both business profitability and environmentally friendly processes. Learners will discuss green business practices, analyze case studies, and take away a management process for identifying and implementing sustainability projects which also contribute to an organization's triple bottom line.

102-125 Supervised Occupational Exp. - Business 2 Credits
This course is a work-based learning program involving actual business operations in the community. It is intended to provide students with actual work experience. Students will obtain a position at an approved worksite and work a minimum of 144 hours under the supervision of both their instructor and an onsite supervisor. ***Pre-requisite: 33 credits, academic good standing and 102-110 Business Career Planning***

102-130 Business Finance and Budget Mgmt 3 Credits
This is a basic finance course for managers and supervisors. The learner applies the skills necessary to achieve an understanding of the fiscal/monetary aspects of business. Each learner will demonstrate application of business types, cycles, forecasting, budgeting, expense control, and financial statement interpretation relevant to the supervisor as a non-accountant. These finance/accounting principles will then be applied to the manager's role in decision-making and includes problem-solving case studies. ***Pre-requisites: 102-115 Management Principles, 101-117 Accounting Fundamentals and 103-106 Introduction to MS Office***

102-137 Business Communications 1 Credit
In Business Communications, students will learn the basics of professional and effective communication in business settings. Students will receive instruction and feedback on oral communication as well as the use of written communications to include business emails, memos, and letters. The importance of favorable and appropriate communication with both internal and external parties will be covered. All written communications will require keyboard use.

102-148 Intro to Business Organization and Mgmt 3 Credits
Students will be introduced to business operations, focusing on a basic understanding of the activities, functions, and principles of business enterprises. This course covers the responsibilities and challenges of operating a business. The course emphasizes human relations, management, marketing, finance, labor relations, franchising, forms of ownership and careers.

102-160 Business Law 3 Credits
This course is designed to provide the student with a working

knowledge of law as it relates to the rights and responsibilities of businesses and individuals. Emphasis is placed on torts, contracts, case analysis, ethics, and social responsibility, particularly in the business context.

103-106 Introduction to MS Office 3 Credits
This course will introduce students to the Microsoft Office Suite and overview many of the core competencies of Outlook, Word, Excel, Access, PowerPoint, and Explorer. Students will develop the use of technology for both problem solving and decision-making and will be expected to learn to use the resources available to search for answers to problems.

104-102 Marketing Principles 3 Credits
This course introduces core marketing concepts and terminology for Marketing and non-Marketing students. In addition to developing the rationale for a marketing approach to strategic planning, specific topics include: target market selection, and issues related to product, price, distribution, and promotion decisions.

104-104 Selling Principles 3 Credits
Learners will cover the personal and occupational applications of selling (defined as "an interpersonal persuasive process designed to influence some person's decision"). Selling is investigated from the following viewpoints: personal, industrial, wholesale, retail, door-to-door, and service. Students also learn and practice the professional principles involved in relationship selling.

196-191 Supervisor to Leader 3 Credits
As organizations reduce management levels, the frontline supervisor will become a major component in effective delivery of products and services maximizing organizational results. This course is designed to help participants identify and develop personal leadership style and the skills necessary to effectively lead the work of others within the structure of an organization. Emphasis is placed on leading teams, communication and decision-making, managing conflict, supporting innovative thinking, influencing organizational culture, employee development, performance management and related topics that affect the leader's role in the organization.

196-193 Human Resources Management 3 Credits
This course establishes a foundation for development of employee effectiveness by focusing on the supervisor's role in understanding, communicating, and implementing organizational policies. Focus is placed on: employee hiring; orientation and training; performance management; motivating employees and related topics that affect the supervisor's work group.

Clinical Laboratory Technician

Prepare for a career as clinical laboratory technician in hospitals, clinics and doctors' offices. In the laboratory, the MLT and CLT perform analytical procedures under the supervision of a medical technologist or physician. Career potential also exists in idemiology, forensic medicine and biomedical manufacturing.

As this is a new program, accreditation through the National Accrediting Agency for Clinical Laboratory Science (NAACLS) is in progress. A combination of fundamental laboratory techniques and clinical experience prepares graduates for work in laboratories serving the health care sector. The final semester of the program is a clinical experience in laboratories in community healthcare facilities. Students should anticipate the possibility of traveling to complete the clinical experience.

Graduates of the program qualify for both the American Society of Clinical Pathologists Board of Registry and the National Certification Agency for Laboratory Personnel certification exams for medical laboratory technicians and clinical laboratory technicians, respectively, under the direction of the American Society of Clinical Pathologists and the American Society of Clinical Laboratory Science.

Program Outcomes

- Apply modern clinical methodologies including problem solving and troubleshooting according to predetermined criteria
- Collect and process biological and other specimens
- Perform and report results of clinical laboratory tests
- Apply laboratory results to diagnosis of clinical conditions and/or diseases
- Communicate with colleagues and patients in a professional manner
- Participate in training peers on technical skills
- Monitor and evaluate quality control in the laboratory
- Practice laboratory safety and regulatory compliance
- Perform information processing in the clinical laboratory
- Model professional behaviors, ethics, and appearance

Suggested courses for program preparation:

- One year of high school chemistry , biology and algebra or college equivalent
- Medical Terminology or 2 years of occupational experience in the medical field

Program Requirements:

Once admitted to the program, the following requirements must be met in order to participate in the clinical experience.

1. Caregiver Background Check
2. Physical exam and completed Personal History form on file prior to the beginning the first semester clinical rotation.
3. Successful completion of all program courses with a "C" or better.

835-104 – Student Success
Students should take this course prior to or during their first semester of their program. This is an institutional requirement for all students

	Course Name	Credits
Semester 1		
513-111	Phlebotomy	2
513-115	Basic Immunology Concepts	2
513-113	QA Lab Math	1

513-110	Basic Lab Skills	1
806-177	General Anatomy and Physiology	4
806-199	General, Organic and Biological Chemistry	4
801-195	Written Communication	3

Semester 2

513-122	Intro to Blood Bank	2
506-102	Intermediate Laboratory Skills	3
513-121	Coagulation	1
513-120	Basic Hematology	3
801-197	Technical Reporting	3
806-197	Microbiology	4

Summer Session

809-198	Intro to Psychology	3
809-196	Intro to Sociology	3

Semester 3

513-130	Advanced Hemotology	2
513-123	Advanced Blood Bank	2
513-131	Clinical Chemistry 1	3
513-132	Clinical Chemistry 2	2
513-133	Clinical Microbiology	4
513-114	Urinalysis	2

Semester 4

513-140	Advanced Microbiology	2
513-151	Clinical Experience 1	3
513-152	Clinical Experience 2	4
506-105	Quality Concepts in Laboratories	3

Total Credits 66

COURSE DESCRIPTIONS

513-110 Basic Lab Skills 1 Credit
This course explores health career options and the fundamental principles and procedures performed in the clinical laboratory. You will utilize medical terminology and basic laboratory equipment. You will follow required safety and infection control procedures and perform simple laboratory tests. ***Pre-requisite/Co-requisite: QA Laboratory Math***

513-111 Phlebotomy 2 Credits
This course provides opportunities for learners to perform routine venipuncture, routine capillary puncture and special collection procedures.

513-113 QA Lab Math 1 Credit
This course focuses on performing the mathematical calculations routinely used in laboratory settings. It is strongly recommended that students have a Compass pre-algebra score of 44 or higher.

513-114 Urinalysis 2 Credits
This course prepares you to perform a complete urinalysis which includes physical, chemical and microscopic analysis. You will explore renal physiology and correlate urinalysis results with clinical conditions***. Pre-requisite: 513-110 Basic Lab Skills or 506-101 Beginning Lab Skills***

513-115 Basic Immunology Concepts 2 Credits
This course provides an overview of the immune system including laboratory testing methods for diagnosis of immune system disorders, viral and bacterial infections. ***Pre-requisite or Co-requisite: 513-110 Basic Lab Skills or 506-101 Beginning Lab Skills; 806-177 General A&P or 806-197 Microbiology*** **513-120**

Basic Hematology 3 Credits
This course covers the theory and principles of blood cell production and function, and introduces you to basic practices and procedures in the hematology laboratory. ***Pre-requisite: 513-110 Basic Lab Skills or 506-101 Beginning Lab Skills***

513-121 Coagulation 1 Credit
This course introduces the theory and principles of coagulation and explores mechanisms involved in coagulation disorders. Emphasis is placed upon laboratory techniques used to diagnose disease and monitor treatment. ***Pre-requisite or Co-requisite: 513-110 Basic Lab Skills; 513-120 Basic Hematology***

513-122 Introduction to Blood Bank 2 Credits
This course focuses on basic blood banking concepts and procedures including blood typing and compatibility testing. ***Pre-requisite/Co-requisite: 513-110 Basic Lab Skills or 506-101 Beginning Lab Skill; 513-115 Basic Immunology Concepts***

513-123 Advanced Blood Bank 2 Credits
This course consists of advanced blood banking concepts and procedures including work ups for adverse reaction to transfusions and disease states. ***Pre-requisite/Co-requisite: 513-112 Introduction to Blood Bank***

513-130 Advanced Hematology 2 Credits
This course explores mechanisms involved in the development of hematological disorders. Emphasis is placed upon laboratory techniques used to diagnose disorders and monitor treatment. ***Pre-requisite: 513-120 Basic Hematology***

513-131 Clinical Chemistry 1 3 Credits
Introduces Clinical Chemistry techniques and procedures for routine analysis using photometric, poteniometric and separation techniques. Topics in this course include pathophysiology and methodologies for carbohydrate, lipids, proteins, renal function and blood gas analysis. ***Pre-requisite: 513-110 Basic Lab Skills or 506-101 Beginning Lab Skills; 806-199 General, Organic, and Biological Chemistry, 806-177 General Anatomy and Physiology***

513-132 Clinical Chemistry 2 2 Credits
A continuation of Clinical Chemistry 1, this course includes techniques and procedures for analysis using sophisticated laboratory instrumentation. Topics include pathophysiology and methodologies for hepatic, bone, cardiac markers, tumor markers, endocrine function, vetal function, miscellaneous body fluids, and toxicology. ***Pre-requisite/Co-requisite: 513-131 Clinical Chemistry 1.***

513-133 Clinical Microbiology 4 Credits
This course presents the clinical importance of infectious diseases with emphasis upon the appropriate collection, handling and identification of clinically relevant bacteria. Disease states, modes of transmission and methods of prevention and control, including an-

tibiotic susceptibility testing, will also be discussed. ***Pre-requisite: 806-197 Microbiology***

513-140 Advanced Microbiology 2 Credits
This course provides an overview of acid fast organisms, fungi parasites, and anaerobic bacteria. The organisms, their pathophysiology, epidemiology, the diseases and conditions that they cause, laboratory methods of handling, culturing and identification will be discussed. ***Pre-requisite/Co-requisite: 513-133 Clinical Microbiology.***

513-151 Clinical Experience I 3 Credits
In this clinical you will practice the principles and procedures of laboratory medicine as an entry level Clinical Laboratory Technician in a clinical laboratory setting. You will learn to operate state of the art instruments and report results on Laboratory Information Systems.

Pre-requisite: "C" or better in all CLT courses

513-152 Clinical Experience 2 4 Credits
Provides continuing practice of the principles and procedures of laboratory medicine as an entry level Clinical Laboratory Technician in a clinical laboratory setting. You will learn to operate state of the art instruments and report results on Laboratory Information Systems. ***Pre-requisite: "C" or better in all CLT courses.***

506-102 Intermediate Laboratory Skills 3 Credits
The learner will begin to apply laboratory procedures and the scientific method to the analysis of samples and the performance of experiments. The learner will develop and apply data analysis and management techniques. The learner will develop the necessary methodology to deal with chemical and biohazardous materials. ***Pre-requisite 506-101 Beginning Lab Skills or 513-110 Basic Lab Skills***

506-105 Quality Concepts in Laboratories 3 Credits
The learner will become familiar with quality concepts and their application within the laboratory environment. This will include understanding the benefits of quality, quality systems and processes, and the cost/impact of quality. Application of problem solving skills for continuous improvement will be explored. The learner will discuss regulatory agency roles in the lab.

CNC Technician

This two-year technical diploma program is designed to provide students with a broad technical background in both job-shop and production machining. The CNC Technician program was developed using the National Institute for Metalworking Standards (NIMS) and National Tooling and Machining Association standards. The courses are delivered in such a way to allow the students to experience a "hands-on" approach to learning. Furthermore, each student will spend his or her time learning in a practical setting.

Using the CNC/CAM software and equipment, including a four axis machining center, you will learn to select the proper tools and fixtures required to machine parts. A graduate of the program should be proficient in metal machining operations and planning procedures, demonstrating practical machining techniques in accordance with engineering drawing specifications.

Topics of study include Computer Numerical Control (CNC) programming; Computer Assisted Manufacturing (CAM) software; precision measuring devices including a CMM; precision CNC mills, CNC training and machining centers; blueprint reading; and applied shop mathematics. To complete the program, an internship is required.

Program Outcomes
Upon completion of this program, you will be able to:

- Apply appropriate machine shop terminology
- Promote a safe and well-maintained work place
- Analyze information and formulate plans that will lead to the timely production of a quality product
- Utilize appropriate work holding techniques and cutting tool technology as governed by the work piece material properties
- Set up and operate common semi precision and precision metal cutting machines according to accepted national and international machining standards
- Verify product conformance to design specifications using in-process and post process measurement devices and techniques

Graduates from this program have found employment as:

- CNC Technician
- CNC Programmer
- CNC Machinist
- CNC Operator
- Machine Tool Operator
- Apprentice Machinist
- Machine Set-up Person
- Tool Room Machinist
- Maintenance Machinist

Career Outlook:
Job opportunities continue to look good for CNC Technicians, as employers continue to report difficulties in finding workers with the necessary skills and knowledge to fill machining and CNC programming openings. Many job openings will arise each year from the need to replace experienced CNC machinists and programmers who retire.

835-104 – Student Success
Students should take this course prior to or during their first semester of their program. This is an institutional requirement for all students

Course Name	Credits	Lec-Lab

Semester 1

421-385	Blue Print Reading	2	2 - 2
444-300	Shop Computing	2	2 - 2
444-301	Metrology	2	2 - 2
444-302	Semi-precision Machining	2	2 - 2
444-303	Turning Fundamentals	2	2 - 2
444-305	Milling Fundamentals	2	2 - 2
804-306	Shop Math I	2	3 - 0
Semester 2			
444-304	GD&T Interpretations	1	2 - 0
444-306	Turning Applications	2	2 - 2
444-307	Manufacturing Support Systems	1	2 - 0
444-308	Milling Applications	2	2 - 2
444-309	CNC Fundamentals	2	2 - 2
444-310	Grinding and Gear Techniques	2	2 - 2
801-196	Oral/Interpersonal Communication	3	3 – 0
804-308	Shop Math II[1]	2	3 - 0
Semester 3			
444-311	CNC Turning - Operations	2	2 - 2
444-312	CNC Turning - Operations and Programming I	2	2 - 2
444-313	Tooling and Workholding	2	2 - 2
444-314	CMM Techniques	2	2 - 2
444-315	CNC Milling - Operations	2	2 - 2
444-316	CNC Milling - Operations and Programming I	2	2 - 2
444- 321	Basic CAD/CAM	2	2 - 2
806-118	Metal Science	3	3 - 0
Semester 4			
444-316	CNC Milling – Operations and Programming 1	2	2 - 2
444-318	CNC Milling – Operations and Programming 2	2	2 - 2
444-319	CNC Turning – Operations and Programming 2	2	2 - 2
444-320	CNC Milling– Operations and Programming 3	2	2 - 2
444-324	Intermediate CAD/CAM	2	2 - 2
444-325	CNC Technician Internship	1	0 - 4
801-195	Written Communication	3	3 - 0
	TOTAL CREDITS	**60**	

[1]Course has Pre-requisites

Note: Program courses are to be taken in sequential order beginning with 444-300 (Shop Computing) unless other arrangements have been made with the instructor.

COURSES

421-385 Blueprint Reading **2 Credits**
Blueprint reading is really learning a new language where much of it is presented in graphic or symbolic form. Students will learn about different types of drawings, proper drawing structure, and drawing terminology. They will learn to produce simple sketches and visualize two and three-dimensional parts. The experienced machine operator must be able to decipher blueprints in order to produce parts to proper specification.

444-300 Shop Computing **2 Credits**
The ability to use a computer has become one of the most basic skills. In this course the learner will learn to use a computer to navigate through the learning process as well as being able to use the computer to operate an assortment of software. Students learn how to operate the computer's operating system to perform many common tasks such as opening, closing, saving, and printing files. They will practice these operating system functions on files created from software used in the machine shop. The student will receive an introduction to CAM software, machine control software, CNC Workbook (textbook) software, and CMM software.

444-301 Metrology **2 Credits**
Metrology is the study of measurement. The production of quality parts is impossible without adequate measurement. Therefore, this is a course that should be taken before any machining course. You will learn about an assortment of precision and semi-precision measuring instruments used for the job shop or where large numbers of parts are produced. Material will cover instrument care, types, components, scales, calibration, handling, and reading the instrument. You will have an opportunity to use and gain proficiency in most of the measuring instruments that are discussed.

444-302 Semi-Precision Machining **2 Credits**
This course is designed to acquaint the student with the semi-precision/fabrication machines in the machine shop. These machines are easier to operate and provide a good starting point for the beginner. These machines should not be considered to be less important in the machine shop or to require less skill to operate. These drill presses, pedestal grinders, bench tools, and saws are extremely important tools. The associated work holding, cutting tools, processes, and measuring instruments are also taught.

444-303 Turning Fundamentals **2 Credits**
This course covers the introduction to the engine lathe. Emphasis is on knowing the machine parts, their function, and performing simple lathe operations. Engine lathes are one of the basic machines with the ability to produce cylindrical parts to specific tolerances. Introductory subjects such as related safety, maintenance, metal cutting theory, cutting tools, and work holding for lathes will be taught. There is an emphasis on safety. All of these subjects will be introduced and built upon as the learner progresses to higher levels of proficiency.

444-304 GD&T Interpretations **1 Credit**
Geometric Dimensioning and Tolerancing is a system of symbols used to portray mechanical specifications and relationships on mechanical drawings. Industries using this system include large automotive, aircraft, and agricultural manufacturers, a growing number of smaller industries and most European manufacturers. Students will explore ANSI (American National Standard Institute) Standard symbols and methods of interpretation of these symbols to meet the expectations of the mechanical design engineer that specified them on the drawing.

444-305 Milling Fundamentals **2 Credits**
This course covers the introduction to the milling machines. Emphasis is on knowing the machine parts, their function, and performing simple milling operations. Introductory subjects such as related safety, maintenance, metal cutting theory, cutting tools, and work holding for the mill will be taught. There is an emphasis on safety. All of these subjects will be introduced and built upon as the learner progresses to higher levels of proficiency.

444-306 Turning Applications **2 Credits**
This advanced turning course involves performing more difficult turning operations, using different materials, and using different work holding devices. The material, work holding devices and setups will present the learner with challenging situations that require them to apply their past experiences along with what they have learned in theory to produce quality parts. In situations where the student is performing previously learned operations, the learner will be expected to develop their speed and accuracy. One of the requirements of an advanced course is that students apply their knowledge to problems through the trouble shooting process.

444-307 Manufacturing Support Systems **1 Credit**
The purpose of this course is to acquaint the student with the manufacturing environment. Using groups, the students will learn how a factory is made up of various departments which must interact in order to create a functional company. Students will continue to learn by exploring the culture present in factory life. Students with work experience will be asked to share their experiences with other students who are unaware of the shop culture.

444-308 Milling Applications **2 Credits**
The advanced milling course involves performing more difficult milling operations, using different materials, and using different work holding devices. The materials, work holding devices and setups will present the learner with challenging situations that require them to apply their past experiences along with what they have learned in theory to produce quality parts. In situations where the student is performing previously learned operations, the learner will be expected to develop their speed and accuracy. One of the requirements of an advanced course is that students apply their knowledge to problems through the trouble shooting process.

444-309 CNC Fundamentals **2 Credits**
This class is geared for the beginner or the person wishing to brush up on the fundamentals. It will focus on NC terminology, basic machine operation, setup, and the fundamentals of manual programming for CNC lathes and mills. Participants will learn about rectangular systems, the word address programming format, and absolute/incremental tool positioning.

444-310 Grinding and Gear Techniques **2 Credits**
The grinding portion of this course will start you out at the beginning with grinding terminology, machine types, control names and functions, and processes. The related grinding information grinding theory, grinding, safety, and work holding will be taught. This course will result in the learner being able to setup and operate a surface grinding machine to perform simple grinding operation to typical grinding tolerances. The purpose of the gear cutting activity is to introduce the student to the terminology, math, tools, and techniques for cutting gears. Gear cutting besides being a specialized machining operation is an occupational discipline in itself. That is, students may find they would like to cut gears as a career. It is a highly specialized process so it is only possible for a student to get an introduction. This introduction should prepare the student adequately for a job entry level position.

444-311 CNC Turning - Operations **2 Credits**

CNC turning centers produce many of the cylindrical shapes machined in production machine shops today. This course is the introductory course for CNC Turning Centers and includes machine/control familiarization, machine startup procedures, program transfers, work holder preparation, tooling installation, setting tooling offsets, and establishing a part origin. In addition, students learn how to safely run the first part and make minor adjustments to create quality parts.

444-312 CNC Turning-Operations and Programming 1 **2 Credits**

This course introduces the student to the programming process for CNC Turning Centers. The student will learn to create very simple programs and to run them on the machine. Students will learn about program structure and style. Students will start using the basic "G" codes necessary for program basic turned part features such as, faces, outside diameters, and holes. They will write/edit simple programs in order to create these common part features. The goal will be to start out simple and move to programs that are efficient, effective, and clearly written.

444-313 Tooling and Workholding **2 Credits**
This module consists of competencies relating to work holding devices and methods. Students will learn about the basic work holding principles, work holding devices, and work holding methods. These topics will be discussed in depth so that the student will be able to select and apply the best work holding device for the situation. Advanced knowledge of work holding will promote safety, setup speed, and cutter/work rigidity. Cutting tool information is vital for an in-depth and complete understanding of the machining processes. The selection of cutting tools and cutting tool data may be one of the most complex areas of study. Students will learn to select tools based on part geometry and machining operation. The learner will acquire the cutting data from reference material, then using formulas, obtain additional cutting data. This is very important because one of the most common complaints from employers is that employees cannot set

machine feeds and speeds resulting in either wasted time or damaged tooling. As the student becomes more proficient, they will gain the ability to troubleshoot machining problems that are related to cutting tools.

444-314 CMM Techniques 2 Credits
In this course you will learn about Coordinate Measuring Machines (CMM). You will learn about their types, care, limits, setup, and applications. The CMM is a high tech solution to many measuring situations with (as with all measuring instruments) limitations. Often it is as important to know when not to use a particular instrument as when to use it. Proper use of the CMM will result in good and consistent measurements. Students will be able to setup and measure parts.

444-315 CNC Milling - Operations 2 Credits
CNC mills produce many of the prismatic shapes machined in production machine shops today. This course is the introductory course for CNC Machining Centers and includes machine/control familiarization, machine startup procedures, program transfers, work holding preparation, tooling installation, setting tooling offsets, and the part origin. In addition, students will learn how to safely run the first part and make minor tool offset adjustments to produce quality parts.

444-316 CNC Milling – 2 Credits
Operations and Programming 1
This course introduces the student to the programming process for CNC Machining Centers. The student will learn to create very simple programs and to run them on the machine. Students will learn about program structure and style. Students will start using the basic "G" codes necessary for program basic milled part features such as, faces, steps, slots, holes, improved holes, and circular contours. They will write/edit simple programs in order to create these common part features. The goal will be to start out simple and move to programs that are efficient, effective, and clearly written.

444-318 CNC Milling –
Operations and Programming 2 2 Credits
Students will learn to program and machine more complex features using more advanced programming methods. The learner will program and machine rectangular/circular pockets, mill internal threads, and will use cutter compensation.

444-319 CNC Turning –
Operations and Programming 2 2 Credits
Students will learn to program and machine more complex features. The learner will program and machine taper, radii, threads, use cutter compensation, and live tooling.

444-320 CNC Milling –
Operations and Programming 3 2 Credits
Students will learn the advantages of several advanced programming techniques. They will learn to use multiple work offsets, loops, subprograms, and use variables in programs to shorten and simplify programs. All these programming techniques will be performed on 3 axis and 4 axis machining centers. Students will also learn advanced techniques for making programs run more efficiently.

444-321 Basic CAD/CAM 2 Credits
Computer Aided Design (CAD) and Computer Assisted Manufacturing (CAM) have become standard tools used almost wherever CNC machines make parts. Students will use the Virtual Gibbs software to create geometry, setup tools, and produce machining operations. The learner will create machining operations for typical milled/turned part features such as faces, diameters, steps, slots, contours, holes, etc. Students will then post-process their CAD/CAM files to generate the CNC programs for specific CNC machines.

444-324 Intermediate CAD/CAM 2 Credits
Using Virtual Gibbs, students will learn to create more complex machining operations for additional milled/turned part features. They will create machining operations for threading, pockets, bored holes, and text. The student will then learn to create simple 3-D shapes (solids) and create the machining operations necessary to machine them. Once the file has been created and post processed, the student will run the part on a CNC machine.

444-325 CNC Technician Internship 1 Credit
Students will have three options. Student may choose to find a company to do an externship with, do an externship at the company they are already working at, or perform the externship at the machine shop at their school. In all cases the purpose of the externship is to provide an opportunity for the student to take what they know and apply it. The student will be given minimal assistance from the instructor so that they learn to work on their own. This is a course that will prepare the student for the type of environment they will encounter on the job.

General Education Course Requirements:

801-195	Written Communication	3 Credits
801-196	Oral/Interpersonal Communication	3 Credits
804-306	Shop Math I	2 Credits
804-308	Shop Math II	2 Credits
806-118	Metal Science	3 Credits

Computer Service Technician

The need for fully-trained, professional Computer Service and Network Technicians who are able to configure, troubleshoot, and support today's complex PC-based computing systems confidently and expertly is quickly evolving. This need is being driven by the rapid evolution in the power and complexity of PC hardware and software applications, as well as by the accelerating movement from stand-alone PC's to highly integrated networks.

This practical program provides extensive hands-on training with PC hardware, operating systems, and networks needed to keep PC-based systems operational and functioning at peak efficiency. Graduates of this program have the knowledge, attitudes, skills, and habits needed to guide and implement the systematic enhancement of PC-based systems as the technology continues to evolve.

In order to stay competitive, many technicians enhance their credentials by obtaining A+ Certification. A+ Certification is a nationally recognized, industry-wide standard that certifies the competency of service technicians and other individuals in the microcomputer industry. Independent technicians with this certification gain immediate credibility and a competitive edge.

The Network+ Certification is the industry standard for Network Technicians. As PC and network technologies continue to merge, dual certification in both A+ and Network+ will become a requirement for success. The CST program will prepare you for BOTH certifications.

Program Outcomes

Upon completion of this program, you will be able to:

- Apply effective customer satisfaction and field service techniques
- Evaluate and repair PC hardware components
- Evaluate and administer PC software applications
- Evaluate and apply PC system and peripheral communication
- Repair PC peripheral hardware and related systems
- Compare LAN and WAN physical and logical fundamentals
- Evaluate, administer, and repair network hardware
- Apply PC system evaluation, installation, configuration, diagnosis and repair skills in the workplace

Graduates from this program have found employment as:

Computer Service Technician

Computer Support Specialist

Service Support Specialist

Service Engineer

Help Desk Specialist

Field Service Engineer

Field Service Technician

Communications Technician

LAN Support Specialist

Network Technician

Network Installer

Career Outlook

Employment of those who repair computers is expected to grow much faster than the average for all occupations. Demand for computer technicians will increase as the amount of computer equipment increases. Organizations throughout the economy will continue to automate in search of greater productivity and improved service. The development of new computer applications and lower computer prices will also spur demand. More technicians will be needed to install, maintain, and repair these machines.

835-104 – Student Success
Students should take this course prior to or during their first semester of their program. This is an institutional requirement for all students

	Course Name	Credits	Lec-Lab
Core Courses			
631-100	Microcomputer Fundamentals	3	2 - 2
450-316	Microcomputer Software Service	2	2 - 2
631-101	Troubleshooting Operating Systems	3	2 - 2
Computer Hardware Support Certificate Courses			
631-102	Microcomputer Hardware Service	3	2 - 2
450-315	Customer Service Fundamentals	2	3 - 0
450-317	Troubleshooting Microcomputers	2	2 - 2
Network Support Certificate Courses			
450-319	Microcomputer Peripherals	2	2 - 2
450-320	Troubleshooting Communications Sys	2	2 - 2
631-115	LAN/WAN Fundamentals	3	2 - 2
450-321	Troubleshooting Network Hardware	2	2 - 2
631-116	Troubleshooting Network Operating Sys	3	2 - 2
Occupational Support			
450-322	Service Support Techniques	1	0 - 4
631-117	PC and Networking Technology Update	3	2 - 2
801-195	Written Communication	3	3 - 0
804-107	College Mathematics	3	3 - 0
	OR		
804-133	Math and Logic	3	3 - 0

Certificate Options

Course Name	Credits	Lec-Lab
Computer Hardware Support Certificate	15	13 - 10
Network Support Certificate	20	17 - 14
Computer Service Technician Tech. Diploma	37	31 - 26

COURSE DESCRIPTIONS

450-315 Customer Service Fundamentals 2 Credits
This course is designed to instruct students on the principles of service calls and customer relations skills needed for the successful field service technician. Practical documentation and role playing are included in this course, with emphasis on phone and electronic support skills. Like most CST courses, this course contains a self-paced study portion (text, video and computer-based) and a hands-on lab and assessment portion, where the learners work with the instructor and one another to perfect their skills.

450-316 Microcomputer Software Service 2 Credits
This course covers a number of different software topics: familiarization with popular business applications, computer virus eradication, software licensing, and application troubleshooting.

450-317 Troubleshooting Microcomputer 2 Credits
This course is an advanced diagnosis and repair course that, on completion, will mark the achievement of the Computer Hardware Support Certificate for the learner. Hands-on PC troubleshooting skills are emphasized.

450-319 Microcomputer Peripherals 2 Credits
This course focuses on printers, the specialized functions of various kinds of printers, and printer troubleshooting. Digital input and telephony devices will also be examined.

450-320 Troubleshooting Comm. Systems 2 Credits
This course focuses on communications systems diagnosis and repair. Emphasis is placed on connection troubleshooting with technologies such as SCSI, USB and FireWire.

450-321 Troubleshooting Network Hardware 2 Credits
This course covers network hardware installation, configuration and troubleshooting in both peer-to-peer and server-based environments, cable installation, certification, and troubleshooting are emphasized. Wireless networking is also utilized.

450-322 Service Support Techniques 1 Credit
This course provides an opportunity to apply concepts, principles and skills learned in the CST program in the workplace. Emphasis is placed on applying skills to job tasks, modeling core abilities and seeking a job.

631-100 Microcomputer Fundamentals 3 Credits
This course first covers the binary functionality of the personal computer. The computer industry itself is then examined before the course moves to hands-on construction and troubleshooting of PC hardware.

631-101 Troubleshooting Operating Systems 3 Credits
This course focuses on Windows XP and VISTA. The learner will be able to install, use, customize and troubleshoot each operating system.

631-102 Microcomputer Hardware Service 3 Credits
In this course the learner examines PC hardware components in-depth, covering the history of the technologies, the current technologies, installation techniques, and selection criteria. The learner then incorporates this knowledge into actual installation and troubleshooting scenarios.

631-115 LAN/WAN Fundamentals 3 Credits
This course covers the basic theories and technologies involved in local and wide area networks. Both the physical and logical aspects of networks will be studied, with emphasis placed on the common office LAN.

631-116 Troubleshooting Network Operating Sys. 3 Credits
This course centers on the installation, configuration and troubleshooting of network operating systems on client PC's. Windows Windows XP, VISTA, and Linux are utilized in this course that is designed to prepare the network technician for a variety of networked environments. Security, resource sharing and troubleshooting are emphasized.

631-117 PC and Networking Technology Update 3 Credits
As PC and Network technology evolves, so must the PC and/or Network technician. This course provides detailed hands-on training in those technologies that are emerging in the home and enterprise environment. Theory and hands-on training combine in this self-paced course designed for the soon-to-be CST graduate as well as those already in the workplace.

General Education Course Requirements:

801-195	Written Communication	3 Credits
804-107	College Mathematics	3 Credits
	OR	
804-133	Mathematics and Logic	3 Credits

Criminal Justice - Law Enforcement

Persons interested in careers in criminal justice will receive theoretical and practical information in the program. Criminal justice is becoming increasingly complex and important. Today's criminal justice employees must be trained to meet the challenges of our changing society. The Criminal Justice Program courses, as well as support and general education courses, will prepare the student for a position as a law enforcement officer (state, county, municipal), correctional officer, juvenile detention officer, police dispatcher, or many other occupational areas in the criminal justice system.

Program Outcomes–
Upon completion of this program, you will be able to:

- Manage emergencies
- Think critically
- Communicate effectively
- Demonstrate professionalism
- Conduct investigations
- Interact with others

Criminal justice professionals are charged with the responsibility of protecting life and property, preserving the peace, and monitoring those convicted of crimes. Police officers carry out this

charge through patrol, detection, arrest and their critical role in prosecution of criminal offenders. Officers also aid in public safety through traffic law enforcement, accident prevention and investigation, juvenile guidance and many other specialized enforcement tasks. Correctional professionals carry out this charge by effective in-custody monitoring and community supervision. The program provides an opportunity for students to choose a law enforcement or corrections emphasis during the second year of the program.

A job in the field of criminal justice requires a comprehensive background check on the individual applying for such a job. State and Federal laws prevent any person from becoming a police officer who has an unpardoned felony conviction. In Wisconsin, a domestic violence related conviction can prohibit a person from becoming a police officer. People interested in a career in criminal justice should be of good character as determined by interview and a comprehensive background check.

Hands-on training is a significant part of the Criminal Justice Associate Degree program at Blackhawk Technical College.

As a BTC Criminal Justice Student you will:

- Use a computerized, user-interactive automated firearms training simulator to hone your skills in making split second decisions on whether the use of deadly force is appropriate in a particular situation.
- Conduct interviews of "suspects."
- Take statements and present written documentation of investigations.
- Write police reports.
- Fully process crime scenes, including collection and preservation of evidence.

NOTE: All Criminal Justice Program courses should be taken in sequential order by semester.

835-104 – Student Success
Students should take this course prior to or during their first semester of their program. This is an institutional requirement for all students

	Course Name	Credits	Lec-Lab
Semester 1			
504-900	Introduction to Criminal Justice	3	3 - 0
504-901	Constitutional Law	3	3 - 0
504-904	Juvenile Law	3	3 - 0
801-196	Oral/Interpersonal Communication	3	3 - 0
801-198	Introduction to Psychology	3	3 - 0
Semester 2			
504-909	Organization and Management in Criminal Justice	3	3 - 0
504-903	Professional Communication	3	3 - 0
504-902	Criminal Law	3	3 - 0
801-195	Written Communication	3	3 - 0
804-106	Introduction to College Math	3	3 - 0
809-196	Introduction to Sociology	3	3 - 0
Semester 3			
504-910	Introduction to Corrections (Corrections Emphasis students)	3	3 - 0
	OR		
504-907	Community Policing Strategies (Law Enforcement Emphasis students)	3	3 - 0
	AND		
504-905	Report Writing*	3	3 - 0
504-911	Strategies for Peace Keeping in a Diverse Society	3	3 - 0
809-159	Abnormal Psychology	3	3 - 0
809-195	Economics	3	3 - 0
	OR		
809-174	Social Problems	3	3 - 0
	Elective	3	3 - 0
Semester 4			
504-906	Criminal Investigation Theory	3	3 - 0
504-908	Traffic Theory (Law Enforcement Emphasis students)	3	3 - 0
	OR		
504-912	Introduction to Probation and Parole (Corrections Emphasis students)	3	3 - 0
	AND		
504-913	Advanced Report Writing in Law Enforcement (Law Enforcement Emphasis Students)**	3	3 - 0
	OR		
504-914	Advanced Report Writing in Corrections (Corrections Emphasis Students)**	3	3 - 0
806-110	Forensic Science (Criminalistics)	3	2 - 2
	Elective	3	3 - 0
	TOTAL CREDITS	**66**	

Elective offered by the Criminal Justice Department:

504-915	Issues in Criminal Justice	3	3 - 0
504-916	Criminal Justice Internship	3	0 - 12
504-918	Career Exploration for Criminal Justice Students	1	1 - 0
504-919	Fitness and Nutrition in Criminal Justice	1	1 - 0

Other suggested electives for Criminal Justice Students:

140-101	Spanish Language and Culture	3	3 - 0
	(to be taken before 140-102)		
140-102	Spanish Language and Culture II:		
	Emergency Services Personnel	3	3 - 0
103-106	Introduction to Microsoft (MS) Office	3	3 - 0

*Must have earned a grade of "C" or higher in 801-195 to enroll.

** Must have earned a grade of "C" or higher in 504-905 to enroll.

(The Protective Services Division at BTC also offers full 520 hour police recruit academies (See page 160-161 of this catalog).

COURSE DESCRIPTIONS

140-101 Spanish Language and Culture 3 Credits
This elective course is an introduction to the basic concepts of the Spanish language and culture (This course should be taken by those with very little or no knowledge of the Spanish language and prior to taking 801-115 Intercultural Communications for Emergency Personnel).

140-102 Spanish Language and Culture II: Emergency Services Personnel 3 Credits
This is and intermediate level course for emergency services personnel to use the Spanish language in police-related and emergency situations. Also included is and introduction to aspects of Hispanic culture that will help effectiveness in police related emergency situations *(can be taken as elective after).* ***Pre-requisite 140-101 or demonstrated knowledge of basic Spanish***

504-900 Introduction to Criminal Justice System 3 Credits
In this course, learners will distinguish between the roles and functions of courts with jurisdiction in Wisconsin; differentiate between the roles and functions of federal state and local law enforcement agencies; apply professional principles as a law enforcement officer; determine modern police functions and policies from an historical perspective; identify the role of law enforcement officers in American society; identify the law enforcement policies required by Wisconsin statute; define the importance of written agency policies, distinguish between "ministerial" and "discretionary" duties, utilize a decision making model; identify the characteristics of a good decision maker; describe how professionalism, ethics, and moral standards relate to a law enforcement career; practice a code of behavior that embodies the principles and obligations of the law enforcement code of ethics; incorporate ethical decision making strategies; describe how decisions are made; enhance an officer's critical thinking and police problem solving skills; and apply principles of critical thinking, decision making, and problem solving.

504-908 Traffic Theory
(Law Enforcement Emphasis students) **3 Credits**
In this course, the learner will enforce Wisconsin traffic laws; detect traffic violations; issues traffic citations, ranging from warnings to arrest; direct traffic; identify responsibilities of first responding officer, following the steps of the Incident Response Model; manage the response to a scene; take necessary steps to enable effective follow-up as needed; conduct an initial investigation at a crash scene; identify the mechanics of measuring and documenting traffic crash scenes; complete the Wisconsin Motor Vehicle Accident Report; record the crash scene using photography; take appropriate enforcement action based on information gathered; and recognize and interpret indicators of impaired driving.

504-915 Issues in Criminal Justice 3 Credits
This course is designed to review the various functions and issues related to the various components of the criminal justice system.

504-918 Career Exploration for Criminal Justice Students 1 Credit
This one credit elective focuses on the exploration of personal professional goal setting and exploring the many career paths available in the criminal justice system. Students will develop a career development plan to help guide them in attaining their personal and professional goals.

504-919 Fitness and Nutrition in Criminal Justice 1 Credit
This one credit elective focuses on the importance of fitness and nutrition as it relates not only to the criminal justice professional but also to the individual's overall wellness. Also explored are the common physical agility testing requirements many departments use in the hiring process. Students will develop an overall wellness/fitness plan.

504-906 Criminal Investigation Theory 3 Credits
In this course, the learner will describe the role evidence plays in criminal investigations and prosecutions; apply the steps for processing crime scenes; apply appropriate strategies to locate, handle, and package evidentiary items; document the crime scene; recognize the unique investigative issues for crimes against life; apply appropriate strategies to secure the scene, collect and preserve evidence, and investigate a death; recognize the dynamics of victimization; apply knowledge of the definitions and responsibilities for law enforcement; analyze the role of law enforcement in responding to domestic abuse; intervene and apply appropriate investigative strategies; respond to an officer-involved domestic violence incident; analyze the role of law enforcement in responding to sexual abuse; demonstrate investigative techniques in a simulated sexual assault case; and identify other resources that can assist in a sexual assault case.

504-903 Professional Communication 3 Credits
In this course, the learner will apply knowledge of the communication process, apply communication techniques, integrate verbal and physical intervention skills, develop strategies to obtain information in a variety of situations, differentiate between and interview and an interrogation, and analyze information for consideration as corroborative evidence

504-912 Introduction to Probation and Parole
(Corrections Emphasis students) **3 Credits**
This course will provide the student with an overview and description of the probation and parole system and assist the student in developing the skills for applying professional knowledge and current concepts in practice.

504-902 Criminal Law **3 Credits**
In this course, learners will identify basic concepts of criminal law; analyze facts, circumstances, and situations and determine which, if any, crimes against persons have been committed; analyze facts, circumstances, and situations and determine which, if any, crimes against property have been committed; and analyze facts, circumstances, and situations and determine which, if any, crimes involving drugs, alcohol or other criminal activity have been committed.

504-904 Juvenile Law **3 Credits**
This course examines the philosophies and differences between the juvenile justice system as compared with the adult system. The course also addresses constitutional issues and juvenile custody procedures. Also examined is the investigation, reporting, custody and referral of juvenile offender related incidents.

504-909 Organization and Management In Criminal Justice **3 Credits**
Using and exploratory and interactive structure, this introduction to criminal justice supervision course covers all the latest supervisory concepts and practices with an emphasis on character, teamwork, problem solving, and conflict resolution. It is also a study of coordination and management of resources in the field of law enforcement. The basic guidelines of administrative policy and unification of personal and organizational goals are also explored and applied.

504-901 Constitutional Law **3 Credits**
This course explores the history and development of criminal evidence law and the necessity of legally obtained evidence. Students will analyze constitutional procedures for arrest, search, and seizure by examining court decisions and applying them to scenarios presented in class.

504-910 Introduction to Corrections
(Corrections Emphasis students) **3 Credits**
This course will provide the students with the necessary fundamental knowledge of correctional philosophies as well as the structure of American correctional systems. Current issues in corrections will also be discussed.

504-905 Report Writing **3 Credits**
This course is designed to supply the student with a working knowledge of the purposes and the acceptable principles of police report writing. Attention is given to the improvement of spelling, sentence structure, punctuation, vocabulary and the use of police jargon. Emphasis is placed on the police report narrative as a powerful investigative tool, and its position in the criminal justice system. Attention will also be given to completing various uniform law enforcement report forms.

Pre-requisites: Completion of 2nd semester courses and 75% in 801-195 Written Communication

504-913 Advanced Report Writing in Law Enforcement
(Law Enforcement Emphasis students) **3 Credits**
Advanced Report Writing in Law Enforcement is designed to enhance and build upon the student's writing skills developed in through Written Communications and Report Writing, both of which are Pre-requisites for this course. Practice and practical application in writing reports that are direct, grammatically correct, and contain the appropriate content for prosecutorial action will be the foundation of this course. Reports generated in this course will focus on common incidents officers in the field are faced with as well as more in-depth investigations carried out by officers. ***Pre-requisite: 504-905 Report Writing***

504-914 Advanced Report Writing in Corrections
(Corrections Emphasis students) **3 Credits**
Advanced Report Writing in Corrections is designed to enhance and build upon the student's writing skills developed in through Written Communications and Report Writing, both of which are Pre-requisites for this course. Practice and practical application in writing reports that are direct, grammatically correct, and contain the appropriate content for prosecutorial action will be the foundation of this course. Reports generated in this course will focus on corrections related incidents common to both in-custody and community based correction environments. Reports common to probation and parole are also explored. ***Pre-requisite: 504-905 Report Writing***

504-907 Community Policing Strategies
(Law Enforcement Emphasis students) **3 Credits**
This course explores the evolution of community policing, proactive policing and problem solving, understanding and involving the community, building community relationships and partnerships, and crime prevention programs and strategies.

504-911 Strategies for Peace Keeping in a Diverse Society **3 Credits**
This course examines current issues related to social problems related to the administration of justice in a culturally diverse society. Special focus of this course will be on the changing ethnicity of communities and related changes in social and institutional public policy. Also discussed is cross cultural communication, implementing cultural awareness training, multicultural representation in law enforcement, and criminal justice interaction with various racial and ethnic groups.

504-916 Criminal Justice Internship **3 Credits**
This course involves professionally planned and supervised program of experience in one of several criminal justice related occupational areas. ***Pre-requisites: Completion of 50% of Criminal Justice Program courses with a grade of B or above, no more than 6 hours of absence in any CJ course, the approval of the faculty internship coordinator based on student performance in the Criminal Justice program***

806-110 Forensic Science (Criminalistics) **3 Credits**
Forensic Science is a course designed to provide students of law enforcement with an appreciation of the capabilities and limitations of scientific analysis of crime scene evidence. All functions of a basic crime lab are discussed with emphasis on relating methods of analysis to the proper collection and packaging of evidence. Laboratory exercises are designed to expand upon and reinforce lecture material.

General Education Course Requirements:

801-195	Written Communication	3 Credits
801-196	Oral/Interpersonal Communication	3 Credits

804-106	Introduction to College Math	3 Credits
806-110	Forensic Science	3 Credits
809-159	Abnormal Psychology	3 Credits
809-174	Social Problems	3 Credits
809-195	Economics OR	3 Credits
809-196	Introduction to Sociology	3 Credits
809-198	Introduction to Psychology	3 Credits

Culinary Arts

The Culinary Arts program combines elements of artistry, science and business skills to prepare you for an exciting career in Food Service. You'll study principles of food preparation, quantity production, equipment layout and operation management skills.

Students are involved in preparation and serving experiences in the food service lab and receive additional opportunities in catering, ice sculpting and food presentation.

The Culinary Arts program at Blackhawk Technical College has been honored by the Wisconsin Board of Vocational Technical and Adult Education with the Exemplary Educational Service Award. The Blackhawk Technical College Culinary Arts Program is accredited by the American Culinary Federation.

Program Outcomes

Upon completion of this program, you will be able to:

- Enforce health and safety standards
- Demonstrate food prep skills
- Apply principles of nutrition
- Adapt restaurant procedures to meet changing needs
- Manage food purchases, facility layout, storage, inventory and cost control
- Supervise kitchen employees
- Design menus
- Recommend new or modify business planning

Potential Employment Opportunities

- Kitchen Manager
- Executive Sous Chef
- Executive Chef
- Restaurant Manager
- Lead Cook
- Kitchen Supervisor

835-104 – Student Success
Students should take this course prior to or during their first semester of their program. This is an institutional requirement for all students

Course Name	Credits	Lec-Lab
Semester 1		
804-123 Math with Business Applications	3	3 - 0
316-103 Food Service Industry	2	1 - 2
316-104 Orientation to Quantity Food Prep	1	1 - 0
316-108 Food Science I	3	1 - 4
316-147 Food Service Sanitation	2	2 - 0
801-195 Written Communication	3	3 - 0
316-109 Quantity Production of Soups, Sauces and Dressings	4	1 – 6
Semester 2		
103-106 Introduction to Microsoft Office	3	3 - 0
316-115 Nutrition	2	1 - 2
801-196 Oral/Interpersonnel Communication	3	3 - 0
809-198 Introduction to Psychology	3	3 – 0
316-149 Culinary Supervision	3	3 – 0
316-114 Quanity Prod Entee,and Sauces, and Veg	3	1 - 4
Semester 3		
316-119 Baking for Chefs	3	–0 - 6
316-125 Beverage Management	1	1 - 0
809-195 Economics	3	3 - 0
809-196 Introduction to Sociology	3	3 - 0
316 – 164 Advanced Cuisine	3	1 – 4
531-102 Emergency Procedure- Work Place	1	1 – 0
809-172 Race, Ethnic, and Diversity	3	3 - 0
Semester 4		
102-139 Business Administration/Food Service Operation	3	3 - 0
316-159 Food Purchasing, Inventory and Cost Control	2	2 - 0
316-131 Management of Short Order Service	2	1 - 2
316-136 Catering/Special Events/Contract Food Service	2	2 - 0
316-142 Ice Sculpturing/Decorative Food Display	2	1 - 2
316-160 Gourmet Stocks/Sauces[1]	3	2 - 2
316-165 Gourmet Foods	3	1 - 4
TOTAL CREDITS	**69**	

COURSE DESCRIPTIONS

102-139 Business Administration in Food Service 3 Credits
This course introduces the student to basic bookkeeping, and management reporting. The student is taught how to establish and maintain a basic bookkeeping system.

103-106 Introduction to Microsoft Office 3 Credits
This course is an introduction to the Microsoft Office Suite intended for students with little or no prior computer experience. An overview of many of the Core competencies of Microsoft Outlook, Word, Excel, Access, PowerPoint, Windows, and Explorer will be explored. Students will develop the use of technology for both problem solving and decision making and will be expected to learn to use the resources available to them to search for answers to problems using the technology available. Students will need additional lab time to complete assignments outside of class.

316-103 Food Service Industry 2 Credits
An introduction to the Food Service industry, past and present, with an overview of all types of food service. Several facility tours are included. Menu terminology is stressed, and an actual working menu will be developed by each student.

316-104 Orientation to Quantity Food Prep 1 Credit
Study of standardized recipes, equivalents, abbreviations, weights and measures, food presentations, and appropriate substitutions. The technical aspects of extending and reducing recipes and menu costing will also be a component.

316-108 Food Science I 3 Credits
An overview of the sciences involved in cooking and preparing food. The science involved with fruits, vegetables, eggs, cheese, meats, and meat cutting, fish, seafood, and baking will be discussed, demonstrated and experienced. ***Co-requisite: 316-147 Food Service Sanitation***

316-109 Quantity Production of Soups, Sauces, Salads and Dressings 4 Credits
Included in this course is a study of the fundamentals and principles of preparing all types of soups, salads, and dressings and an understanding of the ingredients and terminology used in the quantity production of soups, salads, and salad dressings. The student will develop competence in production of soups, salads, garnishes, and salad dressings to meet industry standards. ***Co-requisite: 316-104 Orientation to Quantity Food Prep., 316-108 Food Science I (or instructor approval), 316-147 Food Service Sanitation***

316-114 Quantity Production of Entrees, Vegetables 4 Credits
This course includes a study of fundamentals and principles of preparing all types of entrees, sauces, and vegetables. The student will gain a working knowledge of terminology and ingredients used in quantity production of these foods. The student will develop competence in production of entrees, sauces, and vegetables to meet industry standards. ***Pre-requisites: 316-104 Orientation to Quantity Food Prep., 316-147 Food Service Sanitation***

316-115 Nutrition 2 Credits
This course is geared for the culinary field. Students will study and practice nutritional principals while evaluating and modifying menus and recipes. Studying the importance of nutritive elements and the affect to the human body.

316-119 Baking for Chefs 3 Credits
Baking production from simple to artistic and complex will be taught, demonstrated to, and later produced by culinary students. Fundamentals and principals of baking are included with the production of yeast products, cakes, pies, cookies, and quick breads. Also included is the proper use and care of baking equipment. Competence in bakery production must meet industry standards. ***Pre-requisites: 316-108 Food Science 1, 316-147 Food Service Sanitation (or instructor approval)***

316-125 Beverage Management 1 Credit
Beverage Management includes history, geography, and marketing as well as responsible beverage service, cost control, and the study of bar set-up and management. A review of equipment use and care, current products available, production standards, and merchandising principles is also included.

316-131 Management of Short Order Service 2 Credits
This course includes the study of franchising, specialty breakfast and lunch items, sandwich preparation, marketing of food and increased sales. Students will prepare Tapas and "quick courses" utilizing a la minute cooking techniques. ***Pre-requisite: 316-114 Quantity Production of Entrees, Vegetables***

316-136 Catering/Special Events/ Contract Food Service 2 Credits
This course includes a study of all special facets of Food Service, analysis of challenges special to each one, organizing and managing the catering process, needs of specific segments of the population (i.e., elderly, children), government regulations for funded/reimbursed food service, satellite food service for central production area and banquet production. ***Pre-requisites: 316-104 Orientation to Quantity Food Prep., 316-114 Quantity Production of Entrees, Vegetables***, ***316-147 Food Service Sanitation***

316-142 Ice Sculpturing/Decorative Food Display 2 Credits
This course allows students to develop competence in ice sculpturing, designing and producing decorative items for food service and special events, applying aspic, and creating, arranging, and preserving food displays. ***Pre-requisite: 316-114 Quantity Production of Entrees, Vegetables***

316-147 Food Service Sanitation 2 Credits
A complete study of food sanitation, safe food handling practices, practice of high standards of personal health and hygiene, rules of safety in working with equipment, sanitation regulations and enforcement.

316-149 Culinary Supervision 3 Credits

This course is designed to give the student an overview of supervision in a culinary setting. Included are leadership and supervision skills, interpersonal skills, motivation, communication, decision-making and training at the first-line supervision level. The duties and responsibilities of supervisors and the role of supervision in a culinary setting and making the transition to supervision are also included.

316-159 Food Purchasing, Inventory and Cost Control 2 Credits
The basic principles of food purchasing and purchasing procedures, including all foods and usual marketing forms. Also included will be procedures for inventory control, including the use of the computer, guidelines for selecting purveyors, procedures for receiving orders, basic storage principles, and accurate cost computations on a per order basis as well as a per serving basis.

316-160 Gourmet Stocks Sauces 3 Credits
A concise study of mother sauces and their derivatives along with sauce history, making stocks for the specialty kitchen, and dessert sauces are covered.

316-164 Advanced Cuisine 3 Credits

Advanced Cuisine is a study of Regional, International, and Contemporary cuisines. The learner will gain and demonstrate working industry knowledge of terminology and specialized ingredients used in contemporary cuisine. 50 hours of this course will be dedicated to a line cooking practicum.

316-165 Gourmet Foods 3 Credits
Gourmet Foods are foods at their finest. Students will learn food terminology, the specialized methods of preparation and serving techniques associated with gourmet dining. A variety of gourmet appetizers, soups, salads, entrees, desserts, and beverages are prepared and served. ***Pre-requisite: 316-114 Quantity Production of Entrees, Vegetables (or instructor approval)***

General Education Course Requirements:

801-195	Written Communication	3 Credits
801-196	Oral/Interpersonal Comm.	3 Credits
804-123	Math with Business Applications	3 Credits
809-172	Race, Ethnic and Diversity Studies	3 Credits
809-195	Economics	3 Credits
809-196	Introduction to Sociology	3 Credits
809-198	Introduction to Psychology	3 Credits

Food Service Aide Certificate

The Food Service Aide program is designed to prepare kitchen helpers for supervised entry-level positions in restaurants and institutional food service.

The student develops competencies in the following self-paced units of study: salad helper, short order cookery, bakery helper, ware handler, table service, sidework and busing.

The program emphasizes principles of sanitation and safety, communication and teamwork, and interpersonal relationships and job-seeking skills.

An off-campus internship experience may be included to develop skills appropriate to the employment objective of the student. Students are awarded competency certificates each semester specific to the skill area of achievement.

Course #	Course Title	Credits
303-330	Food Production I	4
303-332	Food Production II	4

Food Service Aide Class Descriptions

303-330 Food Production I 4 Credits
Orientation and application of entry-level skills in food preparation and service. Communication skills, sanitation and safety practices, and the development of interpersonal relationships are emphasized in the classroom experience, prior to lab work. Modules are self-paced and provide the student with experience in quantity food preparation of soups, salads, and sandwiches, as well as dishroom/busing and table service.

303-331 Food Production II 4 Credits
A continuation of the lab training in 303-330 providing the student with the opportunity to expand skills in salad preparation, short-order cookery, bakery helper, ware handler, table service, and busing. An off-campus experience may be provided to develop individual student employment objectives. ***Pre-requisite: 303-330 Food Production I***

Dental Assistant

The Dental Assistant Program prepares graduates to work with dentists as they examine and treat patients. Dental Assistants with documented skills also may carry out a variety of laboratory, clinical and office duties. Some dental assistants manage the office and are responsible for patient scheduling and bookkeeping functions. Graduates receive a technical diploma and are eligible to write the certification examination of the Dental Assisting National Board. Most dental assistants work in general or specialized dental offices, either for individual dentists or for groups of dentists. Some dental assistants may choose to work for insurance companies, dental laboratories, or dental supply companies. The dental assistant also may find employment with federal agencies such as the Veteran's Administration, United States Public Health Services, the Armed Forces, or a state, county or city health facility.

Following education as a dental assistant, some individuals may pursue additional education as a dental hygienist. Training as an assistant can be very useful in preparing individuals for this additional education.

Program Outcomes
Upon completion of this program, you will be able to:

- Collect diagnostic and treatment data
- Manage infection and hazard control
- Perform clinical supportive treatments
- Take diagnostic radiographs
- Perform dental laboratory procedures
- Provide patient oral health instruction
- Model professional behaviors, ethics, and appearance

- Carry out dental office procedures

Potential Employment Opportunities:

- Dental Assistant
- Dental Receptionist
- Dental Office Manager
- Dental Practice Manager
- Dental Lab Technician
- Dental Insurance Claims Processor
- Dental Sales Representative
- Dental Treatment Coordinator
- Dental Specialty Assistant.

Accreditation Standards for Dental Assisting Education Programs: Commission on Dental Accreditation; American Dental Association; 211 E. Chicago Ave, Chicago, IL 60611. (312) 440-4653; www.ada.org

835-104 – Student Success
Students should take this course prior to or during their first semester of their program. This is an institutional requirement for all students

	Course Name	Credits	Lec-Lab
Semester 1*			
508-101	Dental Health Safety	1	0 - 2
508-302	Dental Chairside	5	5 - 5
508-113	Dental Materials	2	2 - 2
508-304	Dental and General Anatomy	2	4 - 0
508-103	Dental Radiography	2	2 - 2
508-306	Dental Assistant Clinical	3	0 - 8
508-307	Dental Assistant Professionalism	1	2 - 0
Semester 2*			
508-308	Dental Chairside – Advanced	5	3 - 2
508-309	Dental Lab Procedures	4	2 - 2
508-310	Dental Radiology – Advanced	1	0 - 2
508-311	Dental Assistant Clinical – Advanced	2	0 - 12
508-120	Dental Office Management	2	4 - 0
801-390	Communication for Health Professions	2	4 - 0
	TOTAL CREDITS	**32**	

COURSE DESCRIPTIONS

508-101 Dental Health Safety **1 Credit**
Prepares dental auxiliary students to respond proactively to dental emergencies, control infection, prevent disease, adhere to OSHA Standards, and safely manage hazardous materials. Students also take patient vital signs and collect patient medical/dental histories. CPR certification is a pre-requisite; students will be required to show proof of certification before the beginning the course. ***Pre-requisites: Admission to the Dental Assisting Program, current CPR certification for the Health provider***

508-302 Dental Chairside **5 Credits**
Prepares dental assistant students to chart oral cavity structures, dental pathology, and restorations and to assist a dentist with basic dental procedures including examinations, pain control, amalgam restoration and cosmetic restoration. Students will also develop the ability to educate patients about preventive dentistry, brushing and flossing techniques, and dental procedures, using lay terminology. Throughout the course, students will apply decoding strategies to the correct use and interpretation of dental terminology. ***Pre-requisites: 508-101 Dental Health Safety, 508-304 Dental and General Anatomy***

508-113 Dental Materials **2 Credits**
Prepares dental auxiliary students to handle and prepare dental materials such as liners, bases, cements, amalgam, resin restorative materials, gypsum products, and impression materials. They also learn to take alginate impressions on manikins and clean removable appliances. ***Pre-requisites: 508-101 Dental Health Safety, 508-304 Dental and General Anatomy***

508-304 Dental and General Anatomy **2 Credit**
Prepares dental assistant students to apply fundamentals of general and dental anatomy to informed decision-making and to professional communication with colleagues and patients. ***Pre-requisite: 508-101 Dental Health Safety***

508-103 Dental Radiography **2 Credits**
Prepares dental auxiliary students to operate x-ray units and expose bitewing, periapical, extra oral, and occlusal radiographs. Emphasis is placed on protection against x-ray hazards. Students also process, mount, and evaluate radiographs for diagnostic value. In this course students demonstrate competency on a manikin. In addition, students expose bitewing radiographs on a peer, role-play patient. ***Pre-requisites: 508-101 Dental Health and Safety, and 508-304 Dental and General Anatomy***

508-306 Dental Assistant Clinical **3 Credits**
Students apply skills developed in Dental and General Anatomy, Dental Health Safety, Dental Chairside, Dental Materials, Dental Radiography, and Professionalism in a clinical setting with patients. Emphasizes integration of core abilities and basic occupational skills. ***Pre-requisite: 508-101 Dental Health Safety, 508-113 Dental Materials, 508-302 Dental Chairside, 508-304 Dental and General Anatomy***

508-307 Dental Assistant Professionalism **1 Credit**
Prepares dental assistant students for professional success in a dental practice or another dental health care environment. Students develop professional appearance and image. More importantly, they learn to work within ethical guidelines and legal frameworks. In preparation for entering the work force, dental assistants customize or develop their portfolios and lay out an on-going professional development plan.

508-308 Dental Chairside-Advanced **5 Credits**
Prepares dental assistant students to adapt chairside skills to assisting with dental specialties as they are performed in general

practice. Focuses on pediatric dentistry, orthodontics, oral maxillofacial surgery, endodontics, periodontic, and prostho-dontics. Students will also develop the ability to assist with sealants, perform coronal polishing, and apply topical fluoride and topical anesthetics. ***Pre-requisites: All first semester courses***

508-309 Dental Lab Procedures 4 Credits
Prepares Dental Assistant students to produce alginate impressions and fabricate diagnostic models, oral appliances, temporary restorations, and custom trays. Students also polish oral appliances. ***Pre-requisites: All first semester courses***

508-310 Dental Radiography-Advanced 1 Credit
Builds on principles and skills developed in Dental Radiography. Dental Assisting students expose full mouth series, and specialized radiographs on adult and child patients. Emphasis is placed on protection against x-ray hazards. Students will also process, mount, and evaluate radiographs for diagnostic value. In addition, they will use radiographs to explain dental health and treatment plans to patients. ***Pre-requisites: All first semester courses***

508-311 Dental Assistant Clinical-Advanced 2 Credits
Dental Assisting students apply skills developed in Dental Chairside- Advanced, Dental Lab Procedures, Dental Radiography-Advanced, and Dental Office Procedures in a clinical setting with patients. Emphasizes integration of core abilities and basic and advanced occupational skills. ***Pre-requisites: All first semester courses***

508-120 Dental Office Management 2 Credits
Prepares dental auxiliary students to manage telephones, appointments, recall systems, and inventory. Students also develop the skills needed to process accounts receivable and payable, collections and third party reimbursements. ***Pre-requisites: All first semester courses***

General Education Course Requirements:

801-390 Communication for Health Professions 2 Credits

Diagnostic Medical Sonography or Vascular Technology

Diagnostic Medical Sonography, commonly called ultrasound, is a diagnostic medical procedure that uses high frequency sound waves to produce medical images of organs, tissues, or blood flow inside the body.

The profession of diagnostic medical sonography includes general sonography, cardiac sonography, vascular technology, and various subspecialties. The profession requires critical thinking and good judgment to provide appropriate health care services. Sonographers/vascular technologists are highly skilled professionals qualified by education to provide patient services using diagnostic techniques under the supervision of a physician. Although most sonographers work in hospital based medical imaging departments performing abdominal, pelvic and vascular examinations or cardiology departments performing cardiac and vascular examinations, sonographers are also employed in dedicated vascular departments or obstetric departments, where specialized ultrasound examinations are performed, and many sonographers work outpatient clinics and mobile imaging services.

Program Mission: The mission of the Blackhawk Technical College Associate Degree Diagnostic Medical Sonography Program is to prepare the student to become a highly qualified sonographer who will practice Diagnostic Medical Sonography with competence.

The didactic and clinical education, as well as the critical thinking framework presented to the students will prepare them to successfully write the American Registry of Diagnostic Medical Sonography examinations in Abdomen, Obstetrical/Gynecological and Vascular Technology, as well as their respective Physics examinations.

Program Goal: The Goal of the Blackhawk Technical College Associate Degree Diagnostic Medical Sonography Program is to fulfill the program mission through the achievement of the following Program Outcomes:

Academic Outcome: The graduate of the Blackhawk Technical College Associate Degree Diagnostic Medical Sonography Program will possess the knowledge and academic skills necessary to practice Diagnostic Medical Sonography in the clinical setting as well as successfully write the ARDMS certification examination in Abdomen, Obstetrical/Gynecological, and Vascular Technology.

Clinical Education Outcome: The Graduate of the Blackhawk Technical College Associate Degree Diagnostic Medical Sonography Program will be able to competently practice general and vascular Diagnostic Medical Sonography in any clinical setting.

Graduate Certification Outcome: Upon Completion of the Associate Degree Diagnostic Medical Sonography Program, learners will successfully complete the certification examination in Abdomen, Obstetrical/Gynecological and Vascular Technology prepared by the American Registry of Diagnostic Medical Sonographers (ARDMS) within ARDMS eligibility requirements at a rate that meets or exceeds National and State averages.

Student Retention Outcome: Students of the Blackhawk Technical College Associate Degree Diagnostic Medical Sonography Program will complete the program at a rate of 75% of all students starting the Diagnostic Medical Sonography curriculum within 1.5 times of the normal program completion time.

Patient Care and Safety Outcome: The graduate of the Blackhawk Technical College Associate Degree Diagnostic Medical Sonography Program will provide patient care and comfort as well as recognize emergency patient conditions and initiate emergency life saving first aid and basic life support.

Patient Interaction Outcome: The graduate of the Blackhawk Technical College Associate Degree Diagnostic Medical Sonography Program will communicate effectively and

professionally in the medical environment and function as a team member in the sonography and/or vascular labs.

Critical Thinking and Problem Solving Outcome: The graduate of the Blackhawk Technical College Associate Degree Diagnostic Medical Sonography Program will possess the critical thinking and problem solving skills necessary to act appropriately in non-routine and emergency situations.

Professional Development Outcome: The graduate of the Blackhawk Technical College Associate Degree Diagnostic Medical Sonography Program will participate in professional activities and continuing education, and utilize insights gained in general education courses to promote continued professional and personal growth.

Graduate Placement Outcome: The graduate of the Blackhawk Technical College Associate Degree Diagnostic Medical Sonography Program seeking employment will be placed in the workforce as a Diagnostic Medical Sonographer and/or a Vascular Technologist, or continuing the educational process in a specialty area of Sonography, i.e.: Echocardiography.

Graduate Satisfaction Outcome: The graduate of the Blackhawk Technical College Associate Degree Diagnostic Medical Sonography Program will be satisfied with the educational experience with respect to both academic and clinical abilities.

Employer Satisfaction Outcome: Employers of graduates of the Blackhawk Technical College Associate Degree Diagnostic Medical Sonography Program will be satisfied with the content knowledge, affective behaviors, and clinical skills of these graduates. Knowledge, affective behaviors, and clinical skills of the graduates.

Pre-requisites for program admission:

In order to begin the application process to the DMS program, students **MUST** document completion of a patient care course and/or training to include 100 hours of patient care work. Acceptable training programs are, but not limited, to the following:

- Radiography
- EMT-Paramedic
- Physical Therapist Assistant
- Occupational Therapist Assistant
- Nursing (see below)
- Respiratory Therapist Assistant
- Nurse assistant (basic and advanced at BTC), LPN or RN

Program Pre-requisite Requirements:

1) Successful completion of **ALL** the following courses with a grade of "C" or better:
   a) ***CHANGE:*** One semester of **algebra**: Intermediate Algebra with Applications – 804-118 at BTC ***(course pre-requisite is one year of high school algebra, one year of high school geometry, and appropriate test score or completion of Elementary Algebra 804-110 with a C or better at BTC).***
   b) One semester of **college physics**: Survey of Physics – 806-139 at BTC. Radiography physics is acceptable for those who have completed a radiography program.
   c) One semester of **college anatomy and physiology**: General Anatomy and Physiology 806-177 at BTC (***course has pre-requisite of one year of high school chemistry or one semester of college level chemistry with a grade of "C" or better)***
   d) One semester of **college communication**: Written Communication 801-195 at BTC.
   e) One semester of **college medical terminology**: Medical Terminology 501-101 at BTC.
2) Completion of 20 hours of diagnostic medical sonography clinical observation at an assigned BTC affiliated Clinical Education Site. Hours are completed in a minimum of four hour sessions and a minimum of eight hours spent with one of the current BTC DMS students.

   The observation **MUST** be arranged with Michelle Cordio, DMS Program Coordinator (mcordio@blackhawk.edu or 608.743.4571). Appropriate paperwork **MUST** be submitted at the completion of the observation experience.

Participate in program orientation sessions.

Complete physical examination and program health requirements.

A caregiver background check is required for the clinical portion of this program. All DMS program core courses (prefix 526) required program entry for enrollment. Please contact the Student Services department to ensure "program-ready" status.

835-104 – Student Success
Students should take this course prior to or during their first semester of their program. This is an institutional requirement for all students

	Course Name	Credits	Lec-Lab
Courses			
526-130	Introduction to Diagnostic Medical Sonography/Vascular Technology	2	54
526-131	DMS General Procedures I	4	90
526-132	DMS Clinical I	2	288
526-146	Introduction to Cross-Sectional Anatomy Sonography	2	36
526-133	DMS General Procedures II	4	90
526-134	DMS Clinical II	2	288
526-135	DMS General Procedures III	3	72
526-136	DMS Physics I	3	72
526-137	DMS Clinical III	1	216
526-138	DMS General Procedures IV	4	90
526-139	DMS Physics II: Instrumentation	2	54
526-140	DMS Clinical IV	2	432
526-141	DMS Vascular Procedures I	4	90

526-142	DMS Clinical V	2	432
526-143	DMS Vascular Procedures II	3	72
526-144	DMS Clinical VI	1	216
526-145	DMS Registry Review	3	54
526-156	Pathophysiology	3	54
806-139	Survey of Physics	3	72

General Education Courses

*806-139	Survey of Physics	3	90

Radiography Physics is acceptable for those who have completed an accredited Radiography Program

*801-195	Written Communication	3	54
801-196	Oral/Interpersonal Communication	3	54
*806-177	General Anatomy and Physiology	4	90
809-196	Introduction to Sociology	3	54
809-198	Introduction to Psychology	3	54
806-179	Advanced Anatomy and Physiology	4	90

*Course MUST be completed with a grade of "C" or better at the time of Petition.

TOTAL CREDITS 70

COURSE DESCRIPTIONS

526-130 Introduction to Diagnostic Medical Sonography/Vascular Technology 2 Credits
This course introduces the student to the history of ultrasound and the evolution of its medical applications. Fundamental ultrasound physics and basic knobology will be introduced. Topics include licensure, use and maintenance of ultrasound equipment, ergonomics, communication and critical thinking skills, and the responsibilities of Diagnostic Medical Sonographers in the workplace. Program policy and procedures, program curriculum and student rights and responsibilities are also included in this course.

The laboratory component of this course introduces the student to the concepts of ultrasound instrumentation, an introduction to ultrasonic scanning technique, and maintenance of ultrasound equipment. ***Pre-requisite: Admission to the Sonography Program***

526-131 DMS General Procedures I 4 Credits
This course prepares the Diagnostic Medical Sonography student to perform ultrasound evaluation of the liver, gall bladder, biliary tree, the female pelvis and limited scans of the gravid uterus. The abdominal portion of this course will cover the anatomy, physiology, pathology, pathophysiology and the sonographic appearance of the peritoneal space, prevertebral vessels, biliary, liver and pancreas. The gynecological portion of this course will cover normal anatomy and physiology of the female pelvis including the bony pelvis, vascular anatomy, muscles, ligaments, physiology of the menstrual cycle and normal anatomy of the pediatric and postmenopausal pelvis. The introduction to obstetrics will cover the physiology of pregnancy, embryology, spermatogenesis, oogenesis and the development of the fetus as visualized on ultrasound during the first trimester, second trimester, and third trimester. This course will give the sonography students an introduction to obstetrical ultrasound protocols and familiarize the student with normal fetal anatomy, as demonstrated on ultrasound.

The laboratory portion of this course permits the student to simulate ultrasound examinations of anatomical structures for the purposes of identification of structures and pathology, and to reinforce scanning technique in preparation for performing these examinations in the clinical setting. ***Pre-requisite: Admission to the Sonography Program***

526-132 DMS Clinical I 2 Credits
In the first clinical course for the Diagnostic Medical Sonography Program, students become acclimated to the clinical environment, become familiar with policies, procedures and protocols at the departmental and institutional level. Students begin the performance of Diagnostic Medical Sonography procedures under the direction of staff sonographers or program faculty in accordance with all program and institutional requirements. ***Pre-requisite: Admission to the Sonography Program***

526-133 DMS General Procedures II 4 Credits
This course prepares Diagnostic Medical Sonography Students to perform ultrasound evaluations of the spleen, renal structures, and the gravid uterus. The abdominal portion will cover the anatomy, physiology, pathology, pathophysiology and the sonographic appearance of the spleen and renal structures. The obstetrical portion of the course will cover labor, fetal presentation, and fetal anomalies as visualized on ultrasound during the first trimester, second trimester, and third trimester. This course will familiarize the sonography student with abnormal fetal anatomy to include central nervous system anomalies, GI anomalies, GU anomalies, skeletal dysplasia, thoracic anomalies and placental pathology.

The laboratory portion of this course permits the student to simulate ultrasound examinations of anatomical structures for the purposes of identification of structures and pathology, and to reinforce scanning technique in preparation for performing these examinations in the clinical setting. ***Pre-requisites: 526-130 Introduction to Diagnostic Medical Sonography, 526-131 DMS General Procedures 1, 526-132 DMS Clinical 1, 526-146 Introduction to Cross-Sectional Anatomy Sonography***

526-134 DMS Clinical II 2 Credits
The second clinical course for the Diagnostic Medical Sonography Program builds on the knowledge and skills acquired during the first clinical course. Students continue to perform basic sonographic examinations of the abdomen, pelvis, and OB/GYN structures under the direct supervision of a registered sonographer, and begin to perform examinations with increased independence. ***Pre-requisites: 526-130 Introduction to Diagnostic Medical Sonography, 526-131 DMS General Procedures 1, 526-132 DMS Clinical 1, 526-146 Introduction to Cross-Sectional Anatomy Sonography***

526-135 DMS General Procedures III 3 Credits
This course prepares Diagnostic Medical Sonography Students to perform ultrasound evaluations of the adrenals, male pelvis,

gastrointestinal tract, anterior abdominal wall, musculoskeletal system, thyroid, breast, scrotum and the gravid uterus. The abdominal portion of this course will cover the anatomy, physiology, pathology, pathophysiology, and the sonographic appearance of the adrenals, male pelvis, GI tract, anterior abdominal wall and musculoskeletal ultrasound. The small parts portion will discuss the anatomy, physiology, pathology and pathophysiology of the thyroid, breast and scrotum as visualized on ultrasound. The diagnostic medical sonography student will be familiarized with the scanning protocols and normal and abnormal sonographic findings. The obstetrical portion will cover fetal anomalies as visualized on ultrasound during the first trimester, second trimester, and third trimester. This course will cover abnormal fetal development to include discussion of pathology, pathophysiology and teratogens.

The laboratory portion of this course permits the student to simulate ultrasound examinations of anatomical structures for the purposes of identification of structures and pathology, and to reinforce scanning technique in preparation for performing these examinations in the clinical setting. ***Pre-requisites: 526-133 DMS General Procedures II, 526-134 DMS Clinical II, 526-136 DMS Physics 1, 526-156 Pathophysiology***

526-136 DMS Physics I **3 Credits**
This course explores the principles of general wave physics as they apply to the application of Diagnostic Medical Sonography. The student will learn the physical factors that make the production necessary for the performance of diagnostic sonographic examinations. Biological effects of ultrasound energy are also explored. ***Pre-requisites: 526-130 Introduction to Diagnostic Medical Sonography, 526-131 DMS General Procedures 1, 526-132 DMS Clinical 1, 526-146 Introduction to Cross-Sectional Anatomy Sonography***

526-137 DMS Clinical III **1 Credit**
In the third clinical education course for the Diagnostic Medical Sonography Program, students continue the process of performing routine examinations of the abdomen, pelvis, small parts, and OB/GYN structures more independently, continuing the process of attaining clinical competency in these various procedures. ***Pre-requisites: 526-133 DMS General Procedures II, 526-134 DMS Clinical II, 526-136 DMS Physics 1, 526-156 Pathophysiology***

526-138 DMS General Procedures IV **4 Credits**
This final general DMS procedures course permits the student to attain mastery of all sonographic anatomy, physiology, and pathophysiology of all anatomical parts and systems of the abdomen, small parts, and OB/GYN systems. This course will also focus on completing the process of sonographic visualization of all identified anatomical parts and systems with respect to correct anatomical presentation as well as the appearance of pathological processes.

The laboratory portion of this course permits the student to attain mastery of the scanning techniques of all ultrasound examinations of anatomical structures and associated with the abdomen, small parts, and OB/GYN systems. ***Pre-requisites: 526-135 DMS General Procedures III, 526-137 DMS Clinical III***

526-139 DMS Physics II: Instrumentation **2 Credits**
This course provides the student information on the equipment used to perform examinations and produce images using Diagnostic Medical Sonography. Topics include transducer construction and operation, components of the ultrasound machine, display modes, image recording systems, quality assurance procedures, and an introduction to Doppler scanning. ***Pre-requisites:526-135 DMS General Procedures III, 526-137 DMS Clinical III***

526-140 DMS Clinical IV **2 Credits**
In the fourth clinical education course for the Diagnostic Medical Sonography Program, students work towards attaining mastery of all ultrasound procedures of the abdomen and pelvis, small parts, and OB/GYN structures by performing these examinations with increased independence. ***Pre-requisites: 526-135 DMS General Procedures III, 526-137 DMS Clinical III***

526-141 DMS Vascular Procedures I **4 Credits**
This course introduces the Diagnostic Medical Sonography student to the principles of vascular sonographic imaging. Topics include vascular physics and terminology, arterial, venous, and cerebrovascular applications of ultrasound, and normal, abnormal and pathologic sonographic presentation of vascular anatomy.

The laboratory portion of this course permits the student to simulate ultrasound examinations of anatomical structures for the purposes of identification of structures and pathology, and to reinforce scanning technique in preparation for performing these examinations in the clinical setting. ***Pre-requisites: 526-138 DMS General Procedures IV, 526-139 DMS Physics II: Instrumentation, 526-140 DMS Clinical IV***

526-142 DMS Clinical V **2 Credits**
In the fifth clinical education course for the Diagnostic Medical Sonography Program, students continue the process of performing routine examinations of the abdomen and pelvis, small parts, and OB/GYN structures. Students also begin the process of observing and performing examinations of the peripheral vascular system under the direct supervision of a registered sonographer. ***Pre-requisites: 526-138 DMS General Procedures IV, 526-139 DMS Physics II: Instrumentation, 526-140 DMS Clinical IV***

526-143 DMS Vascular Procedures II **3 Credits**
This is the second course designed to prepare the Diagnostic Medical Sonography student to perform ultrasonic evaluation of vascular sonographic structures. Topics include vascular anatomy, physiology, and terminology related to imaging of arterial, venous, and cerebrovascular structures.

The laboratory portion of this course permits the student continued and advanced opportunity to simulate ultrasound examinations of anatomical structures for the purposes of identification of structures and pathology, and to reinforce scanning technique in preparation for performing these examinations in the clinical setting. ***Pre-requisites: 526-141 DMS Vascular Procedures I, 526-142 DMS Clinical V***

526-144 DMS Clinical VI **1 Credit**
In this final clinical education course for the Diagnostic Medical Sonography Program, the student completes the process of becoming competent in all general and abdominal, small parts,

OB/GYN, and vascular sonographic procedures, and can perform all examinations required for graduation independently. ***Pre-requisites: 526-141 DMS Vascular Procedures I***, ***526-142 DMS Clinical V***

526-145 DMS Registry Review 3 Credits
This course is a review of all program curricula, preparing the student to successfully sit for the certification examinations in Diagnostic Medical Sonography prepared by the American Registry of Diagnostic Medical Sonographers (ARDMS,) or the examination in Ultrasound prepared by the American Registry of Radiologic Technologists (ARRT). Various methods of preparation, including the use of mock examinations will be utilized. ***Pre-requisites: 526-141 DMS Vascular Procedures I***, ***526-142 DMS Clinical V***

526-146 Introduction to Cross-Sectional Anatomy Sonography 2 Credits
This course challenges students who have an interest in sonography to apply their current knowledge of human anatomy and to reference the cross sectional world of imaging to that of ultrasound imaging. Students will learn to visualize anatomical structures in sonographic images as well as other imaging modalities such as computed tomography (CT scan) and magnetic resonance imaging (MRI). Anatomical structures will be studied in axial, sagittal, and coronal body planes. This course is designed to enhance the sonographer's scanning abilities in an attempt to reinforce knowledge of human anatomy. ***Pre-requisite: Admission to the Sonography Program***

526-156 Pathophysiology 3 Credits
The major emphasis of this course will be on the physiological factors that underlie diseases states. The study of the basic mechanisms of diseases commonly seen in primary care as well as disease processes that mimic more common disorders will be discussed. Pediatric, adult and geriatric age groups covered. ***Pre-requisites: 526-130 Introduction to Diagnostic Medical Sonography, 526-131 DMS General Procedures 1, 526-132 DMS Clinical 1, 526-146 Introduction to Cross-Sectional Anatomy Sonography***

Diesel and Heavy Equipment Technician

The Diesel and Heavy Equipment Technician program prepares students to service and repair diesel trucks, and diesel-powered agricultural and industrial equipment. In addition to providing a foundation in the latest diesel technologies, the program improves skills needed to interpret technical manuals and communicate with co-workers and customers. Students in the program develop a broad base of skills, allowing them to enter the large and ever-expanding field of diesel and heavy equipment service and repair.

Program Outcomes
Upon completion of this program, you will be able to:

- Demonstrate professionalism appropriate for the diesel and heavy equipment service industries.
- Perform preventive maintenance inspections on diesel and heavy equipment systems.
- Perform diagnosis, service and repair of diesel engines.
- Perform diagnosis, service and repair of diesel and heavy equipment steering and suspension systems.
- Perform diagnosis, service and repair of diesel and heavy equipment brake systems.
- Perform diagnosis, service and repair of diesel equipment and electrical/electronic systems.
- Perform diagnosis, service and repair of gasoline engines.
- Perform diagnosis, service and repair of diesel and heavy equipment drive train systems.
- Perform diagnosis, service and repair of diesel and heavy equipment heating and air conditioning systems.

Graduates from this program have found employment as:

- Diesel Mechanic
- Diesel Mechanic Apprentice
- Engine Maintenance Mechanic
- Farm Equipment Mechanic
- Service Engine Repairer
- Tune-up Mechanic
- Industrial and Construction Equipment Mechanic
- Truck Mechanic

835-104 – Student Success
Students should take this course prior to or during their first semester of their program. This is an institutional requirement for all students

	Course Name	Credits	Lec-Lab
Semester 1			
070-321	Heating, Cooling and Air Condit.	3	2-3
070-345	Service Policy and Procedure	1	3-0
412-310	Brake Service	4	3-4
412-347	Inspection and Maint. Procedures	4	4-3
412-349	Equipment Welding	2	1-2
Semester 2			
070-341	Electrical Systems	4	4-3
412-304	Diesel Fuel Systems	4	4-3
412-342	Elec. Systems Troubleshooting	4	4-3
804-304	Math Fundamentals	2	3-0
Semester 3			
070-318	Drive Train Service	4	3-4
070-343	Hydraulic Systems	3	2-3
412-311	Steering and Suspension	4	3-4
412-358	Truck Alignment	2	1-2

Semester 4

070-308	Engine Fundamentals	3	2-3
412-351	Diesel Engine Service – Heads	4	3-4
412-352	Diesel Engine Service – Blocks	3	2-3
801-311	Communication	2	3-0
809-3352	Skills for Successful Employees	2	3-0
	TOTAL CREDITS	**55**	

COURSE DESCRIPTIONS

070-308 Engine Fundamentals 3 Credits

Theory and operation of small engines. Emphasis is placed on measurements and troubleshooting of two and four cycle engines along with overhaul procedures.

070-318 Drive Train Service 4 Credits

This course introduces the student to standard hydrostatic and power transmissions and systems. Maintenance and repair of automatic and standard transmissions, drive shafts, UB joints, constant velocity joints, differential equalizers, and differential assemblies are emphasized.

070-321 Heating, Cooling and Air Conditioning 2 Credits

Theory, operation and troubleshooting of heating, cooling and air conditioning systems are covered in this course. Students perform diagnostic tests and maintenance on each system. Upon successful completion of the course, students will take the state and federal air conditioning certification tests.

070-341 Electrical Systems 4 Credits

Theory, operation, functions and design of electrical systems. Starting, charging, accessory circuits, electrical troubleshooting, schematics, and wiring diagrams are covered.

070-343 Hydraulic Systems 3 Credits

This course is designed to give the student a working knowledge of hydraulics and pneumatics. Testing, servicing, adjusting and repairing hydraulic actuators and hydraulic systems of tractors, trucks and equipment are emphasized. Included are power steering systems, hydrostatic and power shift transmissions and systems appropriate to a wide range of implements.

070-345 Service Policy and Procedure 1 Credit

Students learn to recognize correct shop safety practices and to identify, select, and use shop tools and diagnostic equipment properly. Record keeping, use of service manuals, and an understanding of state and federal motor vehicle safety inspections are emphasized.

412-304 Diesel Fuel Systems 4 Credits

This course begins with a review of basic diesel principles and design. Students then begin a comprehensive study of fuel injection systems, pumps, and injectors. Emphasis is placed on operation and troubleshooting of electronic fuel and computer control systems.

412-310 Brake Service 4 Credits

This course covers air, hydraulic, and manual brake applications; including maintenance, servicing, repair, troubleshooting, and wheel bearing replacement and adjustment. Operation and diagnosis of antilock brake systems (ABS) are also included.

412-311 Steering and Suspension 4 Credits

Study will include the maintenance and repair of the following areas: solid, leaf spring, coil spring, rubber, air and torsion bar suspension systems, manual and power steering, frames, ball joints, control arms and drag links.

412-342 Electrical Systems Troubleshooting 4 Credits

Electronic application, testing, test results and their interpretation, reading voltmeters, systems analysis, printed circuits, troubleshooting and the use of specialized tools are highlighted. The overall purpose of this course is to develop troubleshooting skills.

412-347 Inspection and Maintenance Procedures 4 Credits

Students perform state and federal motor vehicle safety inspections, along with preventative maintenance services. Emphasis is placed on component identification and inspection along with proper maintenance procedures per all applicable standards.

412-349 Equipment Welding 2 Credits

This course is designed to orient the student with the field of metals. The course provides students with basic experiences in the fields of welding and cutting. Topics covered include Shielded Metal Arc Welding (SMAW), Oxy-Fuel Cutting (OFC), and Gas Tungsten Arc Welding (GTAW).

412-351 Diesel Engine Service - Heads 4 Credits

This course provides the student with both a theoretical and practical background in the basic operating principles of diesel engine heads. Students gain practical experience in rebuilding, testing, and troubleshooting. Students disassemble a diesel engine heads, inspect parts, explain the function of each part and system, reassemble, run engines, and learn maintenance procedures.

412-352 Diesel Engine Service - Blocks 3 Credits

This course provides the student with both a theoretical and practical background in the basic operating principles of diesel engine blocks. Students gain practical experience in rebuilding, testing, and troubleshooting. Students disassemble a diesel engine blocks, inspect parts, explain the function of each part and system and reassemble.

412-358 Truck Alignment 2 Credits

Students learn alignment measurements and angles in this course. Emphasis is placed on troubleshooting steering and tire wear concerns. Students perform a truck alignment, making all corrective adjustments.

General Education Course Requirements:

801-311	Communication	2 Credits
804-304	Math Fundamentals	2 Credits
809-352	Skills for Successful Employees	2 Credits

Early Childhood Education

Early Childhood Education is a career option that has increased in demand! This expanding field is seeking potential students with keen observation skills, a talent for human insight, clear communication skills, and respect for children and families.

Program Outcomes:

At Blackhawk Technical College, you will develop the skills needed to address the creative challenges you will face in working with young children:

ECE 1. Apply child development theory to practice.

ECE 2. Cultivate relationships with children, family, and the community.

ECE 3. Assess child growth and development.

ECE 4. Use best practices in teaching and learning.

ECE 5. Demonstrate professionalism.

ECE 6. Integrate health, safety, and nutrition practices.

Early Childhood Associate Degree graduates will meet the state educational requirements to be a Child Care Teacher in a licensed group early childhood center for children ages 2 weeks to 10 years old.

Career Outlook

As an early childhood professional, you will enjoy a growing field of opportunity that puts you in touch with the challenge and delight of a child's world.

A wide variety of employment choices awaits you:

- Nannies
- Nursery Schools
- Day Care Centers
- Head Start Classrooms
- Infant Toddler Center
- Before and After School Child Care Centers
- Instructional Services Aide in public schools
- Early Childhood Centers Administration positions

Physical information needs to be completed before the start of school. Practicum students must meet DCF requirements for information disclosure records and background record checks.

835-104 – Student Success
Students should take this course prior to or during their first semester of their program. This is an institutional requirement for all students

	Course Name	Credits	Lec-Lab
Quarter 1			
Quarter 1			
307-148	ECE: Foundation of Early Childhood Education	3	3 - 0
307-151	ECE: Infant Toddler Development	3	3 - 0
307-167	ECE: Health, Safety and Nutrition	3	3 - 0
307-166	ECE: Curriculum Planning	3	3 - 0
307-179	ECE: Child Development	3	3 - 0
801-195	Written Communication	3	3 - 0
835-104	Student Success	1	1 - 0
Quarter 2			
307– 87	ECE: Children With Differing Abilities	3	3 - 0
307-188	ECE: Guiding Children's Behaviors	3	3 - 0
307-195	ECE: Family and Community Relation	3	3 - 0
809-198	Race, Ethnic, andDiversity	3	3 - 0
809-198	Introduction to Psychology **OR**		
809-159	Abnormal Psycholoty **OR**		
809-188	Developmental Psychology	3	3 - 0
801-198	Speech **OR**		
801-196	Oral/Interpersonal Communication	3	3 - 0
Quarter 3			
307-174	ECE: Practicum I	3	1 - 6
307-192	ECE: Practicum II	3	1 - 6
307-178	ECE: Art, Music and Language Arts	3	2 - 2
804-106	Introduction to College Matth	3	3 - 0
809-166	Intro to Ethics, Theory and App **OR**	3	3 - 0
	General Education	3	3 - 0
Quarter 4			
307-197	ECE: Practicum III	3	1 - 6
307-194	ECE: Math, Science and Social Studies	3	2 - 2
307-199	ECE: Practicum IV	3	1 - 6
307-198	ECE: Administering An Early Childhood Education	3	3 - 0
	General Education	3	3 - 0
Quarter 5	***(Summer or Fall)***		
	Elective	3	3 - 0
	TOTAL CREDITS	**70**	

- Program can be successfully completed in 1-1/2 to 2 or 3 years.
- + Class taught in accelerated learning (8 weeks).
- Contact program Lead Instructor or Program Advisor for information on credit given for work experience and previous class work.
- A minimum grade of "C-" or better is required in all program classes for Placement in Practicum Centers.
- **It is STRONGLY recommended that students attend a**

Student Orientation before registering.

- Practicum courses are required to be taken the year of graduation.
- Practicum students must meet DCF requirements for information disclosure records and background record checks.
- Students must obtain a physical exam with immunization record before the start of practicum.

COURSE DESCRIPTIONS

10-307-148 ECE: Foundations of Early Childhood Education **3 Credits**

This 3-credit course introduces you to the early childhood profession. Course competencies include: integrate of strategies that support diversity and anti-bias perspectives; investigate the history of early childhood education; summarize types of early childhood education settings; identify the components of a quality early childhood education program; summarize responsibilities of early childhood education professionals; explore early childhood curriculum models, and analyze the principles of the WI Model Early Learning Standards.

10-307-151ECE: Infant and Toddler Development **3 Credits**
In this 3-credit course you will study infant and toddler development as it applies to an early childhood education setting. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; analyze development of infants and toddlers (conception to three years); correlate prenatal conditions with development; summarize child development theories; analyze the role of heredity and the environment; examine culturally and developmentally appropriate environments for infants and toddlers, examine the role of brain development in early learning (conception through age three); examine caregiving routines as curriculum.

10-307-166 ECE: Curriculum Planning **3 Credits**
This 3-credit course examines the components of curriculum planning in early childhood education. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; examine the critical role of play; establish a developmentally appropriate environment; integrate Developmentally Appropriate Practice (DAP) into curriculum; develop activity plans that promote child development and learning; develop curriculum plans that promote child development and learning across all content areas; analyze early childhood curriculum models.

10-307-167 ECE: Health, Safety and Nutrition **3 Credits**
This 3-credit course examines the topics of health, safety, and nutrition within the context of the early childhood educational setting. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; follow governmental regulations and professional standards as they apply to health, safety, and nutrition; provide a safe early childhood program; provide a healthy early childhood program; provide a nutritionally sound early childhood program; adhere to child abuse and neglect mandates; apply Sudden Infant Death Syndrome (SIDS) risk reduction strategies; incorporate health, safety, and nutrition concepts into the children's curriculum.

10-307-174 ECE: Practicum 1 **3 Credits**
In this 3-credit practicum course you will learn about and apply the course competencies in an actual child care setting. The course competencies include: document children's behavior; explore the standards for quality early childhood education; explore strategies that support diversity and anti-bias perspectives; implement activities developed by the co-op teacher/instructor; demonstrate professional behaviors; practice caregiving routines as curriculum; practice positive interpersonal skills with children and adults; analyze the guiding principles and the five developmental domains related to the WI Early Learning Standards; integrate the WI Early Learning Standards into the program's teaching cycle (ongoing assessment, planning and curriculum goals, and implementation); evaluate learning and assessment activities using the early learning standards for each individual child.

10-307-178 ECE: Art, Music, and Language Arts **3 Credits**
This 3-credit course will focus on beginning level curriculum development in the specific content areas of art, music, and language arts. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; examine the critical role of play; establish a developmentally appropriate environment for art, music, and language arts; develop activity plans that promote child development and learning; analyze care giving routines as curriculum; create developmentally appropriate language, literature, and literacy activities; create developmentally appropriate art activities; create developmentally appropriate music and movement activities.

10-307-179 ECE: Child Development **3 Credits**
The 3-credit course examines child development within the context of the early childhood education setting. Course competencies include: analyze social, cultural, and economic influences on child development; summarize child development theories; analyze development of children age three through age eight; summarize the methods and designs of child development research; analyze the role of heredity and the environment; examine the role of brain development in early learning (ages 3-8). ***Pre-requisite: 10-307-151 ECE: Infant and Toddler Development***

10-307-187 ECE: Children with Differing Abilities **3 Credits**
This 3-credit courses focuses on the child with differing abilities in an early childhood education setting. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; provide inclusive programs for young children; apply legal and ethical requirements including, but not limited to, ADA and IDEA; work collaboratively through the consultation process to embed intervention in natural based settings; differentiate between typical and exceptional development; analyze the differing abilities of children with physical, cognitive, health/medical, communication, and/or behavioral/emotional disorders; work collaboratively with community and professional resources; utilize an individual educational plan (IEP/IFSP) for children with developmental differences; adapt curriculum to meet the needs of children with developmental differences; cultivate partnerships with families who have children with developmental

differences.

10-307-188 ECE: Guiding Children's Behavior 3 Credits
This 3-credit course examines positive strategies to guide children's behavior in the early childhood education setting. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; summarize early childhood guidance principles; analyze factors that affect the behavior of children; practice positive guidance strategies; develop guidance strategies to meet individual needs; create a guidance philosophy.

10-307-192 ECE: Practicum 2 3 Credits
In this 3-credit course you will learn about and apply the course competencies in an actual child care setting. The course competencies include: identify children's growth and development; maintain the standards for quality early childhood education; practice strategies that support diversity and anti-bias perspectives; implement student teacher-developed activity plans; identify the elements of a developmentally appropriate environment; implement positive guidance strategies; demonstrate professional behaviors; utilize caregiving routines as curriculum; utilize positive interpersonal skills with children; utilize positive interpersonal skills with adults. ***Pre-requisite: 10-307-174, ECE: Practicum 1***

10-307-194 ECE: Math, Science and Social Studies 3 Credits
This 3-credit course will focus on beginning level curriculum development in the specific content areas of math, science and social studies. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; examine the critical role of play; establish a developmentally appropriate environment for math, science, and social studies; develop activity plans that promote child development and learning; create developmentally appropriate science activities; create developmentally appropriate math activities; create developmentally appropriate social studies activities

10-307-195 ECE: Family and Community Relationships 3 Credits
In this 3-credit course you will examine the role of relationships with family and community in early childhood education. Course competencies include: implement strategies that support diversity and anti-bias perspectives when working with families and community; analyze contemporary family patterns, trends, and relationships; utilize effective communication strategies; establish ongoing relationships with families; advocate for children and families; work collaboratively with community resources.

10-307-197 ECE: Practicum 3 3 Credits
In this 3-credit practicum course you will learn about and apply the course competencies in an actual child care setting. The course competencies include: assess children's growth and development; implement the standards for quality early childhood education; integrate strategies that support diversity and anti-bias perspectives; build meaningful curriculum; provide a developmentally appropriate environment; facilitate positive guidance strategies; evaluate one's own professional behaviors and practices; lead caregiving routines as curriculum; utilize positive interpersonal skills with children; utilize positive interpersonal skills with adults. ***Pre-requisite: 10-307-192, ECE: Practicum II***

10-307-198 ECE: Administering and Early Childhood Education Program 3 Credits
This 3-credit course focuses on the administration of an early childhood education program. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; analyze the components of an ECE facility; design an ECE program; analyze the aspects of personnel supervision; outline financial components of an ECE program; apply laws and regulations related to an ECE facility; advocate for the early childhood profession.

10-307-199 ECE: Practicum 4 3 Credits
In this 3-credit practicum course you will learn about and apply the course competencies in an actual child care setting. Course competencies include: analyze children's growth and development based on assessment; integrate strategies that support diversity and anti-bias perspectives; promote professional behaviors and practices; implement meaningful curriculum; create respectful, reciprocal relationships; evaluate early childhood education programs for quality; explore professional options in early childhood education. ***Pre-requisite: 10-307-197, ECE: Practicum III***

Electric Power Distribution

Vast networks of wires and cables transmit the electric power produced in generating plants to individual customers, connect telephone central offices to customer's telephones and switchboards, and extend cable TV to residential and commercial customers. These networks are constructed and maintained by line installers and cable splicers. To install new electric power or telephone lines, line installers or line erectors install poles and terminals, erect towers, and place wires and cables. Power equipment is typically used to dig holes and set poles. Line installers climb the poles or use truck-mounted buckets (aerial work platforms) and use hand tools to attach the cables. When working with electric power lines, installers bolt or clamp insulators onto the pole before attaching the cable. They may also install transformers, circuit breakers, switches, or other equipment. To bury underground cable, they use trenchers, plows, and other power equipment.

The Electric Power Distribution program prepares a student to advance to an electric line technician apprenticeship and related occupations. Students learn how to properly climb poles and install line hardware and equipment. Safety policies and procedures will be taught and strictly adhered to. Students will learn motor vehicle operation and maintenance, attain a working knowledge of ropes and rigging, proper application of rubber protective equipment and use of hot sticks. Students will also study and apply mapping and laying out lines for construction. Students will set poles at proper depth, install guys and anchors of the required strength to hold various lines.

AC and DC current will be taught along with Introduction to Fundamentals of Electricity.

Program Outcomes

Upon completion of this program, you will be able to:

- Perform installation, maintenance and repair operations in compliance with published safety standards
- Acquire appropriate resources to perform necessary procedures and/or troubleshoot sequence
- Operate tools and test equipment according to the process published in equipment manuals and/or demonstrated in class
- Install poles and related equipment using proper specifications and accepted procedures
- Install underground lines and related equipment using industry accepted methods and practices.
- Recognize faulty or damaged equipment and repair or replace
- Document investment and retirement work orders, record equipment nameplate information and fill out daily time sheets.

Graduates from this program have found employment as:

- Electric Utility Lineman
- Telephone Repairman
- Cable TV Installer

Career Outlook

Technological advances will result in divergent trends within this occupation. Job prospects will be best for electrical line workers employed by electric utilities and construction firms because the impact of technology is expected to be less for telephone line workers.

835-104 – Student Success
Students should take this course prior to or during their first semester of their program. This is an institutional requirement for all students

Course Name	Credits	Lec-Lab	
Semester 1			
413-310	Electric Power Distribution 1A[1]	5	3 - 7
413-315	Electric Power Distribution 1B[1]	5	3 - 7
413-303	Ind. Electricity for Line Technicians[1]	2	1 - 2
413-304	Safety Procedures I-Line Technicians	1	1 - 1
804-304	Math Fundamentals	2	3 - 0
Semester 2			
413-320	Electric Power Distribution 2A[1]	5	3 - 7
413-325	Electric Power Distribution 2B[1]	5	3 - 7
413-305	Safety Procedures II-Line Technicians	1	1 - 1
801-311	Communication	2	3 - 0
806-315	Applied Science	2	3 - 0
	TOTAL CREDITS	**30**	

[1]Course has Co-requisite

COURSE DESCRIPTIONS

413-303 Industrial Electricity for line Technicians 2 Credits
This course, an introduction to industrial electricity, covers such topics as principles of electricity, switching devices, magnetism and electromagnetism. Maintenance and repair of electrical equipment is discussed as it applies to electric utility situations in industry. ***Co-requisite: 413-310 Electric Power Distribution 1A and 413-315 Electric Power Distribution 1B***

413-304 Safety Procedures 1 – Line Technicians 1 Credit
This course concentrates on personal overhead and underground line safety. The main emphasis will be on safety rules and procedures and their practical application in hands-on situations.

413-305 Safety Procedures II – Line Technicians 1 Credit
This course continues and expands on Safety Procedures 1. Additional subjects covered are a line technician's responsibility in protecting work areas and the public in everyday work and emergency situations.

413-310 Electric Power Distribution 1A 5 Credits
This course introduces basic electrical theory including AC and DC circuits. The different types of power distribution systems such as direct current, single phase and polyphase are studied. Special skills related to power distribution such as pole installation, climbing, safety, ropes and rigging, chainsaw repair and operation, structural design and installation will be covered during the laboratory sessions at the pole field. ***Co-requisite: 413-315 Electric Power Distribution 1B***

413-315 Electro Power Distribution 1B 5 Credits
This course provides a variety of hands-on experiences with electric apparatus to increase proficiency in construction and maintenance of power distribution. Types of switching procedures, underground systems, and the use of hot sticks are covered. ***Co-requisite: 413-310, Electric Power Distribution 1A***

413-320 Electric Power Distribution 2A 5 Credits
This course introduces the theory of three-phase electrical power systems, including wye and delta systems. Students will study single and three phase transformer; construction, principles of operation, connections as well as secondary power supply systems. Skills in electrical system grounding principles and over voltage equipment will be developed. Safety topics related to electrical line work will be highlighted. ***Co-requisite: 413-325 Electric Power Distribution 2B***

413-325 Electric Power Distribution 2B 5 Credits
This course introduces electrical power line machinery such as: over current equipment, voltage regulators and kilowatt hour meters. Components and functions of an electrical substation, underground distribution systems, street lighting equipment, along with the sources of communication interference from electrical sources will be studied. Safety related topics are also included. ***Co-requisite: 413-320 Electric Power Distribution 2A***

General Education Course Requirements:

801-311	Communication	2 Credits
804-304	Math Fundamentals	2 Credits
806-315	Applied Science	2 Credits

Electro-Mechanical Technology

(Automated Systems Technology)

The study of Automated Systems will give graduates the ability and skills to work with today's computer integrated systems and robotics. The student will acquire knowledge and the ability to build and service equipment that is in high demand. The student will learn problem-solving skills to build and repair equipment.

The demand for automated systems technicians is high and many area companies are hiring technicians to design, construct, and support their computer systems. Graduates from this program fill positions in companies that use computer-driven control systems and mechanisms. This program emphasizes programming, design, updating, servicing, and operation of automated equipment and robotics systems. The technician is involved with many stages and aspects of an automation system.

Program Outcomes

Upon completion of this program, you will be able to:

- Integrate safety protocol
- Locate and interpret specifications, processes, schematics and procedures
- Operate power and hand tools and standard test equipment
- Remove and replace system and component parts correctly
- Repair defective components or systems
- Diagnose the operation condition of components or systems
- Service systems and components
- Modify systems and components
- Complete and maintain appropriate documentation for systems and processes

Graduates from this program have found employment as:

- Automation Engineering Technician
- Medical Electronics Technician
- Pharmaceutical Process Technician
- Electronics Process Technician
- Robotics Technician
- Programmable Controller Program/Technician
- Vision Systems Specialist
- Field Service Technician
- Electronic Service Technician
- Maintenance Service Technician
- Network Technician
- Fluid Power Technician
- Machine Repair Technician
- CNC Service Technician

Career Outlook

There is rapid growth and a huge demand for qualified technicians in this area of study.

835-104 – Student Success
Students should take this course prior to or during their first semester of their program. This is an institutional requirement for all students

	Course Name	Credits	Lec-Lab
Semester 1			
605-102	Fundamentals of DC Circuits[2]	3	1 - 4
620-100	Hydraulics	3	1 - 4
620-105	Pneumatics[2]	2	1 - 2
620-110	Introduction to PLC's[2]	4	2 - 4
804-113	College Technical Mathematics	3	3 - 0
890-125	Student Success	1	1 - 0
Semester 2			
605-104	Fundamentals of AC Circuits[1]	3	1 - 4
605-106	Analog Circuits[1, 2]	3	1 - 4
620-115	Computer and Robotic Programming[1]	4	2 - 4
801-195	Written Communication	3	3 - 0
809-198	Introduction to Psychology	3	3 - 0
Semester 3			
620-120	Motors and Drive Systems[1, 2]	2	1 - 2
620-125	Servos and Process Controls[1, 2]	2	1 - 2
620-130	Automated Cell Design and Planning[1]	2	1 - 2
620-135	Power Devices[1]	3	1 - 4
620-140	Robotic Systems[1]	3	1 - 4
806-154	General Physics 1	4	3 - 2
Semester 4			
620-145	Programmable Controllers and HIM Devices[1]	4	2 - 4
620-150	Interfacing Robotic Devices[1, 2]	4	2 - 4
620-155	Automated Robotic Cells[1, 2]	4	2 - 4
801-197	Technical Reporting[1]	3	3 - 0
809-172	Race, Ethnic and Diversity Studies		
	OR		
809-196	Introduction to Sociology	3	3 - 0
	TOTAL CREDITS	**67**	

[1]Course has Pre-requisites

[2]Course has Co-requisites

COURSE DESCRIPTIONS

605-102 Fundamentals of DC Circuits 3 Credits
This course is a study of the basic concepts, laws elements, and ideas that support the study of DC circuits. The student will advance from simple circuits to circuits that are more complex. This course employs laboratory work to reinforce material. To help students learn, multiple delivery instructions are employed. Topics covered include Ohms Law, series and parallel circuits, circuit theorems and circuit analysis.

Co-requisite: College Technical Mathematics 1A

605-104 Fundamentals of AC Circuits 3 Credits
Students study basic theories, concepts, elements, and principles of AC circuits. Students advance from simple circuits to circuits that are more complex. Topics include: reactance, impedance, resonance, inductors, capacitors and combination circuit analysis. A combination of lecture, multiple delivery modes and laboratory work are utilized.

Pre-requisite: 605-102 Fundamentals of DC Circuits and College Technical Mathematics 1A

Co-requisite: College Technical Mathematics 1B

605-106 Analog Circuits 3 Credits
This course provides the student with the concepts and fundamental circuit design material to create several types of analog circuits. This course also explores the principles and concepts needed for solid-state devices to operate correctly. Course study includes: the use of solid-state devices such as diodes, transistors field-effect devices, and op-amps. Areas covered include: amplification, comparing, summing, wave shaping, regulating, and oscillation circuits. Analog to digital conversion and several types of integrated circuits are investigated and applied. Characteristics and application of each device type is verified in laboratory experiments.

Pre-requisite: Fundamentals of DC Circuits
Co-requisite: 605-104 Fundamentals of AC Circuits

620-100 Hydraulics 3 Credits
This course introduces the fundamental principles in the operation of fluid power, and how it is used in the transmission of power through various hydraulic components. This class will examine the components of a hydraulic system. Components studied include: cylinders, motor types, pumping systems, petroleum fluids, filters, directional and control valves. This course includes the analysis of several hydraulic circuits. Laboratory activities are designed and performed to verify these theories.

620-105 Pneumatics 2 Credits
This course uses fundamental principles of compressed gasses that operate and power industrial equipment. Principles are applied in transmission of power through the various components such as cylinders, motors, compressors, distribution systems and valves. It also includes the analysis of pneumatic circuits.

Co-requisite: 605-102 Fundamentals of DC Circuits

620-110 Introduction to PLC's 4 Credits
This course provides the student with basic understanding of the principles and concepts involving logic circuits. Concepts to be studied include: waveforms, number systems, gates and concepts of microprocessor interfacing. Laboratory experiments use Programmable Logic Controllers (PLC) to cover multiple digital circuit concepts. Introduction to ladder logic and block instructions are explored. In addition, the use of registers, counters, timers and other instructions are applied and utilized in lecture and laboratory. Verification of the theory is accomplished through laboratory experiments. Emphasis will be placed on trouble-shooting techniques used in servicing PLC's.

Co-requisite: 605-102 Fundamentals of DC Circuits

620-115 Computer and Robotic Programming 4 Credits
This course is primarily for students with little or no programming background. The course includes the fundamentals of computer operations. Students will be exposed to programming and logic principles that apply to industrial programming applications. The programming language will be employed to program microprocessors and robotic controls. The language and instruction sets will be studied and used to control devices with a special emphasis on industrial applications. The course includes hands-on laboratory sessions.

Pre-requisite: 620-110 Introduction to PLC's

620-120 Motors and Drive Systems 2 Credits
This course covers principles for DC motors, AC motors, the drives and variable frequency drives (VFDs). Students will learn about motor types and drives in relationship with the appropriate application within industry. Also covered are electrical protective devices controls, single phase and three-phase power systems, and EMI. The student learns to design, install, and troubleshoot motor controls. Students learn more about electrical and electronic schematic diagrams to better understand the operation of drive control systems.

Pre-requisites: 605-106 Analog Circuits
Co-requisite: 620-135 Power Devices

620-125 Servos and Process Controls 2 Credits
Servomechanisms are used in various automated systems. Students will study principles and theories of servomechanisms and apply them in the laboratory. Process controls and instrumentation are applied to control loops systems in the laboratory. Electrical and electronic diagrams are studied to understand control loop systems. Some experiments are conducted on: hydraulic servo controls systems, DC motors, AC motors, stepper motors, and other controls systems.

Pre-requisite: 605-106 Analog Circuits
Co-requisite: 620-135 Power Devices

620-130 Automated Cell Design and Planning 2 Credits
The student learns the parameters and scope under which a project must function and be constructed. Based on these parameters, the student will design, plan and learn the steps of execution in building an automated robotic cell. Students will learn planning and the use of control tools such as: work breakdown schedule (WBS) and Gantt charts. These tools assist

the student in the design, plan, and execution of their work cell. These tools also assist the student in keeping their project on schedule and on budget.

Pre-requisite: Computer and Robotic Programming

620-135 Power Devices **3 Credits**

This course is an essential study of the various types of power handling solid-state devices found in automation and other electronic equipment. The devices include SCR's, DIAC's and TRIAC's. Regulated and unregulated design power supplies are covered, which include analog and switching types. This course will introduce the student to the design of circuits using power handling devices and the ratings for these types of components. Students will learn to read and interpret schematics used in the electronics industry. This course teaches the study of electronic machine elements, which includes electrical, and electronics drawings and the associated symbols.

Pre-requisite: 605-106 Analog Circuits

620-140 Robotic Systems **3 Credits**

The basics of robotics are introduced. This includes terminology, types, configurations, specifications and application characteristics of robots. Mechanical drive systems, along with control systems for automation, are studied. The student learns the basic parts of the robot and will operate these systems in laboratory exercises.

Pre-requisites: 620-100 Hydraulics, 620-105 Pneumatics, 620-115 Computer and Robotic Programming

620-145 Programmable Controllers and HIM Devices **4 Credits**

The student will study system components and devices that make up a programmable or microprocessor system. Various applications and operations used for digital and process controls in industry will be studied. Further use of programming is expanded to include ladder logic, function flow control, and block instructions. Networking and interfacing to other computer systems and remote inputs and outputs modules are studied and applied. Human Interfacing Modules (HIM's) are studied and programmed. HIM's are setup to connect with the network or PLC's. Diagnostic troubleshooting of PLC's and HIM's is applied to real world control systems.

***Pre-requisite: 620-110 Introduction to PLC's and* 620-115 Computer and Robotic Programming**

620-150 Interfacing Robotic Devices **4 Credits**

This course focuses on the integration of a complete automated robotic cell. Many component parts are interconnected in order for the cell to operate properly. Student will interface: PLC's, robots, personal computers, vision systems, sensors, motor drives, conveyors, fluid power devices, and other programmable or hard automation. Topologies for networking, architectures and protocols are covered and employed in industrial control systems. In addition, wireless network technologies, and related hardware will be explored. Student will construct, wire, program, network, troubleshoot and document the complete automated robotic cell. ***Pre-requisites: 620-130 Automated Cell Design and Planning, 620-140 Robotic Systems; Co-requisite: 620-155 Automated Robotic Cells***

620-155 Automated Robotic Cells **4 Credits**

The student will apply the concepts of robots and automation by building a small automation system. This automation cell will be accomplished within the framework of an assigned team of students. Student will apply learned concepts studied in previous classes. These concepts will assist in building, testing, and running their automated work cell. Student will develop, and apply project planning, time management and cooperative methods with their team members to build their work cell. Student will learn how to design and make parts for this project. They also will specify and purchase parts as well as, analyze system malfunctions, which may occur to the modular level. Student will practice the skills needed to interface and make repairs. By using such organizational tools as WBS and Gantt charts, the student team will learn how to finish the project on time and on budget. ***Pre-requisites: 620-130 Automated Cell Design and Planning, 620-140 Robotic Systems; Co-requisite: 620-150 Interfacing Robotic Devices***

General Education Course Requirements:

801-195	Written Communications	3 Credits
801-197	Technical Reporting	3 Credits
804-113	Technical Mathematics 1A	3 Credits
804-114	Technical Mathematics 1B	2 Credits
806-154	General Physics 1	4 Credits
809-172	Race, Ethnic, and Diversity Studies	3 Credits
	OR	
809-196	Introduction to Sociology	3 Credits
809-198	Introduction to Psychology	3 Credits
890-125	Student Success	1 Credits

Emergency Medical Technician

The EMT typically represents one of the first components of the emergency medical system. This course prepares individuals to care for patients at accident scenes and transport by ambulance to the hospital under medical direction. The course emphasizes emergency skills such as managing respiratory and cardiac emergencies, medical emergencies, trauma emergencies and patient assessment, and teaches these skills in a job-related context. The National Registry of EMT's test is required at the completion of the course for licensure in the State of Wisconsin. The course is also a pre-requisite for EMT-Intermediate Technician and EMT-Paramedic training. EMT-Basic is 4 credits at 8 hours per week totaling 144 hours plus 10+ hours in a hospital emergency room setting and ambulance ride-along training.

EMT Basic Practical/Knowledge Base Outcomes

A minimum of an 80% is required on all exams to be eligible to attend the National Registry of EMT practical and written exams needed for Wisconsin EMT licensing.

- Airway Management

- Medical Emergency recognition and management
- Trauma Emergency recognition and management
- Basic Pharmacology
- Pre-hospital Childbirth
- EMS Operations

Student Outcomes and Standards–Intermediate Technician
Minimum of 80% is required on all exams to be eligible to take the State of WI EMT-IV Technician Exam for licensing. Students will gain knowledge in the following areas:

- Cell physiology
- Venous access/IV skills
- Diabetic emergency management including using IV Dextrose and Glucagon injection
- Critical Thinking
- Shock Management
- Pharmacology
- Cardiac anatomy and emergency intervention using nitroglycerin and aspirin
- Narcotic drug overdose management using Narcan

A Caregiver Background Check WILL be required for clinical portion of the program. Students must meet the immunization requirements set by the CDC.

Program Outcomes
Upon completion of this program, you will be able to:

- Apply the preparatory aspects of EMT-Intermediate Technician care.
- Utilize a process of clinical decision making when forming a field impression.
- Demonstrate usage of basic pharmacology principles.
- Perform intravenous therapy.
- Demonstrate care of cardiovascular patients.
- Perform interventions for diabetic cases.
- Deliver emergency care of narcotic overdose patients.
- Perform clinical skill competencies.
- Deliver emergency care to pediatric patients.

Intermediate Technician students will be graded using the following weights and values:

Clinical-ER and Ambulance	30%
Classroom Skill Assessments	20%
Cognitive Objective Assignments	10%
Critical Thinking Assignments	10%
Exams-pass of 80% on each	20%
Team Project Presentation	10%

Grade Explanations:

Clinical Time and Competencies: 45 hours of clinical time must be completed by the end of the class. Each of the competencies listed must be completed and verified successful by a preceptor. It is a State of Wisconsin requirement to complete all competencies and hours in order to be eligible for course completion. Preceptors will complete leadership and care management plan evaluation forms for each assessment performed by the student. Competency checklist forms will be given to student at the beginning of clinical eligibility. Points will be awarded according to a standard system based on the performance evaluation made by the preceptors.

A-93%-100%

B-86%-92%

C-80%-85%

D-73%-79%

F-0%-72%

835-104 – Student Success
Students should take this course prior to or during their first semester of their program. This is an institutional requirement for all students

	Course Name	Credits	Lec-Lab
Semester 1			
531-301	EMT-Basic	4	4 - 4
Other EMS Courses			
531-412	First Responder-Refresher		30
531-415	Emergency Vehicle Operations-Ambulance*		8
531-420	EMT-Basic Refresher		30
531-431	Heartsaver Plus–CPR (Adult and Infant Child)		6
531-434	Healthcare Provider-CPR		8
531-436	CPR-Refresher		4
531-440	First Responder		63
531-423	EMT Intermediate Technician Refresher		12
531-426	Heartsaver First Aid		7

Also–Continuing Education for the EMT and Special Seminars.

COURSE DESCRIPTIONS

531-102 Safety Emergency Procedures for the Workplace **1 Credit**
This course prepares the individual for common emergencies in the work place. It includes the American Heart Association Adult, Child and Infant CPR, First Aid and Fire Prevention and Safety. People taking this course are primarily associated with Health Care, Culinary Arts, or other BTC programs.

531-301 EMT-Basic **4 Credits**
This course prepares individuals to care for patients at accident scenes and transport by ambulance to the hospital under medical direction. The course emphasizes emergency skills such as

managing respiratory and cardiac emergencies, medical emergencies, trauma emergencies and patient assessment, and teaches these skills in a job-related context. The National Registry of EMT's test is required at the completion of the course for licensure in the State of Wisconsin. The course is also a pre-requisite for EMT-Intermediate Technician and EMT-Paramedic training. EMT-Basic is 4 credits at 8 hours per week totaling 144 hours plus 10+ hours in a hospital emergency room setting and ambulance ride-along training. Students must be certified in Healthcare Provider CPR prior to the start of the class. ***Pre-requisite: 531-434 Healthcare Provider CPR***

531-303 EMT-Intermediate Technician 96 Hours
The EMT-Intermediate Technician course will take you to the next level of training after EMT-Basic. Students will learn clinical decision making skills, basic pharmacology, intravenous therapy, and management of cardiovascular, diabetic, drug overdose, and shock cases. Students will complete 45 hours of skill competencies in a clinical setting. EMT-Intermediate Technician is 4 hours each week in totaling 45 hours in addition to 45 hours of hospital clinical experience. A current Wisconsin EMT license is a Pre-requisite for this 3-credit course. Successful completion of a Wisconsin State exam is required to obtain a WI EMT-Intermediate Technician license.

531-412 First Responder Refresher 18 Hours
Biennial refresher course for certificate renewal. First Responder skills are emphasized along with new protocols for the two-year period.

531-415 Emergency Vehicle Operations–Ambulance 8 Hours
This course is for EMTs and drivers of ambulances consisting of classroom work, on-road and track emergency driving maneuvers.

531-420 EMT-Basic Refresher 30 Hours
Biennial State of Wisconsin mandated refresher course for licensure renewal. Basic skills are emphasized along with new protocols for the two-year period.

531-423 EMT Intermediate Technician Refresher 12 Hours
Biennial refresher course required for license renewal for E.M.T.'s with I.V. Tech Skills.

531-431 Heartsaver–CPR and AED 6 Hours
For the general public. The course consists of airway obstruction and CPR for infants, children, and adults based on the newest American Heart Association techniques *(OSHA approved)*

531-434 Healthcare Provider–CPR and AED 6 Hours
For any medical staff personnel, medical type students, EMTs, nursing students, and nursing personnel. The course consists of airway obstruction and CPR, two person CPR, using adjunct equipment for infants, children, and adults based on the newest American Heart Association techniques *(OSHA approved).*

531-436 CPR-Refresher 4 Hours
Biennial update for those already certified in CPR.

531-440 First Responder 6 3 Hours
Advanced first aid and other medical procedures below the EMT levels. Previously for law enforcement officers, firefighters, and those who initially respond first to an emergency scene.

531-426 Heartsaver First Aid 7 Hours
A First Aid and Adult CPR and AED course for the general public. this course is divided into several modules to fit the needs of both business settings and the general population. It is based on the American Heart Association standards.

Farm Business and Production Management

Farm Business and Production Management is designed to teach principles of farm management and problem solving. Enrollment is open to any individual who is beyond high school and is actively engaged in or about to enter farming. This includes farm owners, operators, renters, partners, farm managers, and hired persons. Both men and women are encouraged to enroll. Enrollment in the program is targeted to individuals who have farming as their objective. The enrollees should plan to regularly attend scheduled group instruction sessions and allow time for individual on-the-farm instruction.

Instruction is planned over a six year period, but individual enrollment is on an annual basis. The program is planned and conducted on a two-fold basis:

- A minimum of 45 hours of group instruction (lecture, classroom discussion, demonstrations, field trips, and small group instruction).
- Students are encouraged to make use of 6 hours of on-farm instruction in which individual attention is given to each person. On farm instruction is prescheduled and may be set up with the instructor when needed. .

Program Outcomes -
Upon completion of this program, you will be able to:

- Complete financial and production records necessary for business operation.
- Develop and implement a soil management plan.
- Apply appropriate cropping practices.
- Develop and apply an appropriate livestock nutrition plan.
- Implement an effective livestock management plan.
- Operate tools and equipment needed in farm business operation.
- Develop a farm business management plan.

Career Outlook:

The American farm is the most productive in the world, producing food and fiber to meet the world's needs. The agricultural industry is changing as markets evolve and average farm size increases. Farm operations are becoming more technology based and complex. These trends mean that skilled farm specialists are, and will continue to be, in high demand.

Course Name		Credits	Lec-Lab
Semester 1			
090-381	Operating the Farm Business	3	varies
090-382	Soils Management	3	varies
090-383	Crop Management	3	varies
090-384	Livestock Nutrition	3	varies
090-385	Livestock Management	3	varies
090-386	Farm Records and Business Management	3	varies
	TOTAL CREDITS	**18**	

To graduate, a student must successfully complete the six course areas listed for 18 credits.

COURSE DESCRIPTIONS

090-381 Operating the Farm Business 3 Credits
Emphasizes the management skills and concepts necessary for the first year student to continue farming with today's changing technology and farm business financing. Special emphasis is given to establishing and recording farm business and family goals. The student will organize and maintain the farm business records, as well as interpret and analyze the records to assist in making sound farm business management decisions. Each student's farming operation is assessed and plans are developed based on needs, goals, and objectives. Students will evaluate their goals and objectives upon completion of the course.

090-382 Soils Management 3 Credits
Instruction is provided on preparation and implementation of a land-use plan, and soil testing procedures and reports. Students will receive instruction on fertilizer recommendations and budgets. Included are instruction on the application of farm manures, chemicals, soil conservation practices, and the management and safe use of farm machinery and equipment. Soil management emphasizes the analysis of the farm business and planning cropping strategies to meet the student's needs.

090-383 Crop Management 3 Credits
Instruction is provided on all phases of crop production, management and economics. Specific topics relate to variety, selection, planning, pest control, harvesting, storage, and marketing. In addition, the cropping program is related to the total farm enterprise on a short-term and long-term basis. Crop management emphasizes the analysis of the farming business and planning of cropping practices and strategies to meet student's needs.

090-384 Livestock Nutrition 3 Credits
Emphasizes the skills, techniques and concepts necessary for sound feeding management. Feed values, pricing, terminology, requirements, consumption are covered. Evaluation of feed tag labels, base feeds and feeding programs are also covered. Attention is given to the metabolic diseases of lactating animals. Livestock feeding efficiency is measured by use of the farm business analysis.

090-385 Livestock Management 3 Credits
Livestock management provides instruction on the various aspects of selection, breeding, herd health, raising of replacement stock, and marketing of livestock and livestock products. It includes the selection, operation, and maintenance of farm buildings and milking, feeding, ventilation and manure handling equipment. Efficiency of the livestock program will be measured through use of the farm business analysis.

090-386 Farm Records and Business Management 3 Credits
Instruction emphasizes the practical use of a farm record system in managing the farm through farm and financial analysis. It includes the establishment of farm business goals, selection and use of farm credit, farm business arrangements, farm estate planning, and farm income taxes. Instruction is provided on the use of computers and/or computer records and farm financial analysis of the farm business. Production and financial decisions will be based on the student's farm business analysis.

Fire Protection Technician

The Fire Protection Technician program offers the student an exciting career in fire protection, fire prevention and fire engineering. The field of fire science is concerned with the preservation of life and property from fire and related hazards. The fire protection technician is a highly-skilled specialist with a unique blend of technical knowledge, management abilities, and public education and communication skills. Graduates are ideally suited to careers in public and private fire protection. Another area of employment opportunity exists in the field of sales and service with companies which manufacture and distribute fire protection equipment and related supplies. Expanding industrialization and population growth have created new fire problems which must be solved. In this area, the fire protection technician can be part of the team to design and research the answers to solve these problems which are making many demands upon communities, business, and industry.

Program Outcomes–
Upon completion of this program, you will be able to:

- Demonstrate professional conduct by displaying a personal code of ethics, positive work ethics, flexibility, teamwork skills, physical fitness, safe procedures, and sensitivity to diverse cultures and individuals
- Perform fire prevention activities including preplanning, public education, inspection, and investigation
- Communicate clearly and effectively both verbally and through written documentation with clients, coworkers, other agencies and supervisors
- Apply incident management skills to emergency incidents
- Meet professional fire and EMS credentialing standards
- This series is for all who wish to be certified by the State of Wisconsin. The emphasis is on skilled hands-on training. All classes require a Wisconsin Technical College System (WTCS) test for certification at the completion of each

course.

Potential Employment Opportunities

- Fire Fighter
- Fire Protection Technician
- Fire Fighting Equipment Specialist/Sales
- Fire Inspector
- Fire Fighter - Crash, Military, Government, State or Federal

835-104 – Student Success
Students should take this course prior to or during their first semester of their program. This is an institutional requirement for all students

	Course Name	Credits	Lec-Lab
Technical Core Courses			
503-105	Fire Fighter Health and Safety	2	2 - 0
503-106	Fire Service Employability	3	3 - 0
503-139	Principles of Emergency Services	3	3 - 0
503-142	Fire Fighting Principles	4	4 - 0
503-143	Building Construction	3	3 - 0
503-147	Fire Protection Systems	4	4 - 0
503-151	Fire Prevention	4	4 - 0
503-152	Hazardous Materials	4	4 - 0
503-155	Fire Protection Hydraulics	4	4 - 0
503-156	Strategies, Tactics, and Incident Management	4	4 - 0
503-157	Fire Investigation	3	3 - 0
531-301	EMT-Basic	4	4 - 4
140-101	Spanish Language and Culture	3	3 - 0
General Education Courses			
801-195	Written Communication	3	3 - 0
801-196	Oral/Interpersonal Communication	3	3 - 0
801-197	Technical Reporting	3	3 - 0
804-106	Introduction to College Math	3	3 - 0
806-134	General Chemistry	4	3 - 0
809-196	Introduction to Sociology	3	3 - 0
809-198	Introduction to Psychology	3	3 - 0
Suggested Electives (Minimum of 3 credits required)			
140-102	Spanish Language and Culture II: Emergency Services Personnel	3	3 - 0
503-107	Internship	3	3 - 0
531-303	EMT-Intermediate Technician	3	
	TOTAL CREDITS	**69**	

Additional Requirements

A program Portfolio is required that will include all relevant training certificates that have been acquired, a resume and other relevant training records. A complete portfolio approved by the Fire Service Training Coordinator is required for graduation.

A standard uniform is also a program requirement. Uniforms are routinely required in the Fire Service and this requirement is intended to develop the discipline needed to operate as a team member. Some specialized personal protective equipment is required for some of the classes. Much of this equipment will be available to rent for an additional fee. *(See program costs for Wisconsin residents.)*

COURSE DESCRIPTIONS

503-105 Fire Fighter Health and Safety 2 Credits
This course introduces the students to the physical, emotional, intellectual and social aspects of a career in the fire service. Topics include safety, health and wellness, common diseases, life style choices and fitness. The student will receive the knowledge needed to make healthy life style choices, select appropriate risk management techniques to handle incidents safely and make decisions in the overall health and safety of the fire department members.

503-106 Fire Service Employability 3 Credits
Fire Service Employability is designed to ease the student's transition into the work force. The course discusses the strategies and skills needed to apply for and test for careers in the fire service. Topics included are job search, employment correspondence, application process, interviewing and physical testing. These topics are enhanced by resume planning, mock interviews, job search planning and preparation for physical ability testing.

503-139 Principles of Emergency Services 3 Credits
Provides an overview to fire protection; career opportunities in fire protection and related fields; philosophy and history of fire protection/service; fire loss analysis; organization and function of public and private fire protection services; fire departments as part of local government; laws and regulations affecting the fire service; and fire service nomenclature.

503-142 Fire Fighting Principles 4 Credits
Describes basic fire behavior, techniques used to control structural and related fire emergencies, and life safety practices. Students perform all practical evolutions necessary to control and extinguish fires and otherwise meet all requirements for Firefighter I certification with the State of Wisconsin.

503-143 Building Construction 3 Credits
Provides the components of building construction that relate to fire and life safety.

503-147 Fire Protection Systems 4 Credits
Provides information relating to the features of design and operation of fire detection and suppression systems.

503-151 Fire Prevention 4 Credits
Provides fundamental information regarding the history and

philosophy of fire prevention, organization and operation of a fire prevention bureau, use of fire codes, and identification and correction of fire hazards. Meets all requirements for Fire Inspector I certification with the State of Wisconsin.

503-152 Hazardous Materials **4 Credits**
Examines characteristics relating to hazardous materials including problems of recognition and mitigation. Prepares students to Hazardous Materials Technician Level.

503-155 Fire Protection Hydraulics **4 Credits**
Provides a foundation of knowledge in order to understand the principles of the use of water in fire protection. Meets all of the requirements for Driver Operator-Pumper certification with the State of Wisconsin.

503-156 Strategies, Tactics, and Incident Management **4 Credits**
Provides an in-depth analysis of the principles of emergency response through utilization of an incident management system. Prepares students to pursue current national ICS training requirements.

503-157 Fire Investigation **3 Credits**
Provides learners with the fundamentals and technical knowledge needed for proper fire scene investigations.

531-301 EMT-Basic **4 Credits**
This course prepares individuals to care for patients at accident scenes and transport by ambulance to the hospital under medical direction. The course emphasizes emergency skills such as managing respiratory and cardiac emergencies, medical emergencies, trauma emergencies and patient assessment, and teaches these skills in a job-related context. The National Registry of EMT's test is required at the completion of the course for licensure in the State of Wisconsin. The course is also a pre-requisite for EMT-Intermediate Technician and EMT-Paramedic training. EMT-Basic is 4 credits at 8 hours per week totaling 144 hours plus 10+ hours in a hospital emergency room setting and ambulance ride-along training. ***Pre-requisite: Healthcare Provider-CPR***

Fire Service Certification

Firefighter I*(96 Hour*s)	3 Credits
Firefighter II *(42 Hours)*	1 Credit
Fire Officer I *(60 Hours)*	1.5 Credits
Fire Officer II *(45 Hours)*	1 Credit
Driver/Operator Pumper *(66 Hours)*	1.5 Credits
Driver/Operator Aerial *(36 Hours)*	1 Credit
Fire Instructor I *(40 Hours)*	1 Credit

General Education Course Requirements:

801-195	Written Communication	3 Credits
801-196	Oral/Interpersonal Communication	3 Credits
804-106	Introduction to College Math	3 Credits
806-121	General Chemistry	3 Credits
809-197	Technical Reporting	3 Credits
809-196	Introduction to Sociology	3 Credits
809-198	Introduction to Psychology	3 Credits

Green Industry Technician

Attractively designed, healthy and well-maintained lawns, gardens, trees, and shrubbery create a positive first impression, establish a peaceful mood, create spaces for outdoor activities, and increase property values. A growing number of individuals, businesses, and organizations rely on landscape and turf professionals to establish and care for their landscapes. These professionals create designs, establish trees, hedges and flowering plants; build terraces, retaining walls, and patios; and establish and maintain turf grasses for a variety of residential, commercial and athletic uses. The Green Industry Technician program is offered in eight-week sessions, on a part-time evening and Saturday basis. Workers already employed, as well as those just beginning in the field, take advantage of the flexible programming.

Program Outcomes–
Upon completion of this program, you will be able to:

- Assess tasks based on sustainable environmentally responsible practices.
- Select plants adapted for various applications.
- Create sustainable, environmentally sound landscape design plans.
- Construct landscape design plans.
- Demonstrate safe operation of tools and equipment used in landscape applications.
- Maintain turf and landscape plants.

Graduates from this program have found employment as:

- Landscape Designer
- Grounds Supervisor
- Golf Course Superintendent
- Landscape Supervisor
- Grounds Crew Supervisor
- Grounds Maintenance Supervisor
- Buildings and Grounds Supervisor
- Groundskeeper Supervisor
- Landscape Manager
- Athletic Fields Superintendent
- Groundskeeper
- Outside Maintenance Worker

- Gardener
- Greens Keeper
- Grounds Worker
- Grounds/Maintenance Specialist
- Utility Worker
- Grounds Maintenance Worker
- Nursery and Green House Worker / Manager

835-104 – Student Success
Students should take this course prior to or during their first semester of their program. This is an institutional requirement for all students

	Course Name	Credits	Lec-Lab
Semester 1			
001-302	Landscape Design I	1	1 - 1
001-303	Horticultural Pest Management	1	1 - 1
001-304	Landscape Tools and Equipment	1	1 - 1
001-313	Golf and Sports Turf Management	1	1 - 1
001-330	Weeds and Invasive Species	1	1 - 1
001-331	Plant Health Management	1	1 - 1
001-332	Woody Ornamentals – Trees	1	1 - 1
001-333	Woody Ornamentals – Shrubs	1	1 - 1
Semester 2			
001-305	Soils and Fertilizers	1	1 - 1
001-306	Arboriculture and Turf Management	1	1 - 1
001-307	Landscape Construction	1	1 - 1
001-309	Landscape Design II	1	1 - 1
001-310	Service Business Fundamentals	1	1 - 1
001-317	Herbaceous Plants	11	- 1
001-322	Landscape and Environment	1	1 - 1
001-324	Plant Propagation	1	1 - 1
001-334	Internship	2	0 - 8
TOTAL CREDITS		***18***	

COURSE DESCRIPTIONS

001-302 Landscape Design I **1 Credit**
The learner develops basic landscape plans with an emphasis on function, design principles, and composition in this hands-on course.

001-303 Horticultural Pest Management **1 Credit**
The study of various types of pesticides, methods of application, and safety precautions in their use. Students may take the Wisconsin Horticultural Pest Control exam at the completion of the course.

001-304 Landscape Tools and Equipment **1 Credit**
This class provides the learner with the basic skills and knowledge to perform standard maintenance procedures on outdoor power equipment, operate the equipment safely, and make informed buying decisions.

001-305 Soils and Fertilizers **1 Credit**
This class emphasizes soil identification, evaluation, and factors affecting plant growth. Learners calculate fertilizer rates and employ proper application methods. Students also explore composts and other amendments as they relate to soil preparation.

001-306 Arboriculture and Turf Management **1 Credit**
Arboriculture is the care of woody plants. Sessions cover the anatomy and functions of trees and shrubs and correct planting, staking, mulching, feeding, watering, and pruning practices. Problems common to trees and shrubs are presented along with sessions related to property/grounds management career functions including; flower and lawn care, snow and leaf management, and winter preparation activities. Practice pruning deciduous and evergreen shrubs in the field is offered.

001-307 Landscape Construction **1 Credit**
A hands-on course on establishing proper slope and plantings according to a landscape design plan. Installation of retaining walls, walkways, and other hardscapes are also covered.

001-309 Landscape Design II **1 Credit**
Students continue plans started in the Landscape Design I class. New principles of composition and design such as sections, elevations, and simple perspectives are studied. ***Pre-requisite: 001-302 Landscape Design I***

001-310 Service Business Fundamentals **1 Credit**
This class provides the leaner with entry-level skills for operating a service-based business in the horticulture industry.

001-313 Golf and Sports Turf Management **1 Credit**
This course deals with high use turf (real and synthetic) and its specialized problems. Advanced turf management techniques and agronomic practices are presented for large areas such as school athletic fields, park and recreation, golf courses, and estates. Visits to sports fields and golf courses, reel mower sharpening, and large area maintenance equipment are included. Irrigation system basics are also presented along with specialties such as sand traps, pitcher's mounds, infields, line and logo painting, and water feature considerations.

001-317 Herbaceous Plants **1 Credit**
Identification of various annuals and perennials and their appropriate uses for Wisconsin landscapes is covered in this class. Cultural practices necessary to maximize their value to the landscape are studied.

001-322 Landscape and Environment **1 Credit**
Learners explore current issues within the green industry. Environmental, legal, site, and new technologies are among the topics that may be addressed.

001-324 Plant Propagation **1 Credit**
Starting and growing plants from seeds, cuttings, divisions, layering and grafting are covered in this course. Information on

growing structures, environmental controls, and cultural practices are explored along with marketing and merchandising.

001-330 Weeds and Invasive Species 1 Credit
Students create a weed reference book for various landscape settings while learning plant identification techniques and examining live and preserved samples. The course is very useful for those considering enrolling in Horticultural Pest Management and for those interested in any career related to Integrated Pest Management (IPM) concepts.

001-331 Plant Health Management 1 Credit
The course covers diseases and insects common to herbaceous and woody plants found in lawns, flower and vegetable gardens, landscapes, nurseries, and unmanaged native areas. Field trips and reports aid in identification and diagnosis of plant health care issues. Very useful for those considering enrolling in Horticultural Pest Management and for those interested in any career involving plant health.

001-332 Woody Ornamentals – Trees 1 Credit
Learners select trees appropriate for various landscape schemes in Wisconsin based on physical characteristics, cultural needs, customer preference and adaptation to the environment.

001-333 Woody Ornamentals – Shrubs 1 Credit
Learners select shrubs appropriate for various landscape schemes in Wisconsin based on physical characteristics, cultural needs, customer preference and adaptation to the environment.

001-334 Internship 1 Credit
Students obtain hands-on experience through on-the-job training in the green industry field. Prior consent for the experiential learning activity by the instructor is required. The student completes a comprehensive study after successfully completing the intern requirements.

Human Resources

Associate of Applied Science Degree

The Human Resources Program prepares students to assist small to mid-sized organizations in effectively recruiting, developing, and utilizing their human resources. You'll learn how to maximize the human potential for the benefit of the organization. This field of employment requires knowledge and skills in the following areas: occupational job analysis, compensation, benefits, training, staffing, employee relations, safety, and human resources information systems. Careers such as HR Generalists or HR Specialists can be found in any non-profit, service or manufacturing organization. Human Resource Specialists can focus on areas such as employee recruitment/interviewing, employee training and development, wages and compensation, benefits, employee wellness, and occupational analysis. Students will have an opportunity to prepare for various related certifications such as from the Society for Human Resources (SHRM) and OSHA.

Program Outcomes -
Upon completion of this program, you will be able to:

- Recruit and interview qualified candidates for available positions
- Coordinate and conduct new employee orientations
- Maintain personnel records and human resources information systems
- Administer payroll and benefit programs
- Organize health and safety programs
- Coordinate employee training and education
- Plan and implement employee relations activities
- Understand employment law in order to assist managers and supervisors
- Provide leadership with employee relations and EEO initiatives
- Assist HR managers in larger organizations

Consult our website for current information at www.blackhawk.edu or contact Blackhawk Technical College Student Services at (608) 757-7668.

Related Job Titles

- HR Manager/Coordinator/Administrator
- Training and Development Manager
- Compensation and Benefits Coordinator
- Employment and Placement Specialist
- Recruitment Specialist
- Labor Relations Specialist

835-104 – Student Success
Students should take this course prior to or during their first semester of their program. This is an institutional requirement for all students

Course Name	Credits	Lec-Lab	
Semester 1			
102-110	Business Career Planning	1	1 - 0
102-148	Introduction to Business	3	3 - 0
103-106	Introduction to MS Office	3	3 - 0
801-195	Written Communications	3	3 - 0
804-123	Math with Business Applications	3	3 - 0
809-198	Introduction to Psychology	3	3 - 0
Semester 2			
196-102	Employee Training and Development	3	3 - 0
196-103	Human Resource Employment Law	3	3 - 0
196-108	Health, Safety and Security for HR	3	3 - 0
196-193	Human Resource Management	3	3 - 0
801-196	Oral and Interpersonal Communications	3	3 - 0
Semester 3			
196-115	Compensation and Benefits	3	3 - 0
196-116	Staffing Organizations	3	3 - 0

196-117	Leadership and Personal Development	3	3 - 0
196-118	HR Information Systems[1]	3	2 - 2
196-119	Labor and Employee Relations	3	3 - 0
809-172	Race, Ethnic and Diversity Studies	3	3 - 0
Semester 4			
196-114	Fundamentals of Budget Analysis	3	3 - 0
196-137	Payroll Administration[1]	3	3 - 0
196-138	Human Resource Leadership Practicum[1]	3	1 - 8
196-139	Intro to Global Human Resources[1]	3	3 - 0
809-166	Intro to Ethics: Theory and Application	3	3 - 0
809-195	Economics	3	3 - 0
	TOTAL CREDITS	**67**	

[1] Course has Pre-requisites

COURSE DESCRIPTIONS

102-110 Business Career Planning 1 Credit
Students will focus on personal and professional preparation for a career in business related occupations. Course covers interpersonal and intrapersonal success skills including self-esteem, understanding human behavior, creative problem solving and decision making, effective communication skills, time management, setting priorities, and organizational techniques. Job search strategies will be introduced.

102-148 Introduction to Business 3 Credits
Students will be introduced to business operations, focusing on a basic understanding of the activities, functions, and principles of business enterprises. This course covers the responsibilities and challenges of operating a business. The course emphasizes human relations, management, marketing, finance, labor relations, franchising, forms of ownership and careers.

103-106 Introduction to MS Office 3 Credit
This course will introduce students to the Microsoft Office Suite and overview many of the core competencies of Outlook, Work, Excel, Access, PowerPoint, and Explorer. Students will develop the use of technology for both problem solving and decision-making and will be expected to learn to use the resources available to search for answers to problems.

196-102 Employee Training and Development 3 Credits
This course explains the fundamentals of training and development coordination. It includes terminology, levels of learning, matching training providers with organization needs, organizing materials and environments to maximize learning, measuring completion of objectives, and communication with employees. Students analyze local organizations to determine both training needs and the most appropriate training methodologies, in order to solve common business problems. Teams of students develop training plans, create a sample lesson plan, and present the lesson to the class.

196-103 Human Resource Employment Law 3 Credits
Introduces and explores legal issues concerning employment and their effect on the workplace. Through in-depth case analyses, oral presentations, and debates, students learn about the intricacies of federal and Wisconsin equal employment opportunity laws. Topics include legislation and Supreme Court decisions related to civil rights, age discrimination, disabilities, pay equity, affirmative action, etc.

196-108 Health, Safety and Security for HR 3 Credits
Often, safety is one of the responsibilities of the human resource division. Students review the various safety and health issues affecting today's business organizations. Teams of students conduct research on a specific safety topic and conduct a safety presentation based on their research. Students will test for OSHA certification.

196-114 Fundamentals of Budget Analysis 3 Credits
The learner analyzes the fiscal components of a business by evaluating financial statements and annual reports that are relevant to the supervisor and decision-making. Each learner will evaluate and review ratios, trends, and develop a budget, and monitor the results. This course is a practical hands-on approach to interpreting accounting and financial reports as a non-accountant.

196-115 Compensation and Benefits 3 Credits
This course focuses on the compensation and benefit elements that make up total compensation. This course covers base pay, merit pay and variable pay programs and examines such benefits as government regulation, group welfare plans, pension plans and flexible benefit plans. Students learn to apply the principles of compensation management to maintain an organization's competitive advantage while complying with state and federal law. Topics include job analysis, descriptions, and evaluation; pay and benefits surveys; budgeting as related to compensation; and comparable worth issues. The course promotes an understanding of mandated and discretionary employee benefits. It will focus on the major categories of benefits, including planning and administration, compliance with regulations, insurance, retirement plans, paid time off from work, accommodation and enhancement benefits. The students will participate in a variety of activities in which they will investigate current benefits programs, design or modify benefits programs to reflect today's work environment, and administer benefits through simulations and role playing. As a major team project, students complete a simulation to design a complete compensation and benefits program.

196-116 Staffing Organizations 3 Credits
Learners will focus on recruitment, selection, orientation and hiring practices. This course examines what today's workforce expects and how to efficiently use the recruitment budget. All steps of the hiring process are reviewed. This material supplements the legal aspects of the employment process. Students develop the tools necessary for interviewing individuals in a variety of settings. Through hands on projects, students practice their skills by probing, survey, recruitment, employment, and performance interviews.

196-117 Leadership and Personal Development 3 Credits
Designed to assist individuals to apply leadership skills effectively in any organizational structure. Emphasis is placed on leadership and employee involvement strategies. Focus is on the role of Human Resources Management in defining direction, aligning the organization, empowering people and teams, modeling trustworthiness, balancing the needs of all stakeholders, and optimizing allocation resources.

196-118 Human Resources Information Systems 3 Credits
Learners will cover the fundamentals of human resource record-keeping. Topics include organizing records, federal and state retention requirements, documentation, employee access to records, privacy issues, and developing policies. Students learn to use the integrated human resource information components of a relational database (such as Access or PeopleAdmin) to perform human resource database tasks related to administration, performance management, compensation, recruitment, and more. In a series of exercises, students process the HR information related to groups of employees as these employees move through the application, selection, promotion, retention and retirement phases of employment. ***Pre-requisite: 103-106 Introduction to MS Office***

196-119 Labor and Employee Relations 3 Credits
Students author contract proposals, negotiate changes to an existing labor agreement, and administer specific labor contract language. Through discussions and case analyses, students learn the legal requirements and restrictions for labor and management. Topics include the legalities of union certification and decertification, negotiation and administration of labor agreements, strikes, lockouts, mediation, and arbitration. Enhance the ability to understand and develop employee-focused programs, policies and procedures such as company orientations, formal and informal communications, employee recognition programs and community relations, complaint investigation and resolution, and disciplinary procedures.

196-137 Payroll Administration 3 Credits
This course provides you with a framework and the knowledge of administering a payroll system. The topics covered include the following: maintaining payroll records; salaried, hourly, commission, piecework, and contract workers; taxable benefits; statutory and other deductions; preparation of payroll journal entries; preparation of record of employment; preparation of W2s, W4s, and W2 Summary; workers' compensation; employment standards; pay equity; computerized payroll using both a personal computer database and using an outside payroll service. ***Pre-requisite: 196-115 Compensation and Benefits***

196-138 Human Resource Leadership Practicum 3 Credits
Students further develop their HR knowledge and skills by working with HR professionals to complete human resource projects for area organizations. Evaluation of students' work will be heavily influenced by the satisfaction expressed by representatives of the organizations served. ***Pre-requisites: 196-193 Human Resource Management; 196-115 Compensation and Benefits; 196-116 Staffing Organizations; 196-102 Employee Training and Development***

196-139 Introduction to Global Human Resources 3 Credits
In this course, students will examine human capital in a global business environment. The topics cover major cultural differences in values and attitudes which may affect international HRM effectiveness, global staffing, international compensation, employee relations, labor law, and encourages students to identify the future issues of international HRM for their organizations. ***Pre-requisite: 196-193 Human Resource Management***

196-193 Human Resource Management 3 Credits
Students explore the fundamentals of human resource administration, including strategic planning, policy making, staffing, appraising, compensation, training, employment law, and safety. In addition, many students identify the specialized HR field they will pursue as HR professionals. Topics include human resource development, employee selection, performance appraisals, compensation, training, labor relations, organizational productivity, motivation, teamwork and affirmative action.

General Education Courses:

801-195	Written Communication	3 Credits
801-196	Oral/Interpersonal Comm.	3 Credits
804-123	Math with Business Applications	3 Credits
809-166	Introduction to Ethics: Theory and Application	3 Credits
809-172	Race, Ethnic and Diversity Studies	3 Credits
809-195	Economics	3 Credits
809-198	Introduction to Psychology	3 Credits

Individualized Technical Studies

The Individualized Technical Studies Degree is intended for currently employed individuals or other students who have a specific career objective that cannot be met by BTC's existing degree programs. By combining State Board approved courses from two or more major areas of study, students may, along with an occupational mentor, modify an occupational degree program into a unique Associate degree.

Admission requires each student to participate in advising and planning sessions, which include the following:

- Provide flexibility in programming to meet the educational needs of individuals based on their particular career goals.
- Emphasize the individual's career goals that cannot be achieved through enrollment in any single instructional program currently available at BTC.
- Develop a plan outlining the student's career objectives.
- Identification of an occupational mentor who is familiar with the skills and abilities needed in positions similar to that sought by the student.
- Provide documentation of career goals and objectives.

Program Requirements

General Education courses will be drawn from communication, mathematics, science, and behavioral and social sciences. Each student also will complete a minimum of 36 credit hours of individualized technical studies (including at least three credit hours of computer-related courses). Students may use courses from all departments at BTC. A minimum of 20 of these credits must be focused in one discipline. The selection of these courses must be relevant to the student's career goals and should provide sufficient hours of concentration in one or two specific technical areas to ensure technical competence in achieving his or her occupational goals.

835-104 – Student Success
Students should take this course prior to or during their first semester of their program. This is an institutional requirement for all students

General Education–21-30 credit hours

Communication – 6 credits required:

801-195	Written Communication	3 Credits
801-196	Oral/Interpersonal Communication	3 Credits
801-197	Technical Reporting *(Pre-requisite: Written Communication)*	3 Credits
801-198	Speech *(May be substituted for 801-196)*	3 Credits

Social Science – 3 credits required:

809-166	Introduction to Ethics: Theory and App	3 Credits
809-172	Race, Ethnic and Diversity Studies	3 Credits
809-174	Social Problems	3 Credits
809-195	Economics	3 Credits
809-196	Introduction to Sociology	3 Credits

Behavioral Science – 3 credits required:

809-159	Abnormal Psychology	3 Credits
809-198	Introduction to Psychology	3 Credits
809-199	Psychology of Human Relations	3 Credits
809-188	Developmental Psychology	3 Credits

Math and/or Science- 3 credits required
(Check with your program advisor or counselor for the specific requirements)

General Education Electives- 0-6 credits required
(Check with your program advisor or counselor for the specific requirements)

Individualized Technical Studies Core 36-49 Credit hours

Total Program Credit Hours 60-70 Credit hours

For further information contact:

Monroe Campus, Christine Wellington, (608) 328-1660

Central Campus, Melanie Baak, (608) 757-6320

Industrial Engineering Technician

The Industrial Engineering Technician program is designed to train persons to serve as technicians in the fields of industrial engineering and manufacturing production. Challenging assignments in any industry are open to qualified male or female industrial engineering technicians.

This program is designed with the working student in mind, and is offered on a part-time basis in the evenings. Most students are able to attain their Associate Degree in three to five years. Several of the core courses are available in a self-paced format.

Industrial Engineering Technicians work on problems involving the efficient use of personnel, materials, and machines in the production of goods and services. They are employed in a variety of businesses and industries, including the manufacture of goods and equipment of all kinds, food processing, health care facilities, and many others.

Industrial Engineering Technicians use principles of science, engineering, and mathematics to solve problems in quality control, research and development, manufacturing, sales, construction, and customer service. Many Industrial Engineering Technicians directly assist engineers and scientists, while others work more independently in production and inspection-related jobs. Their jobs are more practically oriented than those of scientists and engineers, and typically involve dealing with both the human and technical aspects of the workplace.

Program Outcomes

Upon completion of this program, you will be able to:

- Maintain a safe work environment
- Use CAD software
- Support product design
- Participate in process design
- Perform quality functions
- Utilize supporting software application programs
- Plan facilities
- Support shop-floor activities

Graduates from this program have found employment as:

- Industrial Engineering Technician
- Engineering Assistant
- Engineering Analyst
- Engineering Development Technician
- Engineering Liaison Person
- Mechanical Assistant - Mechanical Equipment
- Methods/Motion/Time Study Analyst

Career Outlook:

Well-qualified IE Technicians should experience good employment opportunities through the coming years. Employment

is expected to increase due to the expected continued growth in the output of technical products.

835-104 – Student Success
Students should take this course prior to or during their first semester of their program. This is an institutional requirement for all students

Course Name		Credits	Lec-Lab
Tech Core Courses			
422-100	Metallurgy	3	3 - 0
606-101	Intro to Computer Aided Drafting[1]	3	2 - 2
623-121	Engineering Drawings and Measurements[1]	3	Self-Paced
623-122	Ergonomics and Workplace Safety	3	3 - 0
623-155	SPC-Statistical Process Control	3	3 - 0
623-160	Mfg. Materials and Processes	3	3 - 0
623-165	Facilities Planning	3	3 - 0
623-170	Industrial Organization and Structure	3	3 - 0
623-192	Process Planning[1]	3	3 - 0
623-196	Standards and Regulations	1	Self-Paced
625-101	Foundations of Quality	3	3 - 0
	OR		
623-166	Industry and Quality Control		Self-Paced
806-112	Principles of Sustainability	3	3 - 0
809-103	Thinking Critically and Creatively	3	3 - 0
625-102	Human Elements of Quality	3	3 - 0
General Education Courses			
801-195	Written Communication	3	3 - 0
801-196	Oral/Interpersonal Communication	3	3 - 0
804-113	College Technical Mathematics 1A	3	3 - 0
804-114	College Technical Mathematics 1B	2	2 - 0
806-154	General Physics 1	4	3 - 2
809-195	Economics	3	3 - 0
809-198	Introduction to Psychology	3	3 - 0
	TOTAL CREDITS	**63**	

[1]Course has pre-requisites

COURSE DESCRIPTIONS

422-100 Metallurgy **3 Credits**
This course examines the nature, properties, and processing of metals. Subjects presented include history, occurrence, recovery from ores, manufacture, structure, heat treatment, theory of alloys, and basics of materials science. Steels, cast iron, and common non-ferrous metals receive the major emphasis.

606-101 Introduction to Computer Aided Drafting (CAD) **3 Credits**
This is an introductory course intended to familiarize the student with technical drawing and the basic operation of a CAD system through directed practice. Beginning with simple objects, drawings of increasing complexity will be assigned so the student gradually progresses from basic figures to the more advanced features and commands. Class sessions are based on directed practice and self-study in a laboratory environment with instructor assistance as required.
Pre-requisite: 623-121 Engineering Drawings and Measurement, or equivalent knowledge with permission of the instructor. Students with prior CAD experience may apply for advanced status or test-out.

623-121 Engineering Drawings and Measurements **3 Credits**
This self-paced course provides the foundation skills needed to interpret industrial blueprints and perform basic metrological measurements. Orthographic projection, pictorial drawings, sections, auxiliary views, dimensions and tolerances, title blocks, revisions, basic GDandT symbols, and similar topics are covered. Students will also examine measurement concepts as they apply to the manufacturing environment, and perform hands-on activities using precision measuring tools. ***Note: This course, or demonstrated equivalent knowledge, is a pre-requisite for 606-101 (Introduction to CAD) and 623-192 (Process Planning). If you already have the skills covered in this course, you should apply for advanced standing. See the program advisor for details***

623-122 Ergonomics and Workplace Safety **2 Credits**
The health and safety of employees within industrial and manufacturing facilities has been a major concern for industry across the country. How the physical tasks within a job duty are performed can impact the health of an employee. The setup of a manufacturing line, the process of material handling or the procedures to follow when working within a facility must be considered for safety and health. In Ergonomics and Workplace Safety you will identify factors that can lead to musculoskeletal disorders (MSDs), analyze and suggest improvements to job hazards on an employee's workstation, look at costs and benefits of ergonomic improvements and investigate accident reports for causes and problems related to work safety.

623-155 SPC (Statistical Process Control) **3 Credits**
This course offers an in-depth exploration of the principles and applications of statistical process control. Specific subject areas covered include background, basic principles, variation, histograms, probability, variable and attribute control charts, and machine and process capability. Lectures will be supplemented with in-class exercises designed to make the concepts and their application more easily understandable. These individual and group activities will be drawn from the student workbooks and from additional materials to be distributed by the instructor.
Also available in self-paced format

623-160 Manufacturing Materials and Processes **3 Credits**
This class is a study of the characteristics and uses of various materials used in industry, including ferrous and non-ferrous metals, plastics, etc. The use of these materials is tied to various

processes used to meet industries production requirements. Included will be basic concepts involved in metal machining, casting, forging, etc., as they relate to efficient production practices. Class sessions are based on directed practice and self-study in a laboratory environment with instructor assistance as required. ***Also available in self-paced format***

623-165 Facilities Planning 3 Credits
This course covers the essential elements of plant layout and materials handling. Flow patterns, material handling requirements, equipment, and storage and retrieval methods are explored. The many factors affecting an efficient facility layout are examined, as are the decision-making tools for dealing with them. The course concludes with a group project, in which learners design an actual facility to satisfy given criteria. Each group will then present its design to the rest of the class for analysis and discussion.
Also available in self-paced format

623-166 Industry and Quality Control 3 Credits
This self-paced course is an overview of quality issues in the modern industrial environment. Topics include basic quality concepts, sampling and inspection, fundamentals of measurement, statistical tools, quality policies and costs, improvement projects, and comparisons of popular quality philosophies. ***Note: The content is similar to course 625-101 Foundations of Quality, 623-166 may be substituted for 625-101***

623-170 Industrial Organization and Structure 3 Credits
This course examines the structure of the modern manufacturing organization, and provides an overview of the interrelationship between the various functional departments and their activities. Historical background, management philosophy, planning and control requirements, labor, and human aspects of the organization are discussed.

623-192 Process Planning 3 Credits
A study is made of the principles, practices, and techniques of process planning. Using the part drawing, the student learns through systematic analysis to select the most practical and economical processes and to determine the properly sequenced series of operations to transform materials into useful products. Selection of tooling and equipment appropriate to materials, quantity, tolerances, and surface quality requirements is also discussed.

Pre-requisite: 623-121 Engineering Drawings and Measurements, or equivalent knowledge

623-196 Standards and Regulations 1 Credit
This self-paced course provides an overview of state and federal standards and regulations governing workplace safety and the environment. Students will learn to recognize hazards and identify applicable regulations. Emphasis is on locating standards in the code of federal regulations (CFR), applying safety and environmental standards in the workplace, and interpreting material safety data sheets (MSDS).

625-101 Foundations of Quality 3 Credits
This course prepares participants to develop a philosophy of quality, incorporate a customer focus, contribute constructively in a team environment, and use a scientific approach to solve problems. Application of basic quality concepts is emphasized.

Note: The self-paced course 623-166 Industry and Quality Control may be substituted for 625-101

806-112 Principles of Sustainability 3 Credits
Prepares the student to develop sustainable literacy, analyze the interconnections among the physical and biological sciences and environmental systems, summarize the effects of sustainability on health and well-being, analyze connections among social, economic and environmental systems, employ energy conservation strategies to reduce the use of fossil fuels, investigate alternative energy options, evaluate options to current waste disposal and recycling in the U.S. and analyze approaches used by your community to promote and implement sustainability.

809-103 Thinking Critically and Creatively 3 Credits
This course provides instruction in the vital, realistic, and practical methods of thinking which are in high demand in all occupations of substance today. Decision making, problem solving, detailed analysis of ideas, troubleshooting, argumentation, persuasion, creativity, setting goals and objectives, and more are considered in depth as the student applies specific thinking strategies and tools to situations in a wide variety of workplace, personal, academic and cultural situations. Classroom instruction is demonstration, discussion, project and teamwork based. Assignments range from the short and simple to the detailed and complex. Reality and practicality are the focuses all through the course.

General Education Course Requirements:

801-195	Written Communication	3 Credits
801-196	Oral/Interpersonal Communication	3 Credits
804-113	College Technical Mathematics 1A	3 Credits
804-114	College Technical Mathematics 1B	2 Credits
806-154	General Physics 1	4 Credits
809-195	Economics	3 Credits
809-198	Introduction to Psychology	3 Credits

Industrial Mechanic

The Industrial Mechanic program has been designed to give knowledge and the multi-craft skills needed to maintain complex and integrated manufacturing systems. This program seeks to provide a broad base of skills that are suitable for initial or upgrade training. Blackhawk Technical College's faculty brings real-world experience to the classroom. The major training areas will be: machining, electricity and hydraulics. Supporting disciplines are: blueprint reading, welding, rigging, refrigeration fundamentals, and drives and linkages. Classes combine lecture and laboratory experience to provide the maximum amount of information and practical exposure. Safety policies and procedures will be taught and strictly adhered to.

This practical program provides extensive hands-on training. Graduates of the Industrial Mechanics program will have the knowledge, skills, and work habits necessary to maintain and

troubleshoot today's complex equipment. In today's manufacturing environment more knowledge is needed to understand highly integrated manufacturing systems.

Upon successful completion of 462-335 (Refrigeration Fundamentals), students will be eligible to take the EPA Section 608 Refrigerant Handling Examination.

Manufacturers continue to automate in search of greater productivity and consistent quality. A typical manufacturing environment now consists of several machines integrated and dependent on each other. Individual machines are joined by a conveyance system all of which require knowledge of mechanical, electrical, and fluid power. In order to successfully maintain and troubleshoot modern systems, more knowledge and skills are required of individual maintenance workers.

Program Outcomes

Upon completion of this program, you will be able to:

- Work safely in accordance with OSHA Standards
- Integrate mechanical, electrical and hydraulic systems
- Communicate technical information effectively
- Install and troubleshoot basic electrical circuits
- Install and troubleshoot basic hydraulic circuits
- Apply machine shop fundamentals
- Apply problem solving skills and troubleshooting methods

Graduates from this program have found employment as:

Industrial or Maintenance Mechanic

Machine Adjuster

Machine Assembler

Machine Erector

Machine Repairer

Career Outlook:

Workers who advance to journeyman status, gain experience, and continue to upgrade their skills, typically enjoy the highest hourly wage rate at their facilities. Skilled maintenance is highly desirable because of competitive wages and a high level of job satisfaction.

835-104 – Student Success
Students should take this course prior to or during their first semester of their program. This is an institutional requirement for all students

	Course Name	Credits	Lec-Lab
Semester 1			
462-300	Electricity for Industrial Maintenance	3	2 - 3
462-305	Maintenance Welding	3	2 - 3
462-315	Industrial Maintenance Hydraulics	3	2 - 3
462-325	Machine Rigging	3	2 - 3
Summer			
462-320	Adv. Mfg.-Drives and Linkages	3	2 - 3
801-196	Oral/Interpersonal Communication	3	3 - 0
804-106	Introduction to College Math	3	3 – 0
Semester 2			
421-390	Blueprint Reading - Maintenance	3	2 - 3
462-310	Maintenance Machining	3	2 - 3
462-330	Motors and Controls	3	2 - 3
462-335	Refrigeration Fundamentals for Maint.	3	2 - 3
	TOTAL CREDITS	**33**	

COURSE DESCRIPTIONS

421-390 Blueprint Reading - Maintenance 3 Credits
This course focuses on reading and interpreting blueprints, drawings and graphic symbols used in industry. Students will gain experience in the ability to visualize spatial relationships between single and multiple-view drawings. Significant lab time is spent interpreting actual blueprints.

462-300 Electricity for Industrial Maintenance 3 Credits
Electricity for Industrial Maintenance provides a study of theories, concepts, elements, and principles of electricity and DC Circuits. Topics covered will include atomic theory, electron flow, current, voltage and resistance. This course combines both lecture and laboratory work utilizing course material from multiple sources, delivered by various media methods. Students need no prior knowledge of electricity. Math is kept basic and minimal.

462-305 Maintenance Welding 2 Credits
This course is designed to provide students with the necessary job entry skills for performing repair and maintenance type activities in industry. The individualized instruction includes orientation and process introduction, Shielded Metal Arc Welding (SMAW) and Gas Tungsten Arc Welding (GTAW).

462-310 Maintenance Machining 3 Credits
This is an introductory course for those new to machine shop fundamentals, as well as CNC (Computer Numerical Control) machining. Students will have the opportunity to use and understand basic hand tools, and progress to the Bridgeport CNC Mill. Three machine families consisting of milling/drilling machines, lathes/turning machines and power sawing machines are studied and operated.

462-315 Industrial Maintenance Hydraulics 3 Credits
This course outlines the fundamental principles in the operation of fluid power as it is used in the transmission of power through various components, including cylinders, motors, pumps and valves. Significant time will be spent in the lab working on hydraulic trainers and tearing down and building up components. In addition, students learn and practice tasks common to the pipe trades.

462-320 Advanced Manufacturing – Drives and Linkages **3 Credits**

This course will focus on identifying the different types of bearings and gears along with their applications. The student will acquire knowledge of preloading bearings and setting gears to proper backlash and shaft endplay. Belt and chain drives will also be presented. The student will gain knowledge of alignment of shafts and couplings. This will all be accomplished through lecture, visual aids and hands-on.

462-325 Machine Rigging **3 Credit**

This course will focus on the safe transport of equipment and other heavy objects using ropes, cables, slings, rollers, and hoists. Topics covered include knots, wire rope, chains, slings, shackles, hooks and rigging hardware. In addition, estimating load weight, center of gravity and mechanical advantage are also covered.

462-330 Motors and Controls **3 Credits**

This course concentrates on electric motors and their controls. Students will review and implement concepts of electron theory, magnetism, and ladder logic. Emphasis will focus on single and multiphase AC and DC motors. Students will be introduced to control devices such as switches, start/stop stations, magnetic motor starters, and programmable logic controllers (PLCs). This course concentrates on electric motors and their controls.

462-335 Refrigeration Fundamentals for Maintenance **3 Credits**

This course will focus on the function, operation and components of the refrigeration cycle: evacuation, recovery and charging. Participants will learn to solder, braze and form tubing. In addition, electric motors and automatic controls are introduced. Upon successful completion of this course, learners will be eligible to take the EPA 608 refrigeration handling license examination. Job safety is emphasized.

General Education Course Requirements:

801-196	Oral/Interpersonal Communication	3 Credits
804-107	College Mathematics	3 Credits

IT - Information Systems Security Specialist

Associate of Applied Science Degree

Cyber-security, including computer and information systems security, is a rapidly maturing area. Private and public sector enterprises-including federal, state, and local governmental units-are looking for people who have specialized knowledge, skills, and abilities related to cyber-security. This degree prepares students for entry-level employment in support positions related to endpoint security, network security, Web security, information security education and training, and much more.

Cyber-security includes operations that protect and defend both information and information systems, by ensuring their availability, integrity, authentication, confidentiality, and non-repudiation. This includes providing for the restoration of information systems by incorporating protection, detection, and reaction capabilities. Information security systems provide protection against unauthorized access to or modification of information, whether in storage, processing, or transit. Detection, documentation, and countering of such threats are critical skill areas for specialists in this field.

Program Outcomes–
Upon completion of this program, you will be able to:

- Assist in designing, implementing, and maintaining security in an internetworked environment
- Identify threats and vulnerabilities, and establish safeguards for information systems
- Troubleshoot potential IT security issues and apply counter-measures
- Implement preventive measures
- Install, configure, and use specialized security software, hardware, and firmware components
- Respond to attacks from viruses, worms, and other unauthorized access to information systems
- Maintain appropriate security controls for system software and hardware access
- Support procedures related to individual privacy, confidentiality, and access to corporate information
- Build a security plan that encompasses components for complete information system protection/security

Helpful High School Courses:

- Keyboarding and Software Applications
- PC Hardware Installation
- Internet Applications
- Web Page Design
- Algebra and math
- Business and information technology
- English and Speech

Graduates from this program are anticipated to be qualified for employment as:

- Data/Network Security Analyst/Manager/Consultant
- Information System Security Analyst/Manager/Consultant
- Internet/Web Security Analyst/Manager/Consultant
- Information Services Consultant
- Network Security Support Specialist
- Security Documentation Specialist

835-104 – Student Success

Students should take this course prior to or during their first semester of their program. This is an institutional requirement for all students

	Course Name	Credits	Lec-Lab
Semester 1			
150-120	Micro Operating Systems I	3	2 - 2
150-151	Information Security Principles	3	2 - 2
801-195	Written Communication	3	3 - 0
801-196	Oral - Interpersonal Communication	3	3 - 0
804-133	Mathematics and Logic	3	3 - 0
Semester 2			
150-130	Network Design	3	2 - 2
150-135	Operating Systems Security[1]	3	2 - 2
150-152	Information Security Policies and Procedures[1]	3	2 - 2
152-142	Introduction to Visual Basic .NET Programming	3	2 - 2
809-166	Introduction to Ethics: Theory and Application	3	3 – 0
	Elective	3	3 - 0
Semester 3			
150-133	Network Security[1]	3	2 - 2
150-153	Information Security Management[1]	3	2 - 2
152-143	Introduction to Java Programming	3	2 - 2
152-191	Secure e-Commerce Concepts	3	2 - 2
152-192	Designing Secure Websites	3	2 - 2
809-198	Introduction to Psychology	3	3 - 0
Semester 4			
150-134	Router Security[1]	3	2 - 2
150-136	Perimeter Security[1]	3	2 - 2
150-154	Security Measures and Threat Mitigation[1]	3	2 - 2
809-196	Introduction to Sociology	3	3 - 0
809-195	Economics	3	3 - 0
	Elective[2]	3	3 - 0
	TOTAL CREDITS	**69**	

[1] Course has Pre-requisites

Recommended Electives:

150-155A	Current Issues and Trends Seminar: Business Continuity Planning [1]	3	2 - 2
150-155B	Current Issues and Trends Seminar: Cyber Law and Ethics	3	2 - 2
150-155C	Current Issues and Trends Seminar: Computer Forensics[1]	3	2 - 2
150-155D	Network Forensics[1]	3	2 - 2
150-155E	Web Security	3	2 - 2

Short-Term Credit-Based Certificate Options:

- IT- Information Systems Security Specialist (36 credits) 99-9120
- IT- Project Management (11 credits) 99-9133

Students may choose to receive a certificate upon satisfactory completion of the required courses in the IT-Information Systems Security Specialist Program. With this certificate, you will be better prepared for entry level positions. Students selecting this option may return to BTC at a later date (in accordance with the College's advanced standing policy) to complete the IT-Information Systems Security Specialist Associate of Applied Science Degree.

COURSE DESCRIPTIONS

150-120 Micro Operating Systems I **3 Credits**
Micro Operating Systems I is a lecture/hands-on course designed to teach a popular microcomputer client operating system. The operating system covered is Microsoft Windows XP Professional. Topics include operating system installation and troubleshooting, and the use of users, groups, profiles, and policies. Best practices for securing the desktop environment are also discussed.

150-130 Network Design **3 Credits**
Network Design is a lecture/hands-on lab course designed to introduce students to network design fundamentals. Topics covered include: OSI Reference Model; LAN/WAN topologies; cabling systems; access methods; protocols; introduction to various network clients; and inter-net working devices (e.g. hubs, switches, bridges, routers, etc.).

150-133 Network Security **3 Credits**
This course introduces learners to the fundamentals of network security. The course covers various topical areas involved in network security, including security topology, intrusion detection, device configurations, access lists, authentication, and encryption. Different methods of attacks, such as viruses, Trojan horses, and worms are also reviewed. This course also introduces wireless security concepts. This course currently covers material from MCSE exam 70-291, Implementing, Managing and Maintaining a MS Windows Server 2003 Network Infrastructure. ***Pre-requisite: 150-120 Micro Operating Systems I; 804-133 Mathematics and Logic***

150-134 Router Security **3 Credits**
This course covers how to secure internetworked information systems (i.e., those connected by hubs, switches, routers, etc.), including defense against methods used by hackers to enter dedicated systems. Topics covered include confidentiality, integrity and reliability; user and group authentication; authorization and accounting; encryption replication; and security enhancement features. This course currently covers material from MCSE Exam 70-298, Designing Security for a MS Window Server 2003 Network. ***Pre-requisite: 150-130 Network Design***

150-135 Operating Systems Security **3 Credits**
Students will cover the essentials of securing popular operating workstations and networks. Topics include authentication, group security, remote access security, security file resources, Internet Protocol security, and more. Active Directory and similar topics

are also covered. This course currently covers material from MCSE exam 70-290, Managing and Maintaining a MS Window Server 2003 Environment. ***Pre-requisite:*** **150-120 Micro Operating Systems I; 150-151 Information Security Principles**

150-136 Perimeter Security 3 Credits
This course covers internetworked systems security management and configuration, integrated system security software, configuring network access servers for enhanced security, and an understanding of systems security support and management. Students will learn how to use Active Directory, or a similar service, to create and maintain secure perimeters within a network. This course currently covers material from MCSE exam 70-294, Planning, Implementing and Maintaining a MS Window Server 2003 Active Directory Infrastructure. ***Pre-requisite: 150-130 Network Design***

150-151 Information Security Principles 3 Credits
Students will be provided with a detailed knowledge of information security concepts, by addressing the five phases of security: inspection, protection, detection, reaction, and reflection. You will learn how to analyze the most critical risks and threats, define an information security strategy and architecture, and plan for and respond to intentional and unintentional insecurities.

150-152 Information Security Policies and Procedures 3 Credits
Students will learn how to develop a security vision statement; write effective but simple security policies and procedures that protect information, people, and property; control e-Commerce information systems; and comply with legal and policy requirements. Students will also evaluate information and systems, assign ownership and responsibilities, and develop an emergency response plan. ***Pre-requisite: 150-151 Information Security Principles; 801-195 Written Communication***

150-153 Information Security Management 3 Credits
Students will learn how to establish well-structured documentation systems for control of both sanctioned and unsanctioned activities, including those reports required by law. They will learn to write technical guidelines and technical descriptions, and develop checklists. Students will also document the application of patches and configuration changes. A resume and portfolio, which is a culmination of all information security coursework, will be compiled. ***Pre-requisites: 150-152 Information Security Policies and Procedures; 809-166 Intro to Ethics***

150-154 Security Measures and Threat Mitigation 3 Credits
This is the capstone course for the IT-Information Systems Security Specialist Program and allows the student to gain a systemic view of Information Security principles and procedures. The course covers compliance auditing and monitoring, as well as a review of the body of knowledge gained in previous courses. The primary methods of learning will be "hands-on", as students work in small groups to prepare for entry into an enterprise position involving the practice of Cyber-Security skills. This course currently covers material from MCSE exam 70-299, *Implementing and Administering Security for a MS Windows Server 2003 Network.* ***Pre-requisite: 150-130 Network Design***

150-155A Current Issues and Trends Seminar: Business Continuity Planning 3 Credits
This current issues and trends seminar course is designed for students enrolled in information technology, information security, e-Commerce and other business related programs. Learners will discuss a step-by-step process for addressing the fundamentals of disaster recovery planning as it pertains to getting an organization's IT systems back online as quickly as possible. Learners will first explore assessing the risks an organization faces to attacks from hackers, viruses, and worms. The course will then review strategies to develop, document, test, implement, and maintain procedures that helps an organization quickly return to normal operations with minimal losses. The entire disaster recovery planning process will be applied to student projects or case studies. This course is intended for IT personnel as well as managers and supervisors. ***Pre-requisite: 150-151 Information Security Principles.***

150-155B Current Issues and Trends Seminar: Cyber Law and Ethics 3 Credits
This current issues and trends seminar course is designed for students enrolled in information technology, information security, e-Commerce and other business related programs. Learners will be introduced to issues related to cyber crime, ethical issues surrounding internet use, personal and organizational privacy, intellectual property laws, and the regulation of information. A familiarity with computers and the Internet will be helpful to participants in the course.

150-155C Current Issues and Trends Seminar: Computer Forensics 3 Credits
The purpose of this course is to provide broad exposure to both the computer forensics field and toolkits. It is meant to provide a hands-on training environment, with classes and labs composed of learning activities for both information technology and legal/law enforcement professionals. The intent of the course is to share (and exponentially increase) understanding of the disciplines of the different constituent students. ***Pre-requisite: 150-120 Micro Operating Systems I***

150-155D Network Forensics 3 Credits
This course will cover both advanced endpoint forensics (i.e., as a continuation of 150-155C) and network forensics. Students will learn how to capture and analyze data from a network interface, as well as where and how to preserve it. The topic of eDiscovery, as a new discipline, will also be examined. ***Pre-requisite: 150-155C Current Issues and Trends Seminar: Computer Forensics***

150-155E Web Security 3 Credits
This course will cover the installation and administration of Microsoft Windows Server Internet Information Services (IIS). It will also cover related services, such as Active Server Pages (ASP .Net), Routing and Remote Access Services (RRAS), Remote Authentication for Dial-in User Services (RADIUS), and similar topics. This course will concentrate on Windows server administration with applications to web development, information security, and business e-Commerce.

152-142 Intro to Visual Basic .NET Programming 3 Credits
This lecture/lab course uses the Visual Basic .NET (VB .NET) programming language to teach problem-solving principles and demonstrates how to apply said principles in the development of algorithms designed to solve typical business problems. Structured programming (sequence, selection, and iteration) utilizing pseudo code is covered in detail. Introductions to database concepts and object-oriented programming (OOP) are also given.

152-143 Introduction to Java Programming 3 Credits
Introduces programming and object-oriented design concepts using the Java programming language. Students learn Java programming basics and use a text editor in a development environment. Design concepts and programming tools will be integrated with an emphasis on practical business solutions.

152-191 Secure e-Commerce Concepts 3 Credits
This course is a review of Internet/Worldwide Web/e-Commerce concepts, including Internet development, internetworking principles, Internet services, Web programming, site administration, and business and security concepts, including both human and technological factors.

152-192 Designing Secure Websites 3 Credits
This course is designed to educate students about the security issues of the Worldwide Web, Web servers, and Web applications. The learner will be introduced to client and server-side security principles and programming. At course completion, the student will be able to define, design, and implement a secure Web site.

General Education Courses:

801-195	Written Communication	3 Credits
801-196	Oral/Interpersonal Communication	3 Credits
804-133	Mathematics and Logic	3 Credits
809-166	Introduction to Ethics: Theory and Application	3 Credits
809-195	Economics	3 Credits
809-196	Introduction to Sociology	3 Credits
809-198	Introduction to Psychology	3 Credits

IT - Network Specialist

Associate of Applied Science Degree

The Network Specialist Associate of Applied Science Degree prepares students for a career in computer network support and integrated technology in order to meet business demands for information sharing. Students receive training in network design, installation, troubleshooting, administration, and management. IP Telephony technologies are introduced in the second year.

After completing this program, the student will have covered basic topic areas needed for the MCSA, Net+, A+, CCNA and CNA certifications.

Program Outcomes–
Upon completion of this program, you will be able to:

- Design a complex network to efficiently facilitate the flow of information using current LAN/WAN technologies
- Configure network equipment
- Manage desktop operating systems and software
- Manage network operating systems
- Apply systems analysis and design
- Troubleshoot complex LAN/WAN issues
- Create, maintain, and update system documentation
- Manage an Information Technology project from inception to implementation
- Utilize structured programming principles in the creation, editing, compilation, and execution of computer programs
- Utilize an industry-standard relational database management system (RDBMS) to illustrate an understanding of data design and data access
- Analyze and secure network systems to prevent unauthorized access
- Design IP Telephony Systems for the enterprise

Graduates from this program have found employment as:

- Network Administrator
- Help Desk Specialist
- Network Support Specialist
- Technical Support Specialist
- Network Technician
- User Support Specialist
- Technical Consultant

Helpful High School Courses:

- Keyboarding and Software Applications
- PC Hardware Installation
- Internet Applications
- Web Page Design

- Algebra and math
- Business and information technology
- English and Speech

835-104 – Student Success
Students should take this course prior to or during their first semester of their program. This is an institutional requirement for all students

	Course Name	Credits	Lec-Lab
Semester 1			
150-120	Micro Operating Systems I	3	2 - 2
150-130	Network Design	3	2 - 2
801-195	Written Communication	3	3 - 0
804-133	Mathematics and Logic	3	3 - 0
809-195	Economics	3	3 - 0
Semester 2			
150-127	Windows Server[1]	3	2 - 2
150-131	Network Installation /Troubleshooting[1]	3	2 - 2
150-140	Data and Control Structures[1]	3	3 - 0
152-133	Advanced Systems Documentation[1]	2	1 - 2
801-196	Oral/Interpersonal Communication	3	3 - 0
	Elective	3	3 - 0
Semester 3			
150-117	LAN/WAN Integration[1]	3	2 - 2
150-128	Active Directory[1]	3	2 - 2
150-141	Linux[1]	3	2 - 2
152-150	Systems Analysis and Design[1]	3	2 - 2
809-166	Introduction to Ethics: Theory and Application	3	3 - 0
Semester 4			
150-132	IT Project Management[1]	3	2 - 2
150-142	Introduction to IP Telephony[1]	3	2 - 2
150-143	Exchange and SQL Server[1]	3	2 - 2
150-182	IT Career Preparation[1]	1	1 - 0
809-196	Introduction to Sociology	3	3 - 0
809-198	Introduction to Psychology	3	3 – 0
	TOTAL CREDITS	**63**	

[1] Course has Pre-requisites.

Short-Term Credit-Based Certificate Options:

- IT - Project Management (11 credits) 99-9133

Students may choose to receive a certificate upon satisfactory completion of the required courses in the IT-Network Specialist Program. With this certificate, you will be better prepared for entry level positions. Students selecting this option may return to BTC at a later date (in accordance with the College's advanced standing policy) to complete the IT-Network Specialist Associate of Applied Science Degree.

COURSE DESCRIPTIONS

150-117 LAN/WAN Integration **3 Credits**
LAN/WAN Integration is a hands-on course where students build multiplatform, multiprotocol, multiserver networks from the ground up. Topics include: installation and configuration of client software, protocols, and servers; virtual LANs, switches, routers, virtual private networks, secure infrastructure design, and WAN technologies.

Pre-requisites: 150-131 Network Installation /Troubleshooting

150-120 Micro Operating Systems I **3 Credits**
Micro Operating Systems I is a lecture/hands-on course designed to teach a popular microcomputer client operating system. Topics include operating system installation and troubleshooting, and the use of users, groups, profiles, and policies. Best practices for securing the desktop environment are also discussed.

150-127 Windows Server **3 Credits**
This lecture/hands-on course concentrates on Microsoft Network Operating Systems such as Windows Server 2003 and 2008. Topics include: network administrator responsibilities; login security, file system security and design; Active Directory administration and design; user administration and client installation; configuration, troubleshooting, and print management.

Pre-requisite: 150-120 Micro Operating Systems I

150-128 Active Directory **3 Credits**
Active Directory is a lecture/hands-on course designed to introduce advanced administration. The student can expect to be able to implement: advanced GPOs, backup strategies, Active Directory Design, WSUS, DFS, Terminal Services, CA configuration, IIS, VPNs, DHCP, DNS, software deployment, RAS, and utilities like NTDSutil. Students will learn to use these tools and applications in an enterprise Active Directory network.

Pre-requisite: 150-127 Windows Server

150-130 Network Design **3 Credits**
Network Design is a lecture/hands-on lab course designed to introduce students to network design fundamentals. Topics covered include: OSI Reference Model; LAN/WAN topologies; cabling systems; access methods; protocols; introduction to various network clients; and internetworking devices (e.g. hubs, switches, bridges, routers, etc.).

150-131 Network Installation/Troubleshooting **3 Credits**
Network Installation and Troubleshooting is a lecture/hands-on course that is designed to introduce the student to routing and switching infrastructures, basic Cisco router and switch configurations, troubleshooting methodologies, OSI 7 layer concepts, integration of basic network components, and integration of desktop and server-based operating systems with infrastructure in an enterprise network.

Pre-requisite: 150-130 Network Design

150-132 IT Project Management **3 Credits**

This is a capstone project course for second year students that culminates the experience of the two-year program. The focus will be an integration of all of the networking skills acquired throughout the program with hands-on applications including problem-solving, troubleshooting, and technical documentation. Network trouble-shooting, server design, network analysis, network design, security, recovery models, project management, network planning, and business models relating to computer networking and IT will be stressed.

Pre-requisite: 150-117 LAN/WAN Integration, 152-150 Systems Analyst Design and 150-128 Active Directory

150-140 Data and Control Structures 3 Credits
Data and Control Structures is a lecture/hands-on course designed to teach students to think the way that the computer thinks and how data is stored and retrieved. Topics include: structured programming (i.e. sequence, selection, and iteration), database design, query building, form design, and report design.

Pre-requisite: 150-120 Micro Operating Systems I

150-141 Linux 3 Credits
Linux is a lecture/hands-on course designed to teach basic Linux commands and system administration. Linux desktop operating system installation, users, groups and file security will be examined. Linux server installation, configuration, troubleshooting and security topics will also be addressed.

Pre-requisite: 150-127 Windows Server 2003

150-142 Introduction to IP Telephony 3 Credits
Introduction to IP Telephony is a lecture/hands-on course, for second year students, designed to teach basic VoIP and telephony concepts. This course also reinforces network design concepts for both LAN and WAN implementations that are used for IP Telephony. Topics include: Basic VoIP architectures, LAN/WAN telephony architectures, telephony concepts, telephony security, introduction to Cisco CallManager, introduction to open source telephony solutions like Asterisk, and VoIP protocols.

Pre-requisite: 150-117 LAN/WAN Integration and 150-141 Linux

150-143 Exchange and SQL Server 3 Credits
Exchange and SQL Server is a lecture/hands-on course for second year students that is designed to introduce the student to Microsoft Exchange Server and Microsoft SQL Server Administration. Topics include: SQL Server installation, Exchange Server installation, Exchange and SQL configuration, managing the directory, managing distribution lists, managing information stores, writing advanced SQL queries, database design, normalization, and backing up and restoring Exchange and SQL Servers.

Pre-requisite: 150-128 Active Directory and 150-141 LINUX

150-182 IT Career Preparation 1 Credit
This is a course designed to prepare second year students with the skills necessary to plan and execute an active job search. Topics covered include: resumes; personal data files; letters of application; and interviewing techniques. Students will prepare a strategy for finding and obtaining a position that best fits their goals and interests.

Pre-requisites: 152-150 Systems Analysis and Design, 150-128 Active Directory and 150-117 LAN/WAN Integration

152-133 Advanced Systems Documentation 2 Credits
This lecture/lab course will focus on technical writing and documentation skills. Hands-on work will include writing and editing business letters and memos, persuasive documents, technical reports and html documentation. The course will culminate in a short research paper and oral presentation.

Pre-requisites: 801-195 Written Communication and 150-120 Operating Systems I

152-150 Systems Analysis and Design 3 Credits
Systems Analysis and Design is a lecture/lab course for second year students intended to introduce the student to the concepts involved in a small-to-medium sized information systems project from inception to implementation. We will cover the traditional analysis and design methodologies as well as object-oriented methodologies. Throughout the life cycle of the analysis and design process, we will cover project management, utilizing Microsoft Project. We will use Microsoft Visio as a tool in diagramming various components of the system during the analysis phase, and we will use Microsoft Access as a tool in the project's design phase. Additional concepts covered will be verbal and written communication with users and team members, professional behavior, professional attire, problem identification, and problem solving. SAD 1 will draw on knowledge obtained from previous classes, and synthesize and apply that knowledge.

Pre-requisite: 150-140 Data and Control Structures and 152-133 Advanced Systems Documentation

General Education Courses:

801-195	Written Communication	3 Credits
801-196	Oral/Interpersonal Communication	3 Credits
804-133	Mathematics and Logic	3 Credits
809-166	Introduction to Ethics: Logic and Application	3 Credits
809-195	Economics	3 Credits
809-196	Introduction to Sociology	3 Credits
809-198	Introduction to Psychology	3 Credits

IT - Web Analyst/Programmer

Associate of Applied Science Degree

The IT- Web Analyst/Programmer Associate of Applied Science Degree meets the specific skills and knowledge requirements of technical and professional jobs within the information technology field for Web development specialists including analyst /programmer, e-Commerce, or Web design/support. It is designed to meet entry-level education needs of most segments of the IT field which utilize a variety of computers. Training blends general educational development and required IT technical skills.

Graduates are prepared for entry-level Web developer jobs in government, insurance, manufacturing, service, software development, wholesale and retail sales, utilities, banking and accounting.

Program Outcomes –
Upon completion of this program, you will be able to:

- Write moderately complex Web applications using current Enterprise Java technology
- Write moderately complex Web applications using current Microsoft technology
- Process data in a relational database using the SQL command set
- Perform entry-level systems analysis and design work to solve business problems using both traditional and object-oriented methodologies
- Build the client side of interactive Web sites using (X)HTML and scripting languages
- Demonstrate work ethics and reliable behavior including, but not limited to, assuming responsibility for decisions and actions, utilizing time and stress managements skills, and displaying initiative
- Work as a team member by demonstrating good communication and listening skills, cooperation, and providing a supportive environment
- Demonstrate an understanding of the IT field and its job roles

Helpful High School Courses:

- Algebra and Math
- Computer Science
- General knowledge of Microsoft Windows
- Internet Experience

Graduates from this program can anticipate employment as:

- Web Master
- Web Designer
- Web Development Specialist
- Web Architect
- e-Commerce Support Specialist
- Programmer/Analyst
- Internet/Extranet Programmer

835-104 – Student Success
Students should take this course prior to or during their first semester of their program. This is an institutional requirement for all students

	Course Name	Credits	Lec-Lab
Semester 1			
152-119	Intro to Programming w/ JavaScript	3	2 - 2
152-147	Relational Database Development	3	2 - 2
152-157	Website Development-XHTML/CSS	3	3 - 0
801-195	Written Communication	3	3 - 0
804-133	Mathematics and Logic	3	3 - 0
Semester 2			
152-143	Introduction to Java Programming	3	3 - 0
152-142	Intro to Visual Basic.NET Prog.	3	2 - 2
152-148	Relational Database Coding[1]	3	2 - 2
152-160	Object-Oriented Design with UML	3	3 - 0
801-196	Oral/Interpersonal Communication	3	3 - 0
809-196	Introduction to Sociology	3	3 - 0
Semester 3			
152-145	Advanced Java Programming[1]	3	2 - 2
152-158	Advanced Website Development[1]	3	3 - 0
152-161	Web Application Development Using ASP .NET	3	3 - 0
152-162	Object-Oriented Systems Analysis[1]	3	3 - 0
809-198	Introduction to Psychology	3	3 - 0
	Elective[2]	3	3 - 0
Semester 4			
152-163	Relational Database Design[1]	3	3 - 0
152-164	Design and Implementation Projects[1]	3	3 - 0
152-167	AJAX and JavaScript Web Development[1]	3	2 - 2
152-182	Web Analyst/Programmer Field Study[1]	1	1 - 0
809-166	Introduction to Ethics: Theory and Application	3	3 - 0
809-195	Economics	3	3 - 0
	TOTAL CREDITS	**67**	

[1] Course has Pre-requisites

[2] Recommended Electives

150-151	Information Security Principles	3	2 - 2
152-139	Current Issues and Trends in IT	3	2 - 2
152-191	Secure e-Commerce Concepts	3	2 - 2
152-192	Designing Secure Websites	3	2 - 2

Short-Term Credit-Based Certificate Options:

- IT- Database Management (15 credits) Certificate 99-9125
- IT- Java Developer (12 credits) Certificate 99-9128
- IT- Visual Basic .Net (12 credits) Certificate 99-9126
- IT- Web Programming (12 credits) Certificate 99-9127

Students may choose to receive a certificate upon satisfactory completion of the required courses in the IT- Web Analyst/Programmer Program. With this certificate, you will be better prepared for entry level positions. Students selecting this option may return to BTC at a later date (in accordance with the College's advanced standing policy) to complete the IT- Web

Analyst/Programmer Associate of Applied Science Degree.

COURSE DESCRIPTIONS

150-151 Information Security Principles 3 Credits
Students will be provided with a detailed knowledge of information security concepts, by addressing the five phases of security: inspection, protection, detection, reaction, and reflection. You will learn how to analyze the most critical risks and threats, define an information security strategy and architecture, and plan for and respond to intentional and unintentional insecurities.

152-119 Introduction to Programming w/JavaScript 3 Credits
Teaches the basic concepts of programming using the JavaScript language. Topics include: embedding JavaScript in HTML, event-driven programming techniques, program control logic, pseudocode, and an introduction to object-oriented programming.

152-142 Introduction to Visual Basic .NET Programming 3 Credits
Introduction to Visual Basic .NET Programming is a lecture/lab course that uses the Visual Basic .NET (VB .NET) programming language to teach problem-solving principles and demonstrates how to apply said principles in the development of algorithms designed to solve typical business problems. Structured programming (sequence, selection, and iteration) utilizing pseudo code is covered in detail. Introductions to database concepts and object-oriented programming (OOP) are also given.

152-143 Introduction to Java Programming 3 Credits
Introduction to Java Programming introduces programming and object-oriented design concepts using the Java programming language. Students learn Java programming basics and use a text editor in a development environment. Design concepts and programming tools will be integrated with an emphasis on practical business solutions.

152-145 Advanced Java Programming 3 Credits
Focuses on the server side of application programming for the Web. Topics include: inheritance, exception handling, advanced GUI applications, applets, generics, collections and array lists. ***Pre-requisite: 152-143 Introduction to Java Programming***

152-147 Relational Database Development 3 Credits
Relational Database Development provides a general overview of database theory, including relational database management systems (RDBMSs) and normalization. The fundamentals of the structured query language (SQL), data definition language (DDL), and data manipulation language (DML) commands, utilizing client/server based database software, (e.g., MySQL) are also covered.

152-148 Relational Database Coding 3 Credits
This is class includes hands-on training utilizing a relational database management system (e.g., MySQL) in an advanced client/server software environment. Topics covered include: advanced structured query language (SQL) commands and concepts, and database programming utilizing the PHP programming language. ***Pre-requisite: 152-147 Relational Database Development***

152-157 Website Development-XHTML/CSS 3 Credits
Website Development - XHTML/CSS is a beginning class in client-side Web development. Topics covered include: The fundamentals of the Hypertext Markup Language (HTML) and its successor XHTML, Cascading Style Sheets (CSS), and an introduction to JavaScript.

152-158 Advanced Website Development 3 Credits
Advanced Website Development is a course in developing an actual working website, utilizing a server-side programming language (e.g., PHP or ASP .NET) in conjunction with a Relational Database Management System (RDBMS) package such as MySQL. ***Pre-requisites: 152-147 Relational Database Development and 152-157 Website Development-XHTML/CSS***

152-160 Object-Oriented Design with UML 3 Credits
This course is designed to be a practical, introductory-level systems analysis course utilizing Unified Modeling Language (UML) concepts. Emphasis is on the physical system elements: data design, object-oriented design, user interface design (screen and report) and system interface design. The use of CASE tools (e.g. Visio) is integrated throughout the course to enhance the design experience.

152-161 Web Application Development using ASP .NET 3 Credits
Students learn to develop Microsoft ASP .NET applications that deliver dynamic content to the Web. An emphasis is placed on server-side programming and the role ASP .NET plays. As part of the class, students create Web forms with server controls, display dynamic data from a database using Microsoft ADO .NET, read XML configuration files and learn to debug ASP .NET web pages.

152-162 Object-Oriented Systems Analysis 3 Credits
Object-Oriented Systems Analysis is an intermediate course in systems analysis from an object-oriented (OO) point-of-view. The course will emphasize the analysis and documentation of systems, physical OO modeling, and OO design. Students will demonstrate knowledge of OO concepts/terminology, and the role UML plays in the systems analysis and design process. ***Pre-requisite: 152-160 Object-Oriented Design with UML***

152-163 Relational Database Design 3 Credits
Relational database design is an advanced course in database concepts and design. Students will design, normalize, and develop a database and program the associated interface in a realistic environment. ***Pre-requisite: 152-148 Relational Database Coding***

152-164 Design and Implementation Projects 3 Credits
This is a capstone course designed to have the student utilize all of the concepts learned in this program and in an actual application setting. The goal is for the student to actually build a working e-Commerce Website. Students who take this course concurrently with 152-163 will benefit in both courses. ***Pre-requisite: 152-161 Web Application Development Using ASP .NET***

152-167 AJAX and JavaScript Web Development 3 Credits
This course covers the basics of DHTML, JavaScript, and the XmlHttpRequest call. Students learn how to add JavaScript and AJAX to existing programs, and design new applications to exploit the power of Web 2.0. ***Pre-requisites: Grade of C or better in 152-158 Advanced Website Development and 152-148 Relational Database Coding***

152-182 Web Analyst/ Programmer Field Study 3 Credits
This course will help plan for transitioning from school to work and will equip students with the skills necessary to plan and execute an active job search. Topics covered include: resumes, cover letters, and interviewing techniques. Students will also cover the organization of a typical Information Technology (IT) department. ***Pre-requisite: Completion of all first year IT program courses***

152-191 Secure e-Commerce Concepts 3 Credits
This course is a review of Internet/Worldwide Web/e-Commerce concepts, including Internet development, internetworking principles, Internet services, Web programming, site administration, and business and security concepts, including both human and technological factors.

152-192 Designing Secure Websites 3 Credits
This course is designed to educate students about the security issues of the Worldwide Web, Web servers, and Web applications. The learner will be introduced to client and server-side security principles and programming. At course completion, the student will be able to define, design, and implement a secure Web site.

General Education Course Requirements:

801-195	Written Communication	3 Credits
801-196	Oral/Interpersonal Communication	3 Credits
804-133	Mathematics and Logic	3 Credits
809-166	Introduction to Ethics: Logic and Application	3 Credits
809-195	Economics	3 Credits
809-196	Introduction to Sociology	3 Credits
809-198	Introduction to Psychology	3 Credits

Laboratory Technician

This Monroe Campus program prepares students to provide laboratory support to the food processing, medical, environmental, and agriculture industries. You will learn to conduct or assist in laboratory analysis of food, water, fuel, soil, bodily fluids and other elements. Laboratory science technicians are part of the laboratory team – operating standard laboratory equipment, performing tests and experiments and documenting the results. Graduates will have a strong basis in scientific principles, quality methodology and documentation, and laboratory equipment and testing methodologies.

Career opportunities for program graduates include entry-level positions such as agriculture and food lab assistant, medical laboratory assistant, environmental science technician assistant, and quality assurance laboratory assistant. This program is a great way to begin a career in the rapidly growing field of bio-technology. Employment opportunities locally and statewide are projected to increase for Laboratory Technician Assistants through the year 2014.

Program Outcomes-
Upon completion of this program, you will be able to:

- Apply modern laboratory methodologies including problem solving and troubleshooting
- Perform and report results of laboratory tests
- Practice laboratory safety and regulatory compliance
- Monitor and evaluate quality control in the laboratory
- Model professional behavior, ethics, and appearance appropriate to the laboratory setting
- Demonstrate quantitative reasoning skills and apply critical thinking skills to a variety of disciplines

835-104 – Student Success
Students should take this course prior to or during their first semester of their program. This is an institutional requirement for all students

	Course Name	Credits
Semester 1		
506-101	Beginning Laboratory Skills	3
506-108	Laboratory Safety/Hazardous Materials	1
806-199	General, Organic and Biological Chemistry	4
103-106	Introduction to MS Office Suite	3
804-107	College Math	3
801-195	Written Communication	3
Semester 2		
506-102	Intermediate Laboratory Skills	3
804-189	Intro to Statistics	3
506-109	Data Management for Lab Assistants	1
506-105	Quality Concepts in Laboratories	3
806-197	Microbiology	4
801-197	Technical Reporting	3
506-110	Occupational Experience (optional)	1
	TOTAL CREDITS	**34 OR 35**

Additional recommended coursework for students seeking employment in a Medical Lab facility:

501-101	Medical Terminology	3
513-111	Phlebotomy Procedures	3
513-312	Phlebotomy Practicum	2
806-177	General Anatomy and Physiology	4

COURSE DESCRIPTIONS

506-101 Beginning Laboratory Skills 3 credits
This class introduces general laboratory concepts and procedures. Emphasis will be placed on laboratory safety, equipment utilization, and maintenance. An introduction to scientific inquiry will be addressed. Proper techniques in specimen collection, record keeping, and quality control will be introduced. Basic la-

boratory mathematics will be discussed and applied. Pre-requisite/Co-requisite: 804-107 College Math

506-102 Intermediate Laboratory Skills 3 credits
The learner will begin to apply laboratory procedures and the scientific method to the analysis of samples and the performance of experiments. The learner will develop and apply data analysis and management techniques. The learner will develop the necessary methodology to deal with chemical and biohazardous materials. Pre-requisite 506-101 Beginning lab Skills or instructor permission.

506-105 Quality Concepts in Laboratories 3 credits
The learner will become familiar with quality concepts and their application within the laboratory environment. This will include understanding the benefits of quality, quality systems and processes, and the cost/impact of quality. Application of problem solving skills for continuous improvement will be explored. The learner will discuss regulatory agency roles in the lab.

506-108 Laboratory Safety/Hazardous Materials 1 credit
The learner will become familiar with the fundamental aspects of safety and hazardous materials in the laboratory environment, as well as safety/hazardous materials regulations and their applications. The learner will develop an awareness of their responsibility for safety within the workplace.

506-109 Data Management for Laboratory Assistants 1 Credit
This class introduces the fundamental concepts and approaches for data management in a laboratory environment. Both manual and automated data collection and management will be covered with particular emphasis on "best practice" and cGLP approaches for reliability, accuracy, and integrity within data management systems.

806-199 General, Organic and Biological Chemistry 4 Credits
A one semester course covering the fundamentals aspects of inorganic and organic chemistry. See course description in the General Education section on page 39.

804-189 Introduction to Statistics 3 Credits
Students taking Introductory Statistics display data with graphs, describe distributions with numbers perform correlation and regression analyses, and design experiments. They use probability and distributions to make predictions, estimate parameters, and test hypotheses. They draw inferences about relationships including ANOVA. ***Pre-requisite: Introduction to College Math or 2 years of high school or higher algebra OR satisfactory placement test score***

806-197 Microbiology 4 Credits
This course examines microbial structure, metabolism, genetics, growth and the relationship between humans and microorganisms. Disease production, epidemiology, host defense mechanisms and the medical impact of microbes in the environment, industry and biotechnology are also addressed.

Pre-requisite: 806-199 General, Organic and Biological Chemistry (Lab Tech students only)

Landscape and Turf Management

See Green Industry Technician for on pages .

Leadership Development

Associate of Applied Science Degree

The role of the traditional supervisor is changing and becoming a leader is very different. It requires a completely different skill set. Leadership involves establishing a shared vision, setting the right goals, communicating ideas and delivering results. Whether your goal is to be more efficient and effective in your present job or to move in a new career direction, Blackhawk Technical College's Leadership Development Associate of Applied Science Degree will provide you with the necessary skills for the future.

This Leadership Development Program explores the areas of creating vision, effective goal-setting, problem-solving and decision-making, power and influence, motivation, organizational change management and investing in (and managing) follower relationships for greater impact. The objective of the program is to bring together people who aspire to leadership positions and assist them in developing a comprehensive toolkit of experiences and skills needed to prepare and compete for future leadership positions in business, technical areas or the community.

The Leadership Development Program is offered on a flexible, part-time or full-time schedule to accommodate both traditional students and working adults. Day and evening course options are available.

Program Outcomes-
Upon completion of this program, you will be able to:

- Develop vision
- Adopt the position as advocates for and agents of change
- Perform and lead in team environments
- Demonstrate workplace communication skills
- Utilize performance management techniques
- Apply leadership tools and processes to improve organizational impact
- Demonstrate innovative and creative thinking
- Identify and apply continuous improvement processes
- Identify and develop personal leadership style
- Demonstrate leadership skills to productively manage organizational change
- Practice ethical leadership in business and professional roles
- Adopt the concept of leadership as service beyond self

Graduates from this program have found employment as:

- Associate Manager
- Materials Manager
- Team Leader

- Project Coordinator
- Quality Assurance Supervisor
- Club Manager
- Labor Relations Manager
- Human Resources Representative

Helpful High School Courses:

- Computer Skills
- Written/Oral Communications
- Business Education
- DECA or FBLA Membership

835-104 – Student Success
Students should take this course prior to or during their first semester of their program. This is an institutional requirement for all students

Course Name		Credits	Lec-Lab
Semester 1			
196-113	Evolution of Management	3	3 - 0
801-195	Written Communication	3	3 - 0
804-123	Math w/Business Apps	3	3 - 0
809-198	Introduction to Psychology	3	3 - 0
103-106	Introduction to MS Office (Elective)	3	3 - 0
	Elective	3	3 - 0
Semester 2			
196-135	Leadership: Individuals and Teams	3	3 - 0
196-192	Managing for Quality	3	3 - 0
196-193	Human Resource Management	3	3 - 0
196-104	Legal Issues	3	3 - 0
801-196	Oral/Interpersonal Communication	3	3 - 0
	Elective	3	3 - 0
Semester 3			
196-191	Supervisor as Leader	3	3 - 0
196-190	Leadership and Personal Development	3	3 - 0
196-109	Followership	3	3 - 0
809-166	Introduction to Ethics: Theory and Application	3	3 - 0
809-195	Economics	3	3 - 0
Semester 4			
102-160	Business Law	3	3 - 0
196-110	Leadership and Change	3	3 - 0
196-111	Project Management for Supervisors	3	2 - 2
196-114	Fundamentals of Budget Analysis	3	3 - 0
196-128	Leadership Internship/ Practicum[1]	3	1 - 8
809-172	Race, Ethnic and Diversity Studies	3	3 - 0
	TOTAL CREDITS	**66**	

[1] Course has Pre-requisites

[2] Recommended Electives:

102-148	Introduction to Business	3	3 – 0
403-106	Introduction to MS Office	3	3 – 0
809-196	Introduction to Sociology	3	3 - 0

You can receive an Associate Degree in the following two formats to fit your schedule:

Traditional Leadership Development

- Classes typically meet once a week during the day or evening and follows the traditional college calendar (August - May).
- Completion of degree usually within 2-3 years.

Accelerated Leadership Development
The Leadership Development Accelerated Program is intended for working adults whose knowledge and expertise become important parts of the learning process. This accelerated learning format relies on "teams" to support each other throughout the cycle. These teams of learners share a common purpose and collaborate together to acquire competencies which are immediately applicable to employment environments. As a result, the degree completion times are faster and more directly transferred to careers. Anyone interested in this learning format is encouraged to join the next course.

- Classes meet for 3-4 hours a week in the evening, for 8 weeks.
- Classes are not bound by the traditional college calendar.
- Teams support each other through the entire Leadership Development cycle.
- Students spend less time in class and more time in independent and group study.
- Students may complete degree in less time (2-3 years), but this format requires more commitment.

Short-Term Credit-Based Certificate Options:

- Leadership Development (18 credits) 99-9112
- Leadership Development (32 credits) 99-9115
- Small Business Management (29 credits) 99-9110

Students may choose to receive a certificate upon satisfactory completion of the required courses in the Leadership Development Program. With this certificate, you will be better prepared for entry level positions. Students selecting this option may return to BTC at a later date (in accordance with the College's advanced standing policy) to complete the Leadership Development Associate of Applied Science Degree.

COURSE DESCRIPTIONS

102-148 Intro to Business Organization and Mgmt 3 Credits
Students will be introduced to business operations, focusing on a basic understanding of the activities, functions, and principles of business enterprises. This course covers the responsibilities and

challenges of operating a business. The course emphasizes human relations, management, marketing, finance, labor relations, franchising, forms of ownership and careers

102-160 Business Law 3 Credits
This course is designed to provide the student with a working knowledge of law as it relates to the rights and responsibilities of businesses and individuals. Emphasis is placed on torts, contracts, case analysis, ethics, and social responsibility, particularly in the business context.

103-106 Introduction to MS Office 3 Credit
This course will introduce students to the Microsoft Office Suite and overview many of the core competencies of Outlook, Word, Excel, Access, PowerPoint, and Explorer. Students will develop the use of technology for both problem solving and decision-making and will be expected to learn to use the resources available to search for answers to problems.

196-104 Legal Issues 3 Credits
Students will thoroughly explore the issues surrounding the employee/employer relationship (interviewing, hiring, promotion, discipline, termination) including: discrimination, privacy, wrongful discharge, and organized labor. Student will understand the context of the laws by examining the history of American labor. Student will identify employment issues currently being defined by the court system. Student will apply such knowledge to their workplace as a manager to minimize employer liability.

196-109 Followership 3 Credits
This course examines the multiple roles followers play in their relationship to leaders and the organization and explores the practices that promote positive followership; and the part that followers have in setting the standards and formulating organizational culture.

196-110 Leadership and Change 3 Credits
In today's face-paced world, simply managing change is insufficient. Successful change requires leadership. The emphasis of this course is the study and application of a comprehensive change framework that can be followed by organizational leaders at all levels. Topics include creating a vision for change, developing employees to implement change, the risk of change, eliminating barriers to change and sustaining the change.

196-111 Project Management For Supervisors 3 Credits
Learners will recognize the role of projects and the importance of project management in the current business environment. Learners will develop successful proposals, plan, schedule, and budget a project. Learner will use computer software to assist them in controlling the progress of the project. Learner will acknowledge firsthand the importance of people skills in managing a project.

196-113 Evolution of Management 3 Credits
A comprehensive understanding of the origin and development of ideas in management is necessary to move the practice forward. This course traces the evolution of management thought from its earliest days to the present, by examining the backgrounds, ideas and influences of its major contributors within a historical context.

196-114 Fundamentals of Budget Analysis 3 Credits
The learner analyzes the fiscal components of a business by evaluating financial statements and annual reports that are relevant to the supervisor and decision-making. Each learner will evaluate and review ratios, trends, and develop a budget, and monitor the results. This course is a practical hands-on approach to interpreting accounting and financial reports as a non-accountant.

196-135 Leadership: Individuals and Teams 3 Credits
This course focuses on how to build and lead successful teams to strengthen the overall performance of organizations. Team building models will be analyzed with emphasis on steps that can be taken to overcome common hurdles and build cohesive, high performing teams. An emphasis will be placed on the stages of team development, roles of the leader in developing successful work and project teams. Facilitation tools, problem-solving strategies, facilitation tools and conflict resolution techniques will be introduced during an in-class team simulation.

196-128 Leadership Internship/ Practicum 3 Credits
Students further develop their knowledge and skills by working with professionals to complete projects for area organizations. Evaluation of students' work will be heavily influenced by the satisfaction expressed by representatives of the organizations served. ***Pre-requisite: Needs Dean Approval***

196-190 Leadership and Personal Development 3 Credits
Designed to assist individuals to apply leadership skills effectively in any organizational structure. Emphasis is placed on leadership and employee involvement strategies. Focus is on the role of the supervisor in defining direction, aligning the organization, empowering people and teams, modeling trustworthiness, balancing the needs of all stakeholders, and optimizing the allocation resources.

196-191 Supervisor as Leader 3 Credits
As organizations reduce management levels, the frontline supervisor will become a major component in effective delivery of products and services maximizing organizational results. This course is designed to help participants identify and develop personal leadership style and the skills necessary to effectively lead the work of others within the structure of an organization. Emphasis is placed on leading teams, communication and decision-making, managing conflict, supporting innovative thinking, influencing organizational culture, employee development, performance management and related topics that affect the leader's role in the organization.

196-192 Managing for Quality 3 Credits
Examines the role of the supervisor in assisting an organization to produce a quality product or service. The meaning and benefits of quality, the cost of quality systems, how to interact with customers, and data collection tools for continuous improvement will be explored.

196-193 Human Resources Management 3 Credits
Establishes a foundation for development of employee effectiveness by focusing on the supervisor's role in understanding, communicating, and implementing organizational policies. Focus is placed on: employee hiring; orientation and training; performance management; motivating employees and related topics that affect the

supervisor's work group.

General Education Course Requirements:

801-195	Written Communication	3 Credits
801-196	Oral/Interpersonal Communication	3 Credits
804-123	Math w/Business Applications	3 Credits
809-166	Introduction to Ethics: Theory and Applications	3 Credits
809-172	Race, Ethnic and Diversity Studies	3 Credits
809-195	Economics	3 Credits
809-198	Introduction to Psychology	3 Credits

Legal Administrative Professional

Associate of Applied Science Degree

The Legal Administrative Professional Associate of Applied Science Degree prepares students for employment as skilled assistants in law offices, legal firms, government offices, insurance agencies, real estate agencies, title companies, corporate offices, banks, and other organizations needing employees who have some substantive and procedural knowledge of the law. Legal Administrative Professional students have the opportunity to learn oral and written communication skills, legal office procedures and techniques, document formatting, file management, and legal research. Special emphasis is placed on legal vocabulary, document preparation, case management, ethics, and confidentiality. High-level skill development in keyboarding, English, and word processing is an important part of the program.

Program Outcomes

Upon completion of this program, you will be able to:

- Prepare legal documents from a variety of sources common to law offices and other agencies involved in legal transactions
- Draft correspondence to handle routine matters
- Proofread materials for proper English, accuracy, and clarity
- Develop interpersonal relationship skills, including greeting clients, answering the telephone, and applying ethical rules
- Maintain routine law office financial records
- Process incoming and outgoing correspondence
- Prepare citations using correct Blue Book format in legal memorandum and briefs
- Follow procedural steps appropriate to calendaring/docketing procedures
- Use appropriate technology to prepare legal documents and perform legal research
- Use advanced word processing techniques to design documents
- Prioritize daily activities using Outlook and other resources to manage a legal office and personal work efficiently
- Use proper legal terminology and legal procedures in class discussions and document preparation
- Manage electronic and paper-based information to maintain neat and organized files and client information

Graduates from this program have found employment as:

- Legal Secretary
- Legal Assistant
- Deputy Court Clerk
- Judicial Assistant
- Clerk/Typist
- Assistant Office Manager
- Receptionist
- Correspondence Clerk
- Word Processing Operator

Helpful High School Courses:

Touch keyboarding skill of 40 wpm or higher for 5 minutes with 5 or fewer uncorrected errors is a pre-requisite for one or more first semester courses in this program.

835-104 – Student Success
Students should take this course prior to or during their first semester of their program. This is an institutional requirement for all students

	Course Name	Credit	Lec-Lab
Semester 1			
102-160	Business Law	3	3 - 0
106-108	Proofreading and Editing	1	0 - 2
106-129	Business Filing	1	0 - 2
106-145	Information Technology Essentials	3	2 - 2
106-146	Word Processing Applications[1]	3	1 - 4
801-195	Written Communication	3	3 - 0
	Elective 1 (106-131 Keyboarding Applications, if needed)	3	varies
Semester 2			
106-133	Business Writing and Document Formatting[1]	3	1 - 4
106-159	Business Spreadsheets	3	2 - 2
106-176	Legal Office Applications[1]	3	2 - 2
106-180	Legal Terminology and Court Structure	3	3 - 0
804-106	Introduction to College Mathematics	3	3 - 0
809-196	Introduction to Sociology	3	3 - 0
Semester 3			
106-110	Legal Office Professionalism[1]	3	2 - 2
106-132	Legal Transcription[1]	3	2 - 2
106-134	Legal Research and Writing	3	3 - 0

106-152	Legal Document Production I[1]	3	2 - 2
809-166	Introduction to Ethics: Theory and Application	3	3 - 0
801-196	Oral/Interpersonal Communication	3	3 - 0
Semester 4			
106-151	Legal Office Procedures[1]	4	3 - 2
106-154	Legal Document Production II[1]	3	3 - 0
809-195	Economics	3	3 - 0
809-198	Introduction to Psychology	3	3 - 0
	Elective [2]	3	varies
	TOTAL CREDITS:	**69**	

[1]Course has pre-requisite.

[2]Recommended Electives:

101-102	Office Accounting	3	2 - 2
106-131	Keyboarding Applications[1]	3	1 - 4
106-140	Keyboarding	1	0 - 2
106-143	Skillbuilding	1	0 - 2
106-163	Supervised Occupational Experience – Legal Administrative Professional	1	0 - 4

COURSE DESCRIPTIONS

101-102 Office Accounting **3 Credits**
Office Accounting is a basic course in accounting principles and bookkeeping procedures. Topics include journalizing and posting transactions, preparing worksheets, adjusting and closing entries, and preparing the financial statements. Emphasis is on the service enterprise and accounting for cash.

102-160 Business Law **3 Credits**
This course is designed to provide the student with a working knowledge of law as it relates to the rights and responsibilities of businesses and individuals. Emphasis is placed on torts, contracts, case analysis, ethics, and social responsibility, particularly in the business context.

106-108 Proofreading and Editing **1 Credit**
Students will develop proofreading skills for identifying and correcting punctuation, grammar, spelling, and usage errors. This course also includes editing skills for improving format, consistency, clarity, conciseness, and completeness. Activities require applying proofreading and editing skills to realistic business communications in both print and electronic formats. Touch keyboarding and basic word processing skills are helpful.

106-110 Legal Office Professionalism **3 Credits**
This course is a review of business English including spelling, capitalization, number usage, punctuation, word division, possessives, editing, and proofreading skills. Composition at the computer is also a part of this class. Specific legal office communication examples will be used. The course includes work on job finding skills, also. Resume writing, cover letter writing, and interviewing skills are included. A unit on using mail, the telephone, and e-mail in a legal office will be included as well as units on professional dress and ethics. ***Pre-requisite: 106-180 Legal Terminology***

106-129 Business Filing **1 Credit**
Students learn the Association of Records Managers and Administrators (ARMA) filing rules through experience with various filing methods in a practice simulation. Students will also be introduced to file maintenance procedures, supplies, and equipment.

106-131 Keyboarding Applications **3 Credits**
Keyboarding Applications is designed to enhance keyboarding skills and to develop basic document formatting techniques while applying decision-making skills. Basic grammar and punctuation skills will be emphasized along with common word processing software. Students can expect to possess keyboarding skills of 40 wpm or higher at the end of this course. ***Pre-requisite: Touch keyboarding skill (30 wpm for 3 minutes with 3 or fewer uncorrected errors) is assumed at the beginning of this course. This course is not required for students who can demonstrate this competency on a timed test.***

106-132 Legal Transcription **3 Credits**
Instruction is given on the use of transcribing machines with emphasis on the production of legal transcription. The goal in this class is the production of error free documents with periodic spelling checks. There is added emphasis on the improvement of legal terminology, English, proofreading, and listening skills. ***Pre-requisite: 106-133 Business Writing and Document Formatting***

106-133 Business Writing and Document Formatting **3 Credits**
Document Formatting further develops keyboarding skills and emphasizes the efficient production of correctly formatted professional business documents. Additionally, the class will focus on applying correct grammar/spelling/punctuation/word usage to business communications and the use of appropriate communication style. ***Pre-requisite: 106-146 Word Processing Applications***

106-134 Legal Research and Writing **3 Credits**
This course covers citing federal and state cases, statutes, legislative history materials, treatises, law reviews, as well as some additional secondary sources. Finding materials from citations is included. The basics of computerized legal research and writing, along with the preparation of legal documents, are stressed. ***Pre-requisites: 106-110 Legal Office Professionalism, 106-132 Legal Transcription, and 106-152 Legal Document Production I***

106-140 Keyboarding **1 Credit**
Students will master the computer keyboard by touch including the letters and numeric keypad. Computer software is used to begin development of acceptable speed and accuracy levels. Students completing this course may be ready for 106-131 Keyboarding Applications, or may continue to develop their proficiency and keyboarding abilities in Skillbuilding. This course is not required for students who can demonstrate keyboarding skills of 30 words per minute with 3 or fewer uncorrected errors on a 3 minute timing.

106-143 Skillbuilding **1 Credit**
This elective course focuses on the development of keyboarding speed and accuracy. Diagnostic computer software allows students

to determine their own particular weaknesses and error patterns and then select drills specifically designed to correct those weaknesses. This course may be taken more than once to further develop skills. Students should know the alphabetic keyboard by touch with a typing speed of 20 WPM in a 5-minute timed test or have taken 106-140 Keyboarding. Students completing this course may be ready for 106-131 Keyboarding Applications or may continue to develop their proficiency and keyboarding abilities by repeating the course.

106-145 Information Technology Essentials 3 Credits
This course provides an introduction to computers and information processing terms, hardware, software, networks, and buying a computer. Major topics also include effective use of a web browser, Microsoft Outlook's electronic mail, calendar, and contacts modules, and the basics of Windows operating system. Touch keyboarding skills are recommended.

106-146 Word Processing Applications 3 Credits
Students use word processing software to create, format, and edit business documents applying features such as headers/footers, macros, merge, templates, tables, columns, outlines, fonts, and graphics. Software functions, theory and production will be assessed. ***Pre-requisite: Touch keyboarding speed of 40 words per minute and basic computer skills.***

106-151 Legal Office Procedures 4 Credits
This course is designed to cover the practical aspects of law office management, including the functions of management, administrative procedures, docket control, time and billing procedures, and case management. Job-seeking skills will be covered, including the preparation of a resume. ***Pre-requisites: 106-110 Legal Office Professionalism, 106-132 Legal Transcription, and 106-152 Legal Document Production I***

106-152 Legal Document Production I 3 Credits
This course coordinates with other courses to provide specialized training in the understanding and actual preparation of legal documents. Areas of specialization include civil litigation, real estate, and divorce. Other topics covered include ethics, client interviews and interview forms, and court structure. ***Pre-requisites: 106-133 Business Writing and Document Formatting and 106-180 Legal Terminology***

106-154 Legal Document Production II 3 Credits
Advanced legal procedures intended to provide more in-depth training on the order of events in several fields of law are presented in this course. Attorneys with expertise in each of these areas of law assist in teaching the units. The primary course objective is to provide in-depth procedural information in each area of law. This will enable students to enter jobs and understand what they are doing as well as why the task is necessary. ***Pre-requisites:106-110 Legal Office Professionalism, 106-132 Legal Transcription, and 106-152 Legal Document Production I***

106-159 Business Spreadsheets 3 Credits
Using Microsoft Excel, students will learn the elements of a spreadsheet: worksheet capabilities (create, modify, enhance, save, print, and erase worksheets), graphing capabilities (create graphs, bar charts, and pie charts), and database capabilities (create, sort, and query). Basic computer skills are expected.

106-163 Supervised Occupational Experience - Legal Administrative Professional 1 Credit
The student will obtain practical experience in a law office or a related field of work for a minimum of 72 hours during the last semester of training in the program. As new techniques and duties are acquired, the student will gain practical experience in the areas of reception, filing, transcription, office management, and any other duties normally performed by a legal secretary of the Affiliating Office. ***Pre-requisites: 106-110 Legal Office Professionalism, 106-132 Legal Transcription, and 106-152 Legal Document Production I***

106-176 Legal Office Applications 3 Credits
Legal Office Applications is a course designed to provide the student with the foundational skills needed to operate a computer and an introduction of some typical software applications used in a legal office. Included in this course are Windows operating system, basic word processing, spreadsheet, and presentation software. Students will learn the fundamental concepts associated with each component. An additional unit on voice recognition in the law office will be included. ***Pre-requisite: Touch keyboarding skill of 30 words per minute is assumed.***

106-180 Legal Terminology and Court Structure 3 Credits
This course is designed to introduce the student to basic legal vocabulary. The fields of law covered include criminal, torts, personal property, agency, wills and estates, and real property. The class also covers terminology relating to practice and procedure in the courts.

General Education Course Requirements:

801-195	Written Communication	3 Credits
801-196	Oral/Interpersonal Communication	3 Credits
804-106	Introduction to College Math	3 Credits
809-166	Introduction to Ethics: Logic and Application	3 Credits
809-195	Economics	3 Credits
809-196	Introduction to Sociology	3 Credits
809-198	Introduction to Psychology	3 Credits

Marketing

Associate of Applied Science Degree

The Marketing Associate of Applied Science Degree enables students to understand and apply marketing, management, and entrepreneurial principles; to make rational economic decisions; and demonstrate social responsibility in a global economy. Students will learn career and technical skills in sales, marketing, market research, promotions, and leadership. Blackhawk Technical College's program provides opportunities to apply these skills in projects in business-to-business, business-to-consumer, marketing management, and advertising environments. Students can choose from a broad range of career opportunities upon graduation. Typical graduation placement includes marketing support, sales and promotion, media planning and research, account service, sales and purchasing, and more.

Program Outcomes –
Upon completion of this program, you will be able to:

- Develop strategic marketing plans to include a target market analysis, product/service mix, pricing strategy, distribution strategy, and promotion plan
- Generate and analyze marketing information for effective decision-making
- Create a professional development plan and portfolio
- Apply marketing management strategies and tactics within an enterprise
- Apply technology to marketing and marketing information systems
- Demonstrate personal selling strategies
- Design a promotional plan
- Understand principles of e-Commerce and web marketing

Graduates from this program have found employment as:

- Inside Sales
- Customer Service Reps
- Sales Professional
- Office Manager
- Special Events Coordinator
- Account Executives
- Sales Representatives
- Retail Management
- Web Marketing Associate
- Web Design Assistant

Helpful High School Courses and Activities:

- DECA and FBLA events and activities
- Business Education and Marketing
- Computers and technology
- Writing and communications

835-104 – Student Success
Students should take this course prior to or during their first semester of their program. This is an institutional requirement for all students

	Course Name	Credits	Lec-Lab
Semester 1			
103-106	Introduction to MS Office	3	3 - 0
104-102	Marketing Principles	3	3 - 0
104-104	Selling Principles	3	3 - 0
804-123	Math with Bus. Apps	3	3 - 0
801-195	Written Communication	3	3 - 0
Semester 2			
104-144	Marketing Communications[1]	3	2 - 2
104-190	Retail Principles	3	3 - 0
196-191	Supervision	3	3 - 0
801-196	Oral/Interpersonal Communication	3	3 - 0
809-198	Introduction to Psychology	3	3 - 0
	Elective[2]	3	3 - 0
Semester 3			
104-117	Promotion Principles[1]	3	3 - 0
104-125	Marketing Media[1]	3	3 - 0
104-160	Marketing Research[1]	3	3 - 0
196-190	Leadership and Personal Development	3	3 - 0
809-172	Race, Ethnic and Diversity Studies	3	3 - 0
809-195	Economics	3	3 - 0
Semester 4			
104-118	Web and Design Concepts[1]	3	3 - 0
104-140	e-Commerce Principles	3	3 - 0
104-113	Marketing Career Strategies*	2	2 - 0
104-146	Marketing Management[1]	3	3 - 0
809-196	Introduction to Sociology	3	3 - 0
152-157	Website Development	3	3 - 0
	TOTAL CREDITS	**68**	

*This course is a 4th semester course which requires you to compile projects, assignments, artifacts from your Marketing Program.

[1] Course has a pre-requisite.

[2] Recommended Electives:

104-154	Supervised Occupational Exp. Marketing[1]	2	0 - 8
104-130	Fundamentals of Customer Service	3	3 - 0

Short-Term Credit-based Certificate Option:

- Promotion (12 credits) Certificate 99-9117
- Customer Service (16 credits) Certificate 99-9130

Students may choose to receive a certificate upon satisfactory completion of the required courses in the Marketing Program. With

this certificate, you will be better prepared for entry level positions related Marketing. Students selecting this option may return to BTC at a later date (in accordance with the College's advanced standing policy) to complete the Marketing Associate of Applied Science Degree.

COURSE DESCRIPTIONS

103-106 Introduction to MS Office 3 Credits
This course will introduce students to the Microsoft Office Suite and overview many of the core competencies of Outlook, Word, Excel, Access, PowerPoint, and Explorer. Students will develop their use of technology for both problem solving and decision-making, and will be expected to learn to use the resources available to search for answers to problems.

104-102 Marketing Principles 3 Credits
This course introduces core marketing concepts and terminology for Marketing and non-Marketing students. In addition to developing the rationale for a marketing approach to strategic planning, specific topics include: target market selection, and issues related to product, price, distribution, and promotion decisions.

104-104 Selling Principles 3 Credits
Learners will cover the personal and occupational applications of selling (defined as "an interpersonal persuasive process designed to influence some person's decision"). Selling is investigated from the following viewpoints: personal, industrial, wholesale, retail, door-to-door, and service. Students also learn and practice the professional principles involved in relationship selling.

104-113 Marketing Career Strategies 2 Credit
Traditional and alternative career search techniques are explained in this course. Emphasis is placed on both standard job application procedures and alternative techniques most often recommended by employers, recruiters, and other employment/personnel specialists. Students will complete a portfolio project that can be used to assist them with career search strategies and interviewing.

104-117 Promotion Principles 3 Credits
This course provides a broad overview of the entire spectrum of paid and non-paid activities designed to encourage the purchase of products and services, including, but not exclusive to, advertising, display, publicity/news releases, public relations, packaging, special events and sales promotion. ***Pre-requisite: 104-102 Marketing Principles***

104-118 Web and Design Concepts 3 Credits
This course examines the aesthetic, symbolic, and technical qualities of color that challenge the designer. Students will refine their use of the design principles using layout and composition techniques to solve design problems relevant to desktop publishing, web design, and/or any form of marketing communication. Applications to effective web marketing will be explored. ***Pre-requisite: 104-144 Marketing Communications***

104-125 Marketing Media 3 Credits
This course provides a broad overview of the major elements of brand management and media selection. The learning process focuses on integrating advertising into an overall marketing strategy. The purpose of this course is to introduce the real world of advertising and its diversity, its processes and principles, its people and the professional experiences and ways thinking. ***Pre-requisites: 104-102 Marketing Principles, 104-144 Marketing Communications***

104-130 Fundamentals of Customer Service 3 Credits
This course is designed for learners who desire training in the fundamentals of customer service as they relate to business. It introduces core customer service concepts and an overview of the essential skills needed to succeed in any organization. In addition to dealing with internal and external audiences, specific topics include: listening techniques, verbal and nonverbal communication, dealing with various customer types, use of technology, handling a variety of complex customer situations, as well as an overview of careers within the customer service industry.

104-140 e-Commerce Principles 3 Credits
This course provides an overview of electronic commerce. Business models underlying these electronic commerce applications are studied from both an operational and strategic perspective. A review is made of WWW technology trends including electronic payment and related issues of authentication, security, privacy, intellectual property rights, and tax implications. The role of marketing personnel in e-Commerce will be explored. ***Pre-requisite: 103-106 Introduction to MS Office***

104-144 Marketing Communications 3 Credits
In this combined lecture/lab and project-based course, students learn how to use computer and multimedia technology to plan, design, and execute marketing related communications activities within the business firm. Learners will learn to use Desktop Publishing and Desktop Design hardware and software suitable for both in-house, or electronic, pre-press production of catalogs, brochures, flyers, posters, and product information sheets. ***Pre-requisite: 103-106 Introduction to MS Office***

104-146 Marketing Management 3 Credits
This fourth-semester course instructs students in decision-making relative to the marketing mix with special emphasis on the development, organization, implementation, and control of the marketing plan. This capstone course will help the learner analyze the available research data and then, when necessary, modify the data on the basis of logic and reason. The course helps the learner make not only informed marketing decisions, but also build rationale to defend it. Case studies and/or simulations used in class are designed to improve business acumen and managerial judgment. ***Pre-requisite: 104-160 Marketing Research***

104-154 Supervised Occupational Experience – Marketing 2 Credits
Students complete an on-the-job training plan based on a three-way agreement between an approved employer/sponsor, the student/intern, and the college. Participation in the supervised occupational experience involves marketing-related, mid-management or specialist employment based on the student's marketing career goals. Students are provided with an opportunity to apply and strengthen concepts and skills learned in the classroom and provide an opportunity to learn operational skills not taught in the classroom. ***Pre-requisite: Minimum of 30 credits toward a degree in Marketing is required.***

104-160 Marketing Research **3 Credits**
The emphasis of this course will be on the collection of primary data through marketing research methodologies: observation, focus groups, interviews, and surveys. The course will also introduce students to the various methods of collecting secondary data. Concepts will be reinforced through group projects. ***Pre-requisite: 104-102 Marketing Principles***

104-190 Retail Principles **3 Credits**
This course includes a study of considerations and opportunities of selling goods and services to the final consumer. Topics include an overview of the end user, store design, securing and controlling inventory, pricing, promotions, and future trends. An analysis is made of the basic activities of running a retail store.

152-157 Website Development-XHTML/CSS **3 Credits**
Website Development - XHTML/CSS is a beginning class in client-side Web development. Topics covered include: The fundamentals of the Hypertext Markup Language (HTML) and its successor XHTML, Cascading Style Sheets (CSS), and an introduction to JavaScript.

196-190 Leadership and Personal Development **3 Credits**
Designed to assist individuals to apply leadership skills effectively in any organizational structure. Emphasis is placed on leadership and employee involvement strategies. Focus is on the role of the supervisor in defining direction, aligning the organization, empowering people and teams, modeling trustworthiness, balancing the needs of all stakeholders, and optimizing the allocation resources.

196-191 Supervisor as Leader **3 Credits**
As organizations reduce management levels, the frontline supervisor will become a major component in effective delivery of products and services maximizing organizational results. This course is designed to help participants identify and develop personal leadership style and the skills necessary to effectively lead the work of others within the structure of an organization. Emphasis is placed on leading teams, communication and decision-making, managing conflict, supporting innovative thinking, influencing organizational culture, employee development, performance management and related topics that affect the leader's role in the organization.

General Education Course Requirements:

801-195	Written Communication	3 Credits
801-196	Oral/Interpersonal Communication	3 Credits
804-123	Math with Business Applications	
809-172	Race, Ethnic and Diversity Studies	3 Credits
809-195	Economics	3 Credits
809-196	Introduction to Sociology	3 Credits
809-198	Introduction to Psychology	3 Credits

Mechanical Design Technology

A mechanical design technician is trained to be an involved member of the engineering team engaged in the design, planning, development and testing of mechanical components and machines.

Training for this career requires technical skills of drafting, and knowledge of scientific and engineering principles as related to and applied to design.

Mechanical design technicians apply the theory and principles of mechanical engineering to design, development, and testing of machinery and mechanical equipment under direction of the engineering staff and physical scientists. Duties include review of project instructions, contracts, and specifications to determine test values, manufacturing procedures and component functions.

A designer uses engineering specifications and data, information from handbooks, equipment manuals, suppliers, catalogs, etc., which help determine whether an existing design is practical or economical to produce. The engineer may also be called upon to apply knowledge of basic engineering principles to solve design problems, such as those involving tolerances, strength, speeds, motion, or the selection of the proper standard components for a mechanical device.

Graduates may find positions dealing with product development, equipment design, technical advisors, tool design, machinery design, and other technical level positions as associates with the field of mechanical engineering. There is good opportunity for advancement beyond entry-level employment for graduates of the Mechanical Design Technology program.

Program Outcomes
Upon completion of this program, you will be able to:

- Solve mechanical and spatial related problems
- Design mechanical components using CAD software
- Analyze and improve existing mechanical component drives
- Recommend mechanical power transfer system upgrades in the realm of machine design
- Utilize supporting software applications program aimed at supporting design changes
- Design cost effective mechanical components
- Work as a constructive and effective design team member
- Balance design considerations with existing and future technology

Graduates from this program have found employment as:

- Mechanical Design Technician
- Mechanical Draftsperson
- Industrial Engineering Assistant
- Mechanical Design Technician/Supervisor
- Tool and Die Designer

- Tool Designer/Engineer
- Technical Illustrator
- Engineering/Manufacturing Liaison

Career Outlook:

Well-qualified mechanical design technicians should experience good employment opportunities through the year 2010. Employment is expected to increase due to the expected continued growth in the output of technical products. Industrial expansion and complex technological changes such as robotics and automation will create a demand for more technicians. Technicians with computer-assisted design experience are more likely to obtain employment.

835-104 – Student Success
Students should take this course prior to or during their first semester of their program. This is an institutional requirement for all students

	Course Name	Credits	Lec-Lab
Semester 1			
606-123	Interpreting Engineering Graphics	2	1 - 2
606-124	Orthographic Projection	3	2 - 2
606-127	2-Dimensional CAD	3	2 - 2
801-195	Written Communication	3	3 - 0
804-115	College Technical Mathematics 1A	3	3 - 0
Semester 2			
606-125	Drafting Representations[1]	2	1 - 2
606-126	Fasteners and Processes[1]	3	2 - 2
606-133	Descriptive Geometry	2	1 - 2
623-160	Manufacturing Materials and Processes	3	3 - 0
804-118	College Technical Mathematics 1B	2	2 - 0
809-198	Intro to Psychology	2	2 - 0
Semester 3			
606-120	Strength of Materials [1]	3	3 - 0
606-128	3-Dimensional CAD	3	2 - 2
606-129	Kinematics	3	2 - 2
806-112	Principles of Sustainability	3	3 - 0
801-154	General Physics 1	4	3 - 2
Semester 4			
606-130	Actuators	3	2 - 2
606-131	Geometric Dimensioning and Tolerancing	2	1 - 2
606-132	Design Applications	2	1 - 2
801-197	Technical Reporting[1]	3	3 - 0
809-196	Introduction to Sociology	3	3 - 0
	OR		
809-172	Race, Ethnic and Diversity Studies		
999-999	Elective	3	3 - 0
	TOTAL CREDITS	**61**	

[1]Course has Pre-requisites.

COURSE DESCRIPTIONS

606-120 Strength of Materials **3 Credits**
A study is made of the behavior of machine parts and structural members that are in service. Various types of loads and the effects of those loads are examined. Failure modes are examined and calculated to assure proper machine design and function. ***Pre-requisite: College Technical Mathematics 1B***

606-123 Interpreting Engineering Graphics **2 Credits**
This is a course designed to introduce the student to the concepts, equipment and tools associated with Mechanical Drafting. The course is a precursor to more advanced subject matter discussed in later program classes.

606-124 Orthographic Projection **3 Credits**
ANSI Standards, as related to drafting, are introduced. The principles for orthographic projection and techniques for layout of multi-view drawings are introduced. Subject areas include ANSI regulations/standards, primary planes of projection and applied orthographic projection. Dimensioning basics are covered.

606-125 Drafting Representations **2 Credits**
Internal features expressed through sections and drafting conventions are examined. Auxiliary, successive auxiliary, revolution and applied descriptive geometry are used extensively in the course. A brief introduction to pictorials is covered**.** ***Pre-requisite: Orthographic Projection and 2-Dimensional CAD***

606-126 Fasteners and Processes **3 Credits**
An in-depth look at threaded fasteners and screw thread systems is taken. Working strength of various threads to assess mode of failure as well as specific stress and strain calculations are discussed. Welding terminology and symbology are introduced.
Pre-requisite: Orthographic Projection and 2-Dimensional CAD

606-127 2-Dimensional CAD **3 Credits**
All aspects of two-dimensional computer aided drafting are explored. This is a foundation for more advanced editing and dimensioning as well as three-dimensional computer aided renderings.

606-128 3-Dimensional CAD **3 Credits**
This is a hands-on drawing course in the latest Mechanical Design nuance known as 3-D drafting. The student will learn time saving techniques for constructing solid models for use in the industrial design field.

606-129 Kinematics **3 Credits**
The student takes an in-depth look at the study of motion as related to machines and the design and selection of belts, gears, cams and eccentrics. Linear and rotational motion is discussed as

well as specific displacement. Also discussed are bearings and clutches/brakes.

606-130 Actuators **3 Credits**
In this course, the basics of creating movement through the use of electricity, electric motors, hydraulics and pneumatics are discussed. This course is intended to give the student a basic understanding of the various machine design applications he/she may encounter in industry.

606-131 Geometric Dimensioning and Tolerancing **2 Credits**
GD&T introduces the student to the differences between conventional tolerancing and geometrical tolerancing. An emphasis is put on interpretation and application of the proper GD&T symbology given the function of the part and according to ANSI Standards.

606-132 Design Applications **2 Credits**
A culmination of the total program is reached in this course. Multiple projects are assigned to strengthen the student's ability to perform in the design field. This course allows the student to be creative in their design selection, and to defend/explain the selection based on necessary criteria.

606-133 Descriptive Geometry **2 Credits**
Descriptive Geometry is designed to broaden the applicable knowledge of different techniques employed in the graphical solution of problems involving spatial relationships between points, lines, planes and solids. Within the course, special consideration is given to the techniques of rotation, auxiliary and surface development, as well as, surface classification in the practical application of trade problems. The student learns when to use the most appropriate technique, given a specific problem, and alternate techniques to solve the same problem.

623-160 Manufacturing Materials and Processes **3 Credits**
A study is made of the various materials used in industry today and how those materials can be altered or worked to create a specific product. Various areas such as forming, casting, forging and machining are discussed.

806-112 Principles of Sustainability **3 Credits**

Prepares the student to develop sustainable literacy, analyze the interconnections among the physical and biological sciences and environmental systems, summarize the effects of sustainability on health and well-being, analyze connections among social, economic and environmental systems, employ energy conservation strategies to reduce the use of fossil fuels, investigate alternative energy options, evaluate options to current waste disposal and recycling in the U.S., and analyze approaches used by your company to promote and implement sustainability.

General Education Course Requirements:

801-195	Written Communication	3 Credits
801-197	Technical Reporting	3 Credits
804-115	College Technical Mathematics 1	3 Credits
804-116	College Technical Mathematics 2	2 Credits
806-154	General Physics 1	4 Credits
809-172	Race, Ethnic and Diversity Studies	3 Credits
	OR	
809-196	Introduction to Sociology	3 Credits
809-198	Introduction to Psychology	3 Credits

Medical Administrative Specialist

Associate of Applied Science Degree

The Medical Administrative Specialist Associate of Applied Science Degree provides educational opportunities for those interested in working wherever knowledge of medical terminology and professional procedures and ethics are required. Examples include physician practices; large healthcare and allied health organizations such as clinics, hospitals, and foundations; insurance companies; medical publishers; research organizations; and medical product manufacturers. Medical Administrative Specialist students receive specialized training in medical ethics, records management, medical terminology, human anatomy, health insurance, medical billing, medical transcription, coding, and MS Office Suite software.

Program Outcomes
Upon completion of this program, you will be able to:

- Use computers as tools for solving problems, collecting data, managing and communicating information, presenting ideas, and making decisions
- Apply analytical skills in solving problems, collecting data, managing and communicating information, presenting ideas, and making decisions
- Use appropriate English skills in written and oral communications and in listening
- Demonstrate the medical legal aspects of healthcare office practices including confidentiality of health records, release of information, patient's rights, health records as legal evidence, informed consent, malpractice, agency, physician and employee liability
- Use reference materials to research information
- Apply medical language and AAMT formatting guidelines in all written communication
- Produce quality medical documents
- Demonstrate the following professional traits while working in a healthcare office environment: dependability, punctuality, responsibility, acceptable appearance, sound judgment, ethical behavior, flexibility, and adaptability
- Use all forms of telecommunications effectively
- Demonstrate effective communication skills integral to maintaining rapport with coworkers and clients

Graduates from this program have found employment as:

- Medical Administrative Specialist, Administrative Secretary
- Medical Transcriptionist
- Entry-Level Coder

- Medical Records Technician, Medical Records Clerk
- Medical Voucher Clerk, Underwriting Clerk
- Receptionist
- Insurance Billing
- Medical Clerk/Typist
- Clinic Clerk, Hospital Clerk, Admissions Clerk

Helpful High School Courses:

- Touch keyboarding skill of 30 wpm or higher for 5 minutes with 5 or fewer errors. Keyboarding, Skillbuilding and Keyboarding Applications courses are available at BTC.
- Business English (grammar)
- Keyboarding, Computer skills (word processing, etc.)
- Biology, Science related
- Health related, Medical terminology (would be helpful)
- Accounting, Math

835-104 – Student Success
Students should take this course prior to or during their first semester of their program. This is an institutional requirement for all students

	Course Name	Credits	Lec-Lab
Semester 1			
106-113	Introduction to Health Insurance	3	2 - 2
106-114	Healthcare Records Management	3	2 - 2
106-181	Office Professionalism	3	3 - 0
106-185	Healthcare Document Formatting and Proofreading[1]	3	1 - 4
804-106	Introduction to College Math	3	3 - 0
Semester 2			
106-107	Computerized Patient Billing[1]	3	2 - 2
106-120	Medical Terminology for Transcription/Coding	3	3 - 0
106-127	Healthcare Documentation[1]	3	1 - 4
103-106	Introduction to Microsoft Office	3	3 - 0
801-196	Oral/Interpersonal Communication	3	3 - 0
809-166	Introduction to Ethics: Theory and Application	3	3 - 0
Semester 3			
106-103	Beginning Medical Transcription[1] **OR**	4	1 - 6
106-136	Patient Billing and Reimbursement Systems[1]	4	3 - 2
106-118	Pharmacology for Transcription-Coding[1]	2	1 - 2
806-194	Survey of Anatomy and Physiology	3	2 - 2
809-199	Psychology of Human Relations	3	3 - 0
801-195	Written Communications	3	3 - 0
Semester 4			
106-104	Medical Specialties Transcription[1] **OR**	3	1 - 4
530-102	Medical Office Coding I[1]	3	2 - 2
106-105	Medical Editing and the Electronic Medical Record[1] **OR**	3	1 - 4
530-103	Medical Office Coding II[1]	3	2 - 2
106-109	Medical Office Administration[1]	3	2 - 2
809-195	Economics	3	3 - 0
809-172	Race, Ethnic and Diversity Studies	3	3 - 0
	TOTAL CREDITS	**63**	

[1] Course has pre-requisites

Short-Term Credit-Based Certificate Options

Healthcare Office Specialist (33 credits) Certificate 99-9106

Students may choose to receive a certificate upon satisfactory completion of the required courses in the Medical Administrative Specialist Associate Degree Program. With this certificate, you will be better prepared for entry level positions. Students selecting this option may return to BTC at a later date (in accordance with the College's advanced standing policy) to complete the Medical Administrative Specialist Associate of Applied Science Degree.

COURSE DESCRIPTIONS

103-106 Introduction to MS Office 3 Credits
This course will introduce students to the Microsoft Office Suite and overview many of the core competencies of Outlook, Word, Excel, Access, PowerPoint, and Explorer. Students will develop the use of technology for both problem solving and decision making and will be expected to learn to use the resources available to search for answers to problems.

106-103 Beginning Medical Transcription 4 Credits
This course provides the student with instruction using audio equipment and medically oriented materials. Emphasis is placed on developing the ability to use references to produce accurate, correctly formatted medical reports in an efficient manner, using correct spelling, punctuation, proofreading, and grammar. Medical report style and format are reviewed. The student will produce various medical and surgical reports representative of those typed in hospitals and clinics using a word processing program. This course includes a module on editing speech recognition documents. Touch keyboarding with an accurate speed level of 40 wpm or more, basic computer, and advanced word processing skills are recommended. Students should also have a strong background in grammar, punctuation, medical terminology, and medical document formatting. ***Pre-requisites: 106-120 Terminology for Transcription/Coding, and 106-127 Healthcare Documentation***

106-104 Medical Specialties Transcription 3 Credits
In this course, the student transcribes medically oriented reports, correspondence, and patient progress notes from various medical specialties using audio equipment and a word processing program. Format, grammar, spelling, punctuation, and proofreading are emphasized. Work is also done with English sound

alike words. ***Pre-requisites: 106-103 Beginning Medical Transcription or demonstrated equivalent, 106-118 Pharmacology for Transcription/Coding, and 806-194 Survey of Anatomy and Physiology***

106-105 Medical Editing and the Electronic Medical Record 3 Credits
In this course, the student transcribes medically oriented reports, correspondence, and patient progress notes from various medical specialties and foreign-accent dictated reports using audio equipment and a word processing program. Format, grammar, spelling, punctuation, and proofreading are emphasized. Work is also done with medical sound alike words. ***Pre-requisite: 106-104 Medical Specialties Transcription or demonstrated equivalent***

106-107 Computerized Patient Billing 3 Credits
This course emphasizes computerized patient billing procedures in the medical office environment. The students will input patient information, charges, payments, and appointments. In addition, reports and insurance forms are generated using a microcomputer-billing program. ***Pre-requisite: 106-113 Introduction to Health Insurance***

106-109 Medical Office Administration – 2nd Year 3 Credits
In this capstone class, second year students demonstrate their knowledge of all skills learned in the Medical Administrative Specialist program through simulation, discussion, research, and teamwork. Units of instruction will also include career success in healthcare. ***Pre-requisites: 806-194 Survey of Anatomy and Physiology, 106-118 Pharmacology for Transcription-Coding, 106-120 Medical Terminology for Transcription/Coding or seek approval from the Dean***

106-113 Introduction to Health Insurance 3 Credits
Students are introduced to the various private and government insurance programs. Students will gain knowledge in understanding the ever-changing role of the healthcare industry and the need for confidentiality and compliance. A basic introduction of payment systems and coding will be covered.

106-114 Healthcare Records Management 3 Credits
This course covers the systematic control of information in each phase of the record life cycle: creation, distribution, use, maintenance, and disposition. Topics will include systems of filing and storage (general and medical specific); organizing, managing, and controlling the system; potential careers; and trends in technology. Ethical/legal issues in the health care field will be addressed. Students will learn to organize files through Windows Explore. Students will also gain knowledge of Microsoft Outlook for sharing files and as a communication tool. A simulation will provide hands-on experience with major filing classification systems in both paper and computer database format. Touch keyboarding and basic computer skills are necessary.

106-118 Pharmacology for Transcription/Coding 2 Credits
This course will provide an introduction to the use of pharmacology terminology and context. The pathophysiology of the human body will be covered in conjunction with treatments used to combat disease. Included is information on medication actions, dosage forms, routes of administration, and drug uses. Emphasis is on the terminology necessary for medical reports used in transcription and coding. ***Pre-requisite: Pre-requisite: 106-120 Medical Terminology for Transcription/Coding***

106-120 Medical Terminology for Transcription/Coding 3 Credits
This course provides a combination of the study of medical vocabulary and the application of that vocabulary in an office setting. Students will learn the pronunciation, spelling, definition, and correct usage of medical terms used in a variety of healthcare office applications, with an emphasis on terminology necessary for medical reports used in transcription and coding. Students will also learn how to divide medical words into their component parts: the root word, the suffix, the prefix, and the combining form.

106-127 Healthcare Documentation 3 Credits
The emphasis of this course is on medical report types, formats, grammar, spelling, and punctuation. Students will become familiar with a variety of medical reference materials available to them - books and computer sites. The AHDI *Book of Style for Medical Transcription* will be used during a module that will include an introduction to transcription. Students will learn to take meeting minutes in a variety of settings that will culminate in taking minutes during a meeting. Touch keyboarding and basic word processing skills are necessary. Students should also have a strong background in grammar and punctuation. ***Pre-requisite: 106-185 Healthcare Document Formatting and Proofreading***

106-136 Patient Billing and Reimbursement Systems 4 Credits
In this course, the student expands knowledge of health care insurance, abstracting medical information from medical documentation, and increases their knowledge in medical coding. Students will engage in activities to demonstrate skill in billing both private and government payers, including completing insurance claim forms. ***Pre-requisites: 106-107 Computerized Patient Billing, 106-113 Introduction Health Insurance, and 106-120 Medical Terminology for Transcription/Coding***

106-181 Office Professionalism 3 Credits
The mission of the course is to empower students to enhance performance through personal self-management. The course, which is built around Tom Rath's *Strengths Finder* book, provides an opportunity to develop both personally and professionally in effectively dealing with change. In addition, students will focus on the soft skills of team building and customer service through the use of problem-based video "field-trips".

106-185 Healthcare Document Formatting and Proofreading 3 Credits
Students will learn to use word processing software to create, format, and edit medical documents. Course includes the development of proofreading skills for identifying and correcting punctuation, grammar, spelling, and usage errors. Work will also be done to improve speed and accuracy through the use of timed writings. Pre-requisite: Keyboarding speed of 30 words per minute

530-102 Medical Office Coding I 3 Credits
Students will learn to assign ICD-9 CM and CPT codes, supported by medical documentation, with entry level proficiency. Learners will apply instructional notations, conventions, rules, and official coding guidelines for both the ICD-9 CM and CPT books. Learners apply skill through coding application to medical

documentation and exercises. Resources, including the Internet and coding software, will be introduced and reinforced.

Pre-requisites: 106-120 Medical Terminology for Transcription/Coding, 106-136 Patient Billing and Reimbursement Systems, and 806-194 Survey of Anatomy and Physiology

530-103 Medical Office Coding II 3 Credits
Students will build upon knowledge from Medical Office Coding I to assign ICD-9 CM and CPT codes, supported by medical documentation, with entry level proficiency. Learners will apply rules and guidelines used in coding for physician and hospital services. Application of coding will be demonstrated through medical documentation and reports. Knowledge of government and private payer guidelines will be applied throughout. Resources, including the Internet and coding software, will be introduced and reinforced. ***Pre-requisites: 530-102 Medical Office Coding I***

General Education Course Requirements:

801-195	Written Communication	3 Credits
801-196	Oral/Interpersonal Communication	3 Credits
804-106	Introduction to College Math	3 Credits
809-166	Introduction to Ethics: Theory and Application	3 Credits
809-172	Race, Ethnic and Diversity Studies	3 Credits
809-195	Economics	3 Credits
809-199	Psychology of Human Relations	3 Credits

Medical Assistant

The Medical Assistant is a link between health care providers and their patients, their professional associates, and the suppliers of equipment and medications. The Medical Assistant is the team member who assists the qualified provider in the office or other medical setting, performing administrative and/or clinical duties.

Demand for the Medical Assistant may also occur in business or industrial health centers, health insurance companies and emergency care centers. The Medical Assistant has a wide range of duties supportive to the provider's practice. Business/administrative duties include scheduling and receiving patients, obtaining patient information, maintaining medical records, maintaining supplies and equipment, and assuming responsibility for office care, insurance matters, office accounts, fees and collections. Medically related duties include assisting with examinations and treatments, taking health histories, performing certain diagnostic tests, carrying out laboratory procedures and sterilizing instruments and equipment.

The Medical Assistant Supervised Externship experience takes place during the last weeks of the final semester of the program. The student must have satisfactorily completed all of his/her program courses prior to this experience and agree to participate without remuneration. During externship, each student will spend two rotations in health care facilities. One rotation will focus on administrative or business skills. The other rotation will focus on clinical and laboratory skills. The externship experience allows students to become familiar with a variety of experiences they might encounter in the work place.

Program Outcomes-
Upon completion of this program, you will be able to:

- Perform clerical functions
- Perform bookkeeping procedures
- Prepare special accounting entries
- Apply principles of medical asepsis
- Perform specimen collection
- Perform diagnostic testing
- Process insurance claims
- Provide patient care
- Communicate effectively
- Apply legal and ethical concepts
- Instruct patients
- Perform medical office operational functions
- Demonstrate professionalism in a health care setting

Potential Employment Opportunities

Medical Assistant, Medical Laboratory Assistant, Medical Administrative Specialist, Medical Records/Transcriptionist, Office Clinic Receptionist, Medical Clerk.

The American Association of Medical Assistants awards the title of Certified Medical Assistant (CMA) to those who pass a national written examination.

Beginning with the January 2001 Certification Examination, felons are not eligible to sit for the examination without a waiver from the certifying board.

The Blackhawk Technical College Medical Assistant program is accredited by the Commission on Accreditation of Allied Health Education Programs (www.caahep.org) upon the recommendation of the Curriculum Review Board of the American Association of Medical Assistants' Endowment (AAMAE). Commission on Accreditation of Allied Health Education Programs, 35 E. Wacker Dr., Suite 1970, Chicago, Illinois 60601-2208, (**312) 553-9355.**

Potential Employment Opportunities

Medical Assistant, Medical Laboratory Assistant, Medical Administrative Specialist, Medical Records/Transcriptionist, Office Clinic Receptionist, Medical Clerk, Phlebotomist, and Dialysis Tech.

835-104 – Student Success
Students should take this course prior to or during their first semester of their program. This is an institutional requirement for all students

	Course Name	Credits	Lec-Lab
Semester 1			
501-101	Medical Terminology*	3	3 - 0
501-107	Intro. to Healthcare Computing	2	2 - 0
509-301	Medical Assistant Administrative Procedures	2	4- 0
509-302	Human Body in Health and Disease	3	6 - 0
509-303	Medical Assistant Lab Procedures I	2	2 - 2
509-304	Medical Assistant Clinical Procedures I	4	4 – 4
801-195	Written Communication	3	3 - 0

Semester 2 courses are conducted during the first 14 weeks of the semester. The last 4 weeks of the semester focuses on 160 hours of externship participation.

Semester 2			
509-305	Medical Assistant Lab Procedures 2	2	2 - 2
509-306	Medical Assistant Clinical Procedures 2	3	4 - 2
509-307	Medical Office Insurance and Finance	2	4 - 0
509-308	Pharmacology for Allied Health	2	4 - 0
509-309	Medical Law, Ethics and Professionalism	2	4 - 0
509-310	Medical Assistant Externship (160 total hours)	3	
	TOTAL CREDITS	***33***	

Program Requirements:

Complete the COMPASS test with scores of 40 in math, 80 in reading, and 70 in writing, OR receive an ACT score of 16 or higher in the three areas. Students who do not meet the scores above must remediate and retest. ***Program Pre-requisite: Keyboarding***

Program Co-requisite: CPR and First Aid for Health Professionals (must be completed prior to Medical Assistant Externship)

The standard for promotion in the Medical Assistant program requires a "C-" in all courses. Satisfactory completion of all on-campus courses and a physical examination are required before externship. ***Note: A Caregiver Background Check is required.***

Due to the rigor of the Medical Assistant Program, students may wish to adjust their schedules for a lighter course load over 3 or 4 semesters. However, all students will complete Clinical Procedures I in the fall, followed by Clinical Procedures II and Externship in the spring of their final year of the program. Students may also elect to talk to their counselors regarding taking associate degree courses that may substitute for the Technical Diploma courses.

COURSE DESCRIPTIONS

501-101 Medical Terminology 3 Credits
Focuses on the component parts of medical terms: prefixes, suffixes and word roots. Students practice formation, analysis and reconstruction of terms. Emphasis on spelling, definition and pronunciation. Introduction to operative, diagnostic, therapeutic and symptomatic terminology of all body systems, as well as systemic and surgical terminology.

501-107 Introduction to Healthcare Computing 2 Credits
Provides an introduction to basic computer functions and applications utilized in contemporary healthcare settings. Students are introduced to the hardware and software components of modern computer systems and the application of computers in the workplace. Emphasizes the use of the common software packages, operating systems, file management, word processing, spreadsheet, database, Internet, and electronic mail.

509-301 Medical Assistant Administrative Procedures 2 Credit
Introduces Medical Assistant students to office management and business administration in the medical office. Students learn to schedule appointments, perform filing, record keeping, telephone and reception duties, communicate effectively with patients and other medical office staff, and keep an inventory of supplies. Students apply introductory medical coding skills and managed care terminology.

Pre-requisite/Co-requisite: Computer course, declared Medical Assistant Program, 501-107 Introduction to Computing for Healthcare or 103-106 Introduction to MS Office

509-302 Human Body in Health and Disease 3 Credits
Focuses on diseases that are frequently first diagnosed and treated in the medical office setting. Students learn to recognize the causes, signs, and symptoms of diseases of the major body systems as well as the diagnostic procedures, usual treatment, prognosis and prevention of common diseases. ***Pre-requisite/Co-requisite: 501-101 Medical Terminology***

509-303 Medical Assistant Laboratory Procedures 1 2 Credits
Introduces Medical Assistant students to laboratory procedures commonly performed by Medical Assistants in a medical office setting. Students perform routine laboratory procedures commonly performed in the ambulatory care setting under the supervision of a physician. Students follow laboratory safety requirements and federal regulations while performing specimen collection and processing, microbiology and urinalysis testing. ***Pre-requisite: Admission to Medical Assistant Program***

509-304 Medical Assistant Clinical Procedures 1 4 Credits
Introduces Medical Assistant students to the clinical procedures performed in the medical office setting. Students perform basic examining room skills including screening, vital signs, patient history, minor surgery and patient preparation for routine and specialty exams in the ambulatory care setting.

Pre-requisite/Co-requisite: 501-101 Medical Terminology; 509-302 Human Body in Health and Disease; Pre-requisite: Admission to Medical Assistant Program or 806-177 General Anatomy and Physiology

509-305 Medical Assistant Laboratory Procedures 2 2 Credits
Prepares students to perform laboratory procedures commonly

performed by Medical Assistants in the ambulatory care setting under the supervision of a physician. Students perform phlebotomy, immunology, hematology and chemistry laboratory procedures. ***Pre-requisite: 509-303 Medical Assistant Laboratory Procedures 1***

509-306 Medical Assistant Clinical Procedures 2 3 Credits
Prepares Medical Assistant students to perform patient care skills in the medical office setting. Students perform clinical procedures including administering medications, assisting with minor surgery, performing an electrocardiogram, assisting with respiratory testing, educating patients/community, and maintaining clinical equipment in an ambulatory care setting. ***Pre-requisites: 509-304 Medical Assistant Clinical Procedures 1, 509-303 Medical Assistant Laboratory Procedures 1, 501-101 Medical Terminology, 509-302 Human Body in Health and Disease or 806-177 General Anatomy and Physiology***

509-307 Medical Office Insurance and Finance 2 Credits
Introduces Medical Assistant students to health insurance and finance in the medical office. Students perform bookkeeping procedures, apply managed care guidelines, and complete insurance claim forms. Students use medical coding and managed care terminology to perform insurance-related duties. ***Pre-requisites: 501-101 Medical Terminology; 509-302 Human Body in Health and Disease or equivalent; 501-107 Introduction to Computing for Healthcare or 806-177 General Anatomy and Physiology***

509-308 Pharmacology for Allied Health 2 Credits
Introduces students to classifying medications into correct drug categories and applying basic pharmacology principles. Students apply basic pharmacodynamics to identifying common medications, medication preparation, and administration of medications used by the major body systems. ***Pre-requisites: 501-101 Medical Terminology, 509-302 Human Body in Health and Disease***

509-309 Medical Law, Ethics and Professionalism 2 Credits
Prepares students to display professionalism and perform within ethical and legal boundaries in the health care setting. Students maintain confidentiality, examine legal aspects of the medical record, perform risk management procedures, and examine legal and bioethical issues.

509-310 Medical Assistant Externship 3 Credits
Requires Medical Assistant students to integrate and apply knowledge and skills from all previous Medical Assistant courses in actual patient care settings. Learners perform Medical Assistant administrative, clinical, and laboratory duties under the supervision of trained mentors to effectively transition to the role of a Medical Assistant. ***Pre-requisite: 1st and 2nd semester courses***

Medical Coding Specialist

The Medical Coding Specialist Program prepares individuals for employment as entry-level coding specialists in health care facilities such as hospitals, clinics, physician practice groups, surgery centers, long-term care facilities and home health care agencies. Coding specialists are also employed in consulting firms, coding and billing services, insurance companies, governmental agencies and computer software companies.

The Medical Coding Specialist reviews medical documentation provided by physicians and other health care providers and translates this into numeric codes. The coding specialist assigns and sequences diagnostic and procedural codes using universally recognized coding systems. Several uses of coded data are for payment of health care claims, statistics and medical research.

Note: The field of medical coding is changing rapidly. This program is best suited for individuals that are currently working in the medical field or those that have prior work experience in health information management.

Program Outcomes -
Upon completion of this program, you will be able to:

- Assign diagnostic and procedure codes using ICD coding systems
- Assign diagnostic and procedure codes using CPT coding systems
- Adhere to Security/Privacy/Confidentiality policies
- Use computers to process information
- Support data collection and reimbursement system
- Communicate in a professional manner
- Model professional behaviors, ethics and appearance

Admission Requirements

- Typing skills
- Completion of Compass test with acceptable scores
- Basic computer knowledge – word processing skills preferred
- Related work experience in health care or medical records preferred
- Ability to use internet for research

Potential Employment Opportunities

Medical Coding Specialist, Claims Analyst, Coding Specialist, Inpatient Coder, Coding Analyst, Outpatient Coder

835-104 – Student Success
Students should take this course prior to or during their first semester of their program. This is an institutional requirement for all students

	Course Name	Credits	Lec-Lab
Semester I			
530-181	Intro to the Health Record	1	1 - 0
806-189	Basic Anatomy OR	3	3 - 0

806-177	General Anatomy and Physiology	4	3 - 2
501-101	Medical Terminology	3	3 – 0
530-112	Disease Process and Treatment	4	4 - 0
Summer Session			
530-183	ICD Coding	3	4 – 0
Semester II			
530-184	CPT Coding	3	4 - 0
530-185	Health Care Reimbursement	2	3 – 0
530-176	Health Data Management	2	2 – 0
501-107	Intro to Healthcare Computing OR	2	2 - 0
103-106	MS Office	3	3 – 0
	TOTAL CREDITS	23 to 25	

Suggested Support Courses

106-140 Keyboarding
106-143 Skillbuilding
801-195 Written Communications
801-196 Oral Communications
106-181 Office Professionalism

COURSE DESCRIPTIONS

103-106 Introduction to MS Office 3 Credits
Intended for students with little or no prior computer experience. This course will introduce students to the Microsoft Office Suite and overview many of the core competencies of Outlook, Work, Excel, Access, PowerPoint, and Explorer. Students will develop the use of technology for both problem solving and decision-making and will be expected to learn to use the resources available to search for answer to problems.

501-107 Intro to Healthcare Computing 2 Credits
Provides an introduction to basic computer functions and applications utilized in contemporary healthcare settings. Students are introduced to the hardware and software components of modern computer systems and the application of computers in the workplace. Emphasizes the use of common software packages, operating systems, file management, word processing, spreadsheet, database, Internet, and electronic mail.

501-101 Medical Terminology 3 Credits
Focuses on the component parts of medical terms: prefixes, suffixes and word roots. Students practice formation, analysis and reconstruction of terms. Emphasis on spelling, definition and pronunciation. Introduction to operative, diagnostic, therapeutic and symptomatic terminology of all body systems, as well as systematic and surgical terminology.

530-112 Disease Process and Treatment 4 Credits
Prepares learners to interpret clinical documentation that they will encounter in a variety of healthcare settings. Emphasis is placed on understanding the common disorders and diseases of each body system to include the etiology (cause), signs and symptoms, diagnostic tests and results, and medical treatments and surgical procedures. *Pre-requisite: completion of or concurrent enrollment in 501-101 Medical Terminology and 806-189 Basic Anatomy or 806-177 General Anatomy and Physiology*

530-176 Health Data Management 2 Credits
Introduces the use and structure of health care data elements, data sets, data standards, their relationships to primary and secondary record systems and health information processing. *Pre-requisite: Typing speed of 30 wpm, completion of or concurrent enrollment in 530-181 Intro to Health Records.*

530-181 Intro to the Health Record 1 Credit
This course prepares learners to illustrate the flow of health information in various health care delivery systems and within the health information department. Prepares learners to retrieve data from health records. Professional ethics, confidentiality and security of information are emphasized.

530-183 ICD Coding 3 Credits
Prepares students to assign ICD codes supported by medical documentation with entry-level proficiency. Students apply ICD instructional notations, conventions, rules, and official coding guidelines when assigning ICD codes to case studies and actual medical record documentation. *Pre-requisite: Typing speed of 30 wpm, completion of or concurrent enrollment in 530-181 Intro to Health Records, 806-189 Basic Anatomy or 806-177 General Anatomy and Physiology, 530-112 Disease Process and Treatment, 501-101 Medical Terminology*

530-184 CPT Coding 3 Credits
Prepares learners to assign CPT codes, supported by medical instructional notations, conventions, rules and official coding guidelines when assigning CPT codes to case studies and actual medical record documentation. *Pre-requisite: Typing speed of 30 wpm, completion of or concurrent enrollment in 530-181 Intro to Health Records, 806-189 Basic Anatomy or 806-117 General Anatomy and Physiology, 530-112 Disease Process and Treatment, and 501-101 Medical Terminology*

530-185 Health Care Reimbursement 2 Credits
This course prepares learners to compare and contrast health care payers, illustrate the reimbursement cycle, and to comply with regulations related to fraud and abuse. Learners assign Diagnosis Related Groups (DRGs), Ambulatory Payment Classifications (APCs) and Resource Utilization Groups (RUGs) with entry-level proficiency using computerized encoding and grouping software. *Pre-requisite: Completion of or concurrent enrollment in 530-183 ICD Coding and 530-184 CPT Coding*

806-189 Basic Anatomy 3 Credits
Examines concepts of anatomy and physiology as they relate to health careers. Learners correlate anatomical and physiological terminology to all body systems.

806-177 General Anatomy and Physiology 4 Credits
The first semester in a two-semester series that studies human anatomy and physiology according to the body's systems approach but with consideration of the functional interrelationships of the various systems. Fundamental concepts and principles of cell biology, histology, the integumentary system, the skeletal system, the muscular system, and the nervous system (including

the special senses) and the endocrine system are studied. Pre-requisites: High school or college chemistry with a grade of C or better.

Nursing

The Associate Degree Nursing program prepares nurses to function with the knowledge, skill and judgment of beginning staff nurses in a variety of health care settings. The program is accredited by the National League for Nursing Accrediting Commission (NLNAC). For more information, contact NLNAC at 61 Broadway-33rd Floor, New York, NY, 10006, or (800) 669-1656, or on the website at www.nlnac.org

The Associate Degree Nursing program consists of a minimum of four semesters. Completion of the program may take longer depending upon the number of students petitioning to enter clinical nursing classes. Nursing courses include classroom, laboratory, and clinical experiences in a variety of settings. A grade of "C" or higher must be received in all program required courses.

Graduates are eligible to apply to the Wisconsin Board of Nursing to take the examination for licensure as a Registered Nurse. State Administrative Code rules state that a graduate may have difficulty obtaining a license with an arrest or conviction record that is substantially related to nursing practice. The Coordinator of the program is available to discuss concerns in this area.

Students may apply for testing for licensure as a L.P.N. (Licensed Practical Nurse) after successfully completing all courses through the second semester. L.P.N.'s entering into the ADN program may receive credit for past clinical education based on their current knowledge, skills and judgment. In order to help L.P.N.'s be program ready, they will need to take the Nursing Bridge course before entering third semester. Re-entry, transfer, and LPN students must contact the counseling office for information about entry to the nursing program. Acceptance to the program will be based upon space availability and approval of the nursing faculty.

Program Outcomes

Upon completion of this program, you will be able to:

- Adhere to professional standards of practice within legal, ethical, and regulatory frameworks of the registered nurse
- Use effective communication skills
- Assess health of individuals, families, and groups within the context of the community
- Make clinical decisions to assure safe and accurate nursing care
- Provide safe caring interventions with diverse populations
- Use teaching and learning processes to promote and restore health
- Collaborate with others to respond to the needs of individuals, families, and groups across the health-illness continuum
- Manage care to facilitate continuity within and across health care settings

Potential Employment Opportunities

Graduates may work as a Registered Nurse or Licensed Practical Nurse in a variety of settings including acute care, long term care, or some community settings.

Refer to this outline of courses by semester to determine pre-requisites and/or Co-requisites. Admission to the program is pre-requisite to all core nursing courses.

835-104 – Student Success

Students should take this course prior to or during their first semester of their program. This is an institutional requirement for all students

	Course Name	Credits	Lec-Lab
Semester 1			
543-101	Nursing Fundamentals	2	3 - 0
543-102	Nursing: Skills	3	2 - 4
543-103	Nursing Pharmacology	2	2 - 0
543-104	Nursing: Intro Clinical Practice	2	0 - 8
806-177	General Anatomy and Physiology*	4	3 - 2
809-188	Developmental Psychology*	3	3 - 0
801-195	Written Communication	3	3 - 0
Note: Successful completion of all first semester courses is pre-requisite to any second semester course.			
Semester 2			
543-105	Nursing Health Alterations	3	3 - 0
543-106	Nursing Health Promotion	3	3 - 0
543-107	Nursing: Clinical Care across Lifespan	2	0 - 12
543-108	Nursing: Intro Clinical Care Mgt	2	0 - 12
806-179	Advanced Anatomy and Physiology*	4	3 - 2
801-196	Oral/Interpersonal Communication	3	3 - 0
Note: Successful completion of all second semester courses is pre-requisite to any third semester course.			
Semester 3			
543-109	Nursing: Complex Health Alterat I	3	4 - 0
543-110	Nursing: Mental Health Comm Con	2	4 - 0
543-111	Nursing: Intermed Clin Practice	3	0 - 9
543-112	Nursing: Advanced Skills	1	0 - 2
806-197	Microbiology*	4	3 - 2
809-198	Introduction to Psychology*	3	3 - 0
	Elective	3	
Note: Successful completion of all third semester courses is pre-requisite to any fourth semester course.			

Semester 4

543-113	Nursing: Complex Health Alterat 2	3	6 - 0
543-114	Nursing: Mgt and Profess Concepts	2	4 - 0
543-115	Nursing: Advanced Clinical Practice	3	0 - 18
543-116	Nursing: Clinical Transition	2	0 - 13
809-196	Sociology*	3	3 - 0
	Elective	2	
TOTAL CREDITS		*70*	

• Completion of a 3 credit Nursing Assistant course is required before entering the program.

* General education courses must be completed in semester listed or prior.

ADN Application Process (Pre-Clinical ADN Nursing)

A. Apply to enroll at BTC. Requirements:

1. High school diploma or equivalent.
2. Successful completion of one year of high school chemistry with a grade of "C" or higher OR successful completion of one semester of college chemistry with a grade of "C" or higher OR pass standardized science assessment exam (not currently available at Blackhawk Technical College).
3. Completion of COMPASS testing with 60 in math, 85 in reading, 78 in writing OR ASSET scores of 44 or above in all 3 areas OR ACT scores of 18 in math and composite of 22, or SAT composite score of 890. Students who do not meet the scores above must remediate and retest.
4. Successful completion of 801-195 Written Communication, or equivalent with a grade of "C" or higher.
5. Successful completion of 806-177 General Anatomy and Physiology or equivalent with a grade of "C" or higher.
6. Complete BTC application and pay $30 application fee.

B. Apply to enter clinical nursing classes:

1. Complete the petition process.
2. Acquire CPR Certification–Healthcare Provider Course *(every 2 years).*
3. Obtain physical exam with immunization record within 6 months prior to start of clinical. TB skin test must be done within 3 months prior to start of clinical.
4. Complete orientation session.
5. Clear Caregiver Background Check.
6. Obtain medical insurance coverage.
7. Complete Release of Responsibility form.
8. Submit copy of Nursing Assistant course completion certificate or certification card. Course must be one approved by the WI Dept. of Health and Family Services.
9. When applicable, student must submit a copy of their LPN license.

Associate Degree Nursing Program
Guidelines for LPN Students

This document outlines the admission steps you MUST complete to be considered for placement into third semester core nursing courses.

When placing students in the core nursing courses, priority will be given to those students who submit their Letter of Intent and all relevant documentation by April 1st for Central Campus and by October 1st for the Monroe Campus. Selection is always based on space availability which can change throughout the semester. Knowing that you are eligible will help us predict class sizes and to configure groups appropriately.

1. Schedule an appointment to meet with the Program Counselor to discuss the transition process at the Central Campus, call (608) 757-7668 or the Monroe Campus (608) 328-1660.) Bring ALL of the following materials to this appointment:
   - A *"Letter of Intent"* – The letter should include your professional goals and clinical experience and contact information such as address, phone number and e-mail address.
   - A copy of your LPN license
   - Official copies of all relevant transcripts (high school, college, etc.). Request official copies to be sent directly to yourself and bring them to your appointment in their sealed envelopes.
   - For LPN programs outside of the Wisconsin Technical College Systems, a course description of *Pharmacology* must be provided with other documents.

2. Apply to Blackhawk Technical College

- Submit an application with the $30 application fee. Applications are available in the Admissions Office and online at www.blackhawk.edu
- Complete a pre-admission assessment. Please consult the Counselor to determine if this is required given your academic history.

3. Contact the ADN Admissions and Promotions Committee representative to discuss details of the admission process.

- **Pam Hendricks** if interested in the core nursing courses at the **Central Campus**(608-757-7682) **OR Deb Pessoa** if interested in core nursing courses at the **Monroe Campus** (608-329-8248).
- The ADN Admissions and Promotions Committee will review your letter of intent, the copy of your LPN license and all relevant transcripts. (If there are any questions about an application it may also be discussed by the full faculty). Based on this review, an **Individualized LPN Transition Plan** will be developed. The plan may include courses to be completed, activities to be completed, additional materials to be submitted, an anticipated timeline for the steps in the plan to be completed and an anticipated date of entry.
- At the appropriate time in your transition plan you will receive a packet of information about registration dates, information on the Nursing Bridge course, the third semester course schedule and other forms to be completed prior to entry into nursing courses.

4. Complete the Nursing Bridge course (543-125 for 2 credits)

- The bridge course is offered in the summer for Central Campus students and over winter break for Monroe students. The course **MUST** be completed prior to beginning third semester nursing courses.

COURSE DESCRIPTIONS

543-101 Nursing Fundamentals 2 Credits
This course focuses on basic nursing concepts that the beginning nurse will need to provide care to diverse patient populations. Current and historical issues impacting nursing will be explored within the scope of nursing practice. The nursing process will be introduced as a framework for organizing the care of patients with alterations in cognition, elimination, comfort, grief/loss, mobility, integument, and fluid/electrolyte balance.

Pre-requisites: Admission to nursing program

543-102 Nursing: Skills 3 Credits
This course focuses on development of clinical skills and physical assessment across the lifespan. Content includes mathematic calculations and conversions related to clinical skills, blood pressure assessment, aseptic technique, wound care, oxygen administration, tracheostomy care, suctioning, management of enteral tubes, basic medication administration, glucose testing, enemas, ostomy care, and catheterization. In addition the course includes techniques related to obtaining a health history and basic physical assessment skills using a body systems approach.

Pre-requisites: Admission to nursing program

543-103 Nursing Pharmacology 2 Credits
This course introduces the principles of pharmacology, including drug classifications and their effects on the body. Emphasis is on the use of the components of the nursing process when administering medications.

Pre-requisites: Admission to nursing program

543-104 Nursing: Introduction to Clinical Practice 2 Credits
This introductory clinical course emphasizes basic nursing skills and application of the nursing process in meeting the needs of diverse clients. Emphasis is placed on performing basic nursing skills, the formation of nurse-client relationships, communication, data collection, documentation, and medication administration.

Pre-requisites: Admission to nursing program

543-105 Nursing Health Alterations 3 Credits
This course elaborates upon the basic concepts of health and illness as presented in Nursing Fundamentals. It applies theories of nursing in the care of clients through the lifespan, utilizing problem solving and critical thinking. This course will provide an opportunity to study conditions affecting different body systems and apply therapeutic nursing interventions. It will also introduce concepts of leadership, team building, and scope of practice.

543-106 Nursing Health Promotion 3 Credits
This course will cover topics related to health promotion in the context of the family. It will cover nursing care of the developing family, which includes reproductive issues, pregnancy, labor and delivery, post-partum, the newborn, and the child. Recognizing the spectrum of healthy families it will discern patterns associated with adaptive and maladaptive behaviors applying mental health principles. An emphasis is placed on teaching and supporting healthy lifestyle choices. Nutrition, exercise, stress management, empowerment, and risk reduction practices are highlighted. Study of the family will cover dynamics, functions, discipline styles, and stages of development.

543-107 Nursing: Clinical Care Across the Lifespan 2 Credits
This clinical experience applies nursing concepts and therapeutic interventions to clients across the lifespan. It also provides an introduction to applying the concepts of teaching and learning. Extending care to include the family is emphasized.

543-108 Nursing: Introduction to Clinical Care Management 2 Credits
This clinical experience applies nursing concepts and therapeutic nursing interventions to groups of clients. It also provides an introduction to leadership, management, and team building.

543-109 Nursing Complex Health Alterations I 3 Credits
Complex Health Alterations I prepares the learner to expand knowledge from previous courses in caring for clients with alterations in musculoskeletal, cardiovascular, respiratory, endocrine, and hematologic systems as well as clients with fluid/electrolyte and acid-base imbalance, and alterations in

comfort.

543-109 Nursing Complex Health Alterations I 2 Credits
Complex Health Alterations I prepares the learner to expand knowledge from previous courses in caring for clients with alterations in musculoskeletal, cardiovascular, respiratory, endocrine, and hematologic systems as well as clients with fluid/electrolyte and acid-base imbalance, and alterations in comfort.

543-110 Nursing: Mental Health and Community Concepts 2 Credits
This course will cover topics related to the delivery of community and mental health care. Specific health needs of individuals, families, and groups will be addressed. Attention will be given to diverse and at-risk populations. Mental health concepts will concentrate on adaptive/maladaptive behaviors and specific mental health disorders. Community resources will be examined in relation to specific types of support offered to racial, ethnic, economically diverse individuals and groups.

543-111 Nursing Intermediate Clinical Practice 3 Credits
This intermediate level clinical course develops the RN role when working with clients with complex health care needs. A focus of the course is developing skills needed for managing multiple clients and priorities. Using the nursing process students will gain experience in adapting nursing practice to meet the needs of clients with diverse needs and backgrounds.

543-112 Nursing Advanced Skills 1 Credit
This course focuses on the development of advanced clinical skills. Content includes advanced IV skills, blood product administration, chest tube systems, basic EKG interpretation and nasogastric/feeding tube insertion.

543-113 Nursing Complex Health Alterations II 3 Credits
Complex Health Alterations II prepares the learner to expand knowledge and skills from previous courses in caring for clients with alterations in the immune, neuro-sensory, musculoskeletal, gastrointestinal, hepatobiliary, renal/urinary and the reproductive systems. The learner will also focus on management of care for clients with high-risk perinatal conditions, high-risk newborns and the ill child. Synthesis and application of previously learned concepts will be evident in the management of clients with critical/life threatening situations.

543-114 Nursing Mgmt. and Professional Concepts 2 Credits
This course covers nursing management and professional issues related to the role of the RN. Emphasis is placed on preparing for the RN practice.

543-115 Nursing Advanced Clinical Practice 3 Credits
This advanced clinical course requires the student to integrate concepts from all previous courses in the management of groups of clients facing complex health alterations. Students will have the opportunity to further develop critical thinking skills using the nursing process in making clinical decisions. Continuity of care through interdisciplinary collaboration is emphasized.

543-116 Nursing Clinical Transition 2 Credits
This clinical experience prepares the student to assume the role of graduate nurse. The course promotes clinical decision-making, delegation, and collaboration to achieve client and organizational outcomes. Continued professional development is fostered.

Nursing Assistant

Nursing Assistants are vital members of the health care team. They help care for patients under the supervision of a professional registered nurse in a variety of settings. Blackhawk Technical College has two Nursing Assistant Courses.

NURSING ASSISTANT (N.A.)
120-Hour Course (3 Credits)–543-300

Basic tasks and procedures performed by nursing assistants include bed-making techniques, personal bedside care of the patient, measuring intake and output, caring for patients in isolation, measuring vital signs (temperature, pulse, respirations and blood pressure), and serving and feeding patients.

The course contains a mix of classroom instruction, lab practice and clinical experience working with patients in a long-term care setting under the direct supervision of a registered nurse instructor.

Instructional materials will include a textbook, workbook, and NA handbook as well as videos. Written exams and return demonstrations will be used for student evaluation.

Criminal Background Checks are required for anyone entering Health Occupations courses. A complete physical examination is also required.

Applicants must obtain a score of 21 in Math and 60 in Reading on the COMPASS. Those who do not obtain these scores must remediate and retest.

Program Outcomes -
Upon completion of this course, the student will be able to:

- Communicate and interact effectively with clients, family and co-workers
- Maintain and protect client's rights
- Demonstrate the ethical and legal responsibilities of the NA/HHA
- Carry out the basic nursing skills required of the NA/HHA
- Provide for resident personal care and hygiene in a long-term care setting
- Assist with client rehabilitation and restorative care, promoting independence
- Assist clients with long-term, disabling conditions including dementia

Students who successfully complete the N.A. course will be eligible to take the competency evaluation for inclusion on the Wisconsin Nurse Aide Registry as a Nursing Assistant/Home Health Aide. (NA/HHA)

Nursing Assistant-Advanced

60-Hour Course (2 Credits)–543-302

The purpose of the Nursing Assistant - Advanced course is to build upon the information and skills that were learned in the 120-hour course as well as preparing the student to function in an Acute Care setting.

The Advanced/Acute Care skills will include monitoring blood glucose values; pre and post-op patient care, assisting with sterile procedures, advanced dementia-care certification, CPR certification, as well as basic telemetry and automated vital sign monitoring. ***Pre-requisite: 543-300 Nursing Assistant***

The course contains a mix of classroom instruction, lab practice, a research paper and oral presentation, independent study and clinical experience working with patients in an Acute Care setting under the direct supervision of a registered nurse instructor.

Instructional materials will include a textbook and NA handbook as well as videos. Written examinations, return demonstrations and completion of assigned certifications will be used for student evaluation.

Criminal Background Checks are required for anyone entering Health Occupations courses. A complete physical examination is required.

Applicants must have completed the 120 hour NA course and/or be currently on the Wisconsin Nurse Aide Registry.

Program Outcomes -
Upon completion of this program, you will be able to:

- Communicate and interact effectively with clients, family and co-workers
- Maintain and protect client's rights
- Demonstrate the ethical and legal responsibilities of the NA/HHA
- Perform the advanced as well as basic nursing assistant skills per the course requirements
- Provide for patient care and hygiene in an Acute Care setting
- Assist with client rehabilitation and restorative care, promoting independence
- Relate the material learned in the certification portion to the acute care setting

Phlebotomy Technician

The phlebotomy technician program prepares the learner to function as a member of the healthcare delivery team, performing the role of a phlebotomist. The phlebotomist generally works in a clinical laboratory under the supervision of the appropriate professional. He/She is responsible for collection procedures in both outpatient clinical and hospital inpatient settings for the purpose of laboratory analysis, including emergency and routine collection procedures from veins, skin puncture aeras and arteries on patients of all ages.

The program is a two semester technical diploma of 17 or 18 credits. The 18 credit option is recommended if you are considering other health career programs in the future. A Caregiver Background Check is required.

Career Outlook

The health care profession continues to change and grow with limitless opportunities for employment. One of the key elements of success in the health profession, as with any career, is the ability to add specific technical skills to work experience.

The Phlebotomy Technician program offers a short-term training opportunity to build on the skills you already have, and increase your value in the job market. In addition, this program offers you the opportunity to continue your education by taking courses that align with other healthcare programs such as medical assistant, laboratory technician, or clinical lab technician.

More than 90% of our graduates find employment in their chosen field within six months of completing the program.

First Year, First Semester Curriculum

Course	Course Title	Credits
501-101	Medical Terminology	3
501-107	Intro to Healthcare Computing	2
513-111	Phlebotomy	3

First Year, Second Semester Curriculum

Course	Course Title	Credits
513-147	Phlebotomy Practicum	4
809-198	Intro to Psychology	3
801-196	Oral/Interpersonal Communication	3
	OR	
501-104	Healthcare Customer Serv.	2

COURSE DESCRIPTIONS

501-101 Medical Terminology 3 Credits

Focuses on the component parts of medical terms: prefixes, suffixes and word roots. Students practice formation, analysis and reconstruction of terms. Emphasis on spelling, definition and pronunciation. Introduction to operative, diagnostic, therapeutic and symptomatic terminology of all body systems, as well as systematic and surgical terminology.

501-107 Intro to Healthcare Computing 2 Credits

Provides an introduction to basic computer functions and applications utilized in contemporary healthcare settings. Students are introduced to the hardware and software components of modern computer systems and the application of computers in the workplace. Emphasizes the use of the common software packages, operating systems, file management, word processing, spreadsheet, database, Internet, and electronic mail.

513-111 Phlebotomy **3 Credits**
Prepares the learner to function as a member of the healthcare delivery team, performing the role of a phlebotomist. The phlebotomist generally works in a clinical laboratory under the supervision of the appropriate professional. He/She is responsible for collection procedures in both outpatient clinical and hospital inpatient settings for the purpose of laboratory analysis, including emergency and routine collection procedures from veins, skin puncture areas and arteries on patients of all ages. Specimen integrity is emphasized as dependent on collection procedures, proper choice of equipment and knowledge of patient variables. Positive patient identification protocol is an absolute requirement which is stressed throughout. Proper transport and processing of specimens are also included. This theory course is designed for the student preparing to enter the laboratory/practicum experience of the program

513-147 Phlebotomy Practicum **4 Credits**
Prepares the learner to function as a staff member in a medical laboratory setting performing venipuncture and other specimen collection procedures, processing and handling of laboratory specimens and performing related duties.

809-198 Intro to Psychology **3 Credits**
This introductory course in psychology is a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings.

801-196 Oral/Interpersonal Communications **3 Credits**
Focuses upon developing speaking, verbal and nonverbal communication, and listening skills through individual presentations, group activities, and other projects.

501-104 Healthcare Customer Service **2 Credits**
This course is designed as an introduction to customer service for learners interested in various healthcare settings. The learner investigates healthcare systems, safety standards, and the workforce. The learner examines professionalism, interpersonal and written communication skills, and confidentiality as they relate to customer service in healthcare.

Physical Therapist Assistant

The Physical Therapist Assistant (PTA) is a technically educated health provider who assists the Physical Therapist (PT) in the provision of physical therapy and may perform physical therapy interventions selected by the supervising PT. The PTA works under the direction and supervision of the PT, helping manage conditions such as back and neck injuries, sprains/strains and fractures, arthritis, burns, amputations, stroke, multiple sclerosis, birth defects, injuries related to work and sports, and others.

PTA's work in a broad range of settings. Employment opportunities for PTA's are located in hospitals, outpatient clinics, rehabilitation facilities, skilled nursing, sub acute, and long-term care facilities, home health agencies, schools, hospice, industrial health clinics, community health centers, fitness centers and sports training facilities, and colleges and universities.

According to American Physical Therapy Association member 2009 survey, the median income for entry-level and experienced Physical Therapist Assistant in the Midwest is above $43,000. . PTAs who were employed in the southern and western regions of the nation earned the highest median salary. The U.S Bureau of Labor Statistics lists the average yearly salary for PTA's at $46,300 in 2008. Blackhawk Technical College (BTC) graduate surveys indicate that the starting average wage for entry-level PTA graduates is $20 - $24 per hour and rising. Wages for experienced PTA's are more.

The need for PTA's continues to grow. The US Department of Labor, Bureau of Labor Statistics states "Employment of Physical Therapist Assistants is expected to grow much faster that the average through the year 2016." In fact it is among the tweny fastest-growing careers. Over the long run the demand for PTA's will continue to raise due to the number of individuals with disabilities, the rapid growing elderly population, and the large baby boom generation entering prime age for needing increased health care.

Program Description
The two-year, afternoon, early evening program begins in June each year and continues for six semesters (4 regular and 2 summers). Graduates receive an Associate of Applied Science Degree, which are conferred in May. The program employs eight faculty members who are all practicing clinicians; four PT's and four PTA's. The total cost of tuition and fees for five semesters is approximately $5500. Average semester textbook and supply cost is $200. State licensure is required for the PTA in Wisconsin. Blackhawk graduates traditionally score higher on the national examination when compared to students testing from all other accredited schools. A Caregiver Background Check is required for the clinical portion of the program. Persons with previous felony convictions are not eligible for licensure or credentialing. The PTA program is currently accredited by the Commission on Accreditation in Physical Therapy Education.

Program Mission
The mission of the BTC Associate Degree PTA program is to prepare qualified PTA's, as defined in the Wisconsin Physical Therapy Practice Act and in accordance with the standards of the American Physical Therapy Association, for employment in the healthcare community.

Program Goal
The goal of the BTC Associate Degree PTA program is to fulfill the program mission through the achievement of the program outcomes.

Clinical Experiences

There are three clinical courses required in the PTA program. The first course is in the spring, or second semester of the first year, and is one day per week. The second course is in the fall, or first semester of the second year, and is two days per week. The final experience is in the second semester of the second year and is a

full-time experience eight weeks. Clinical education sites are located within a 90-mile radius of the school. These clinical experiences encompass a variety of settings. The program aims to expose each student to as many physical therapy services as possible, providing a well-rounded clinical education.

Admissions and Enrollment

Applications are submitted to the Office of Admissions. Students will be program ready after submitting the following: completion of application and processing fee; evidence of high school graduation, G.E.D or H.S.E.D.; transcripts reflecting high school or college biology, chemistry and algebra with grade "C" or above; and COMPASS with scores of 60 in math, 85 in reading, and 78 in writing or ACT scores of 18 in math, 19 in reading, and 18 in writing or SAT of 900 in math and reading taken within the past three years. Final admission into the PTA program requires a certified physical examination, updated immunizations, current CPR certification, and a clean Caregiver Background Check. The PTA program generally admits 22-24 first year students each summer. Admissions include 4 students from Waukesha Technical College and 2 from Rock Valley College and the remainder from Blackhawk Technical College.

835-104 – Student Success
Students should take this course prior to or during their first semester of their program. This is an institutional requirement for all students

	Course Name	Credits	Lec-Lab
Summer			
806-177	General Anatomy and Physiology	4	4 - 0
Semester 1			
806-139	Survey of Physics	3	3 - 0
524-138	PTA Kinesiology 1 *(First nine weeks)*	3	3 - 0
524-141	PTA Kinesiology 2 *(Second nine weeks)*	4	4 - 0
524-139	PTA Patient Interventions	4	4 - 0
Semester 2			
801-195	Written Communications	3	3 - 0
524-147	PTA Clinical Practice 1	2	2 - 0
524-142	PTA Therapeutic Exercise *(First nine weeks)*	3	3 - 0
524-143	PTA Therapeutic Modalities	4	4 - 0
524-145	PTA Principles of Musculoskeletal Rehabilitation *(Second nine wks)*	4	4 - 0
Summer			
809-172	Race Ethnic and Diversity	3	3 - 0
809-166	Introduction to Ethics	3	3 - 0
Semester 3			
801-196	Oral Communications	3	3 - 0
524-140	PTA Professional Issues 1	2	2 - 0
524-144	PTA Principles of Neuromuscular Rehabilitation	4	4 – 0
514-146	PTA Management of Cardio-Pulmonary and Integumentary Conditions	3	3 - 0
524-148	PTA Clinical Practice 2	3	3 - 0
Semester 4			
809-196	Introduction to Sociology	3	3 - 0
809-198	Introduction to Psychology	3	3 - 0
524-149	PTA Rehabilitation across the Lifespan *(First nine weeks)*	2	2 - 0
524-150	PTA Professional Issues *(First nine weeks)*	2	2 - 0
524-151	PTA Clinical Practice *(Second nine weeks)*	3 5	5 - 0
	TOTAL CREDITS	**70**	

Program Outcomes -
Upon completion of this program, you will be able to:

- Demonstrate effective communication with patients, families and the health care team
- Exhibit behaviors and conduct that reflect respect and sensitivity according to physical therapy practice standards
- Function under the supervision of a physical therapist in a safe, legal, ethical manner
- Produce documentation to support the delivery of physical therapy services
- Demonstrates critical thinking skills to implement and adjust a plan of care under the direction and supervision of a physical therapist
- Perform technically competent data collection under the direction and supervision of the physical therapist
- Perform technically competent physical therapy interventions under the direction and supervision of the physical therapist
- Educate patients, families, and other health care providers
- Integrate components of administrative, operational, and fiscal practices of physical therapy service in a variety of settings
- Implement a self-directed plan for career development, credentialing, and lifelong learning

COURSE DESCRIPTIONS

524-138 PTA Kinesiology 1 (1st 9 Wks.) 3 Credits
Introduces basic principles of musculoskeletal anatomy, kinematics, and clinical assessment. Students locate and identify muscles, joints, and other landmarks of the lower quadrant in addition to assessing range of motion and strength. ***Pre-requisite: Admission to the PTA program***

524-139 PTA Patient Interventions 4 Credits
An introduction to basic skills and physical therapy interventions performed by the physical therapist assistant. ***Pre-requisite: Admission to the PTA Program***

524-140 PTA Professional Issues 1 2 Credits
Introduces the history and development of the physical therapy program, legal and ethical issues, the interdisciplinary health care team, and professional communication skills. ***Pre-requisite: Admission to the PTA Program***

524-141 PTA Kinesiology 2 (2nd 9 Wks.) 4 Credits
Applies basic principles from PTA Kinesiology 1 to the axial skeleton and upper quadrant including location and identification of muscles, joints and other landmarks. Assess range of motion and strength of the axial skeleton and upper quadrant. Integrate analysis of posture and gait. ***Pre-requisite: 524-138 PTA Kinesiology 1***

524-142 PTA Therapeutic Exercise (1st 9 Wks.) 3 Credits
Provides instruction on the implementation of a variety of therapeutic exercise principles. Learners implement, educate, adapt, and assess responses to therapeutic exercises. ***Pre-requisites: 806-177 General Anatomy and Physiology and 524-138 PTA Kinesiology 1***

524-143 PTA Therapeutic Modalities 4 Credits
Develops the knowledge and technical skills necessary to perform numerous therapeutic modalities likely to be utilized as a PTA. ***Pre-requisites: 524-139 PTA Patient Interventions***

524-144 PTA Principles of Neuromuscular Rehabilitation 4 Credits

Integrates concepts of neuromuscular pathologies, physical therapy interventions, and data collection in patient treatment. ***Pre-requisites: 524-142 PTA Therapeutic Exercise, 524-141 PTA Kinesiology 2, and 524-139 PTA Patient Interventions***

524-145 PTA Princ of Musculoskeletal Rehabilitation (2nd 9 Wks.) 4 Credits
Integrates concepts of musculoskeletal pathologies, physical therapy interventions, and data collection in patient treatment. ***Pre-requisites: 524-142 PTA Therapeutic Exercise, 524-141 PTA Kinesiology 2, and 524-139 PTA Patient Interventions***

524-146 PTA Management of Cardiopulmonary and Integumentary Conditions (1st 9 Wks.) 3 Credits
Integrates concepts of cardiopulmonary and integumentary pathologies, physical therapy interventions, and data collection in patient treatment. ***Pre-requisites: 524-142 PTA Therapeutic Exercise, 524-141 PTA Kinesiology 2, and 524-139 PTA Patient Interventions***

524-147 PTA Clinical Practice 1 2 Credits
Provides a part-time clinical experience to apply foundational elements, knowledge, and technical skills pertinent to physical therapy practice. ***Pre-requisites: 524-141 PTA Kinesiology 2; and 524-143 PTA Therapeutic Modalities***

524-148 PTA Clinical Practice 2 3 Credits
Provides another part-time clinical experience to apply foundational elements, knowledge, and technical skills required of the entry level physical therapist assistant in various practice settings. ***Pre-requisites: Pre/Co: 524-147 PTA Clinical Practice 1***

524-149 PTA Rehabilitation across the Lifespan (1st 9 Wks.) 2 Credits
A capstone course that integrates concepts of pathology, physical therapy interventions and data collection across the lifespan. In addition the PTA's role in health, wellness and prevention; reintegration, and physical therapy interventions for special patient populations will be addressed. ***Pre-requisites: 524-144 PTA Principles of Neuromuscular Rehabilitation, 524-145 PTA Principles of Musculoskeletal Rehabilitation, 524-146 PTA Management of Cardiopulmonary and Integumentary Conditions, and 524-148 PTA Clinical Practice 2***

524-150 PTA Professional Issues 2 (1st 9 Wks.) 2 Credits
Incorporates professional development, advanced legal and ethical issues, healthcare management and administration, and further development of professional communication strategies. ***Pre-requisites: 524-140 PTA Professional Issues 1 and 524-148 PTA Clinical Practice 2***

524-151 PTA Clinical Practice 3 (2nd 9 Wks.) 5 Credits
Provides a full-time clinical experience to apply foundational elements, knowledge, and technical skills required of the entry level physical therapist assistant in various practice settings. ***Pre-requisites: 524-147 PTA Clinical Practice 2, 524-144 PTA Principles of Neuromuscular Rehabilitation, 524-145 PTA Principles of Musculoskeletal Rehabilitation and 524-146 PTA Management of Cardiopulmonary and Integumentary Conditions***

General Education Course Requirements:

806-177	Gen Anatomy and Physiology	4 Credits
806-139	Survey of Physics	3 Credits
801-195	Written Communication	3 Credits
801-196	Oral/Interpersonal Communication	3 Credits
809-166	Intro to Ethics	3 Credits
809-196	Introduction to Sociology	3 Credits
809-172	Race Ethnic Diversity	3 Credits
809-198	Introduction to Psychology	3 Credits

Radiography

Radiography prepares individuals for a career in diagnostic radiology (x-ray) as a radiographer. The radiographer is a technologist who produces images of the human body to aid physicians in the diagnosis of injuries and diseases. Graduates of the program are eligible to take the entry-level certification examination administered by the American Registry of Radiography Technologists (ARRT) and may obtain employment in x-ray departments associated with hospitals, medical clinics, veterinary clinics, and private offices.

Program curriculum focuses on theoretical and applied radiography and includes a clinical experience in a radiographic

department. The program is accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT). Students learn to use x-ray imaging machines to demonstrate body parts on x-ray films for diagnostic purposes, including diagnostic radiology, bedside and trauma procedures, pediatric radiography, and special procedures.

Program Mission
The Mission of the Blackhawk Technical College Associate Degree Radiography Program is to prepare the Student to Practice Entry-Level Diagnostic Medical Radiography.

Program Goals
1. Students Will Perform Competent Radiography
2. Students Will Communicate Effectively
3. Students Will Use Critical Thinking and Problem Solving Skills
4. Students Will Demonstrate Professionalism

Program Outcomes
1. Carry out the production and evaluation of radiographic images
2. Adhere to quality management processes in radiography
3. Apply computer skills in the radiographic clinical setting
4. Practice radiation safety principles
5. Provide quality patient care
6. Model professional and ethical behavior consistent with the A.R.R.T. Code of Ethics
7. Apply critical thinking and problem solving skills in the practice of diagnostic radiography

The methodology used to evaluate and assess the radiography outcomes is provided in detail to students during the New Student Orientation Session, and is available to applicants of the program upon request.

Program Accreditation
The Blackhawk Technical College Associate Degree Radiography Program is accredited by the Joint Review Committee on Education in Radiologic technology (JRCERT), 20 N. Wacker Dr., Suite 20, Chicago, IL 60606-3182, (312)704-5300

Graduates of the BTC radiography are eligible to sit for the certification examination in radiography prepared by the American Registry of Radiologic Technologists (ARRT).

Pre-requisites for Program Admission
- High school biology or college equivalent ("C" or above)
- High school algebra or college equivalent ("C" or above)
- High school chemistry or physics or college equivalent ("C" or above)
- ACT=composite score of 18 (taken within the past 3 years) or SAT = 900 or above for math and reading scores or COMPASS test scores of: Writing: 75, Reading: 82, Numerical: 49. The COMPASS test is administered at BTC.

Student Pregnancy: Should the student become pregnant during the course of the educational program, Blackhawk Technical College and the Associate Degree Radiography Program cannot guarantee normal graduation time.
Specific details related of the radiography program student pregnancy policy are found in the program student handbook, and are available to program applicants upon request.

Criminal History: In accordance with Wisconsin Caregiver Background law, applicants with criminal history may be denied placements at clinical affiliates. Additionally, criminal history may impact eligibility of the student to sit for the certification examination in radiography prepared by the American Registry of Radiologic Technologists (AART). Applicants with criminal history are advised to meet with the radiography program director prior to program entry.

Program Pre-requisite Requirements
- Participate in clinical observation tour set by Radiography Clinical Coordinator
- Attend program orientation sessions
- Complete physical examination and program health requirements
- A Caregiver Background Check is required for the clinical portion of this program.

All Radiography Program Core Courses (prefix 526) require program entry for enrollment. Please contact the Student Services department to ensure "program ready" status.

Graduation Requirements
- Students must earn a passing grade ("C"; GPA 2.0) in all courses in the curriculum.
- Students will have a minimum cumulative grade point average (GPA) of 2.0.
- Students will have completed all mandatory, elective, and continued clinical competency examinations as outlined in the clinical education and evaluation portion of this document.
- All outstanding bills related to the student's education must be paid in full before graduation.
- Eligibility of students to take the ARRT examination is subject to successful completion and review by Program Faculty.

Curriculum
835-104 – Student Success
Students should take this course prior to or during their first semester of their program. This is an institutional requirement for all students

	Core/Clinical Courses	Credits	Lec-Lab
526-158	Introduction to Radiography	3	3 - 0
526-168	Radiography Clinical 1	2	0 - 4
526-149	Radiographic Procedures 1	5	4 - 2
526-159	Radiographic Imaging 1	3	3 - 0
526-197	Radiation Protection and Biology	3	3 - 0

526-192	Radiography Clinical 2	3	0 - 16
526-191	Radiographic Procedures 2	5	4 - 2
526-170	Radiographic Imaging 2	3	3 - 0
526-193	Radiography Clinical 3	3	0 - 16
526-199	Radiography Clinical 4	3	0 - 32
526-194	Imaging Equipment Operation	3	3 - 0
526-196	Modalities	3	3 - 0
526-195	Radiographic Quality Analysis	2	1 - 2
526-190	Radiography Clinical 5	2	0 - 24
526-189	Radiographic Pathology	1	0 - 2
526-174	ARRT Certification Seminar	2	0 - 4
526-198	Radiography Clinical 6	2	0 - 24
	Total Credits	**48**	

General Education Courses		**Credits**	**Lec-lab**
801-195	Written Communication	3	3 - 0
801-196	Oral/Interpersonal Communication	3	3 - 0
809-198	Introduction to Psychology	3	3 - 0
809-196	Introduction to Sociology	3	3 - 0
809-195	Economics	3	3 - 0
804-107	College Mathematics	3	3 - 0
806-177	General Anatomy and Physiology	4	3 - 2
	Total Credits	**22**	
	Program Total	**70**	

COURSE DESCRIPTIONS

526-158 Introduction to Radiography **3 Credits**
Introduces students to the role of radiography in health care. Students apply medical terminology, legal and ethical considerations to patient care and pharmacology in the radiologic sciences.

526-168 Radiography Clinical 1 **2 Credits**
This beginning level clinical course prepares radiography students to perform radiologic procedures on patients with extensive supervision and direction. Students apply radiation protection and standard precautions in the production of radiographs in a health care setting while adhering to legal and ethical guidelines. An emphasis of the course is the development of communication and critical thinking skills appropriate to the clinical setting.

526-149 Radiographic Procedures 1 **5 Credits**
Prepares radiography students to perform routine radiologic procedures on various parts of the body including the upper body, hip, pelvis and ankle. Students apply knowledge of human anatomy to position the patient correctly to achieve the desired result.

526-159 Radiographic Imaging 1 **3 Credits**
Introduces radiography students to the process and components of analog imaging. Students determine the factors that affect image quality including contrast, density, detail, and distortion

526-197 Radiation Protection and Biology **3 Credits**
Prepares radiography students to protect themselves and others from exposure to radioactivity. Students examine the characteristics of radiation and how radiation affects cell biology. Students apply standards and guidelines for radiation exposure.

526-192 Radiography Clinical 2 **3 Credits**
This second level clinical course prepares radiography students to perform radiologic procedures on patients with extensive supervision and direction. Students apply radiation protection and standard precautions in the production of radiographs in a health care setting while adhering to legal and ethical guidelines. An emphasis of the course is the development of communication and critical thinking skills appropriate to the clinical setting.

526-191 Radiographic Procedures 2 **5 Credits**
Prepares radiography students to perform routine radiologic procedures on various parts of the body including the skull and spine. Students apply knowledge of human anatomy to position the patient correctly to achieve the desired result.

526-170 Radiographic Imaging 2 **3 Credits**
Explores film processing components as well as the principles and operation of digital imaging systems found in diagnostic radiology. Factors that impact image acquisition, display, archiving and retrieval are discussed. Guidelines for selecting exposure factors and evaluating images within analog and digital systems. Principles of digital system quality assurance and maintenance are presented.

526-193 Radiography Clinical 3 **3 Credits**
This third level clinical course prepares radiography students to perform radiologic procedures on patients with supervision and direction. Students apply radiation protection and standard precautions in the production of radiographs in a health care setting while adhering to legal and ethical guidelines. An emphasis of the course is the demonstration of communication and critical thinking skills appropriate to the clinical setting.

526-199 Radiography Clinical 4 **3 Credits**
This fourth level clinical course prepares radiography students to perform radiologic procedures on patients with supervision and direction. Students apply radiation protection and standard precautions in the production of radiographs in a health care setting while adhering to legal and ethical guidelines. Students are encouraged to demonstrate independent judgment in the performance of clinical competencies.

526-194 Imaging Equipment Operation **3 Credits**
Introduces radiography students to the principles and application of x-ray technology. Students analyze how x-rays are produced and determine the corrective actions necessary for common equipment malfunctions.

526-196 Modalities **3 Credits**
Introduces radiography students to imaging modalities with an emphasis in computed tomography and cross-sectional anatomy.

526-195 Radiographic Quality Analysis **2 Credits**
Prepares radiography students to analyze radiographic images for quality. Students apply quality control tests to determine the causes of image problems including equipment malfunctions and procedural errors.

526-190 Radiography Clinical 5 **2 Credits**
This fifth level clinical course prepares radiography students to perform radiologic procedures on patients with some supervision. Students apply radiation protection and standard precautions in the production of radiographs in a health care setting while adhering to legal and ethical guidelines. Students are encouraged to demonstrate independent judgment in the performance of clinical competencies.

526-189 Radiographic Pathology **1 Credit**
Prepares radiography students to determine the basic radiographic manifestations of pathological conditions. Students classify trauma related to site, complications, and prognosis and locate the radiographic appearance of pathologies.

526-174 ARRT Certification Seminar **2 Credits**
Provides preparation for the for the national certification examination prepared by the American Registry of Radiologic Technologists. Emphasis is placed on the weak areas of the individual students. Simulated registry examinations are utilized.

526-198 Radiography Clinical 6 **2 Credits**
This final clinical course requires students to integrate and apply all knowledge learned in previous courses to the production of high quality images in the clinical setting. Students apply radiation protection and standard precautions in the production of images in a health care setting while adhering to legal and ethical guidelines. Students are encouraged to demonstrate independent judgment in the performance of clinical competencies.

Technical Communications

Completing the Technical Communication program can help you find a career as a professional writer. Technical communicators are traditionally known for making technical information easy to understand, but they also write for a variety of audiences and purposes. With a degree in Technical Communication, graduates may find employment writing marketing materials, web site text, sales promotion copy, newsletters, project proposals, grants, operating and maintenance manuals, and more. In short, students in the Technical Communication program will learn to become writers–writers trained to produce a broad range of documents targeted to a variety of business needs. In addition to impeccable writing and editing skills, students will develop valuable layout and design skills, making documents visually attractive and user-friendly. Students will learn to apply these skills to paper-based documents, as well as documents designed for the electronic medium. Strong writers are needed in all kinds of businesses. Their ability to clearly communicate key information helps companies grow and succeed. If you love to write, there's a place for you in business and industry.

This is a shared program with Western Technical College (WTC) in La Crosse, WI. Students apply to WTC and enroll in program courses taken online through WTC and in traditional classroom or alternative delivery formats through BTC. The degree is issued through WTC.

Program Outcomes

- Demonstrate effective reading, writing, speaking and listening skills
- Demonstrate mathematical skills
- Apply scientific concepts
- Identify and solve problems, applying knowledge in a critical, creative and ethical manner
- Recognize the value of self and others in order to be a productive member of a diverse global society (for example, function effectively in a team environment)
- Evaluate and use information technology effectively
- Effectively edit technical documents
- Prepare journalistic documents appropriate to a business setting (e.g., newsletters and press releases) in electronic and paper-based media
- Prepare effective business correspondence (e.g., letters, memos, e-mail)
- Prepare technical reports, instructions, and manuals (including indexes), using electronic and paper-based media
- Create a website
- Create online training materials
- Design documents for electronic and paper-based media
- Prepare and/or arrange for photographs and other visuals to be included in publications
- Manage a documentation project from planning through publishing
- Conduct an effective interview

Graduates from this program may seek employment as:

- Technical Writer
- Author/Writer
- Desktop Publisher
- Editor

835-104 – Student Success
Students should take this course prior to or during their first semester of their program. This is an institutional requirement for all students

	Course Name	Credits	Lec-Lab
Semester 1			
103-106	Introduction to MS Office	3	BTC
104-102	Marketing Principles	3	BTC
104-118	Web and Design Concepts	2	BTC
201-112	Design Fundamentals	3	BTC
699-101	Editing for Style and Mechanics	3	*Online WTC*
801-195	Written Communication	3	BTC

801-198	Speech	3	BTC

Semester 2

699-110	Journalism in the Workplace[1]	3	*Online* WTC
699-112	Professional Business Writing[1]	3	*Online WTC*
699-113	HTML/Web Programming for Writers	3	*Online WTC*
801-197	Technical Reporting	3	BTC
809-196	Intro to Sociology	3	BTC
809-198	Intro to Psychology	3	BTC
	Estimated Semester Total	18	

Semester 3

203-125	Digital Photography	3	BTC
699-114	Writing - The Electronic Medium[1]	3	*Online WTC*
699-116	Procedure Manuals[1]	3	*Online WTC*
104-144	Marketing Communications	3	BTC
804-189	Introductory Statistics	3	BTC

Semester 4

699-118	Learning and Teaching Online[1]	3	*Online WTC*
809-166	Intro to Ethics	3	BTC
699-122	Practicum in Technical Comm[1]	3	BTC
809-195	Economics	3	BTC
999-999	Elective Course	3	BTC
	TOTAL CREDITS	**66**	

[1]Course has Pre-requisites

COURSE DESCRIPTIONS

699-101 Editing for Style and Mechanics 3 Credits
This course is designed to prepare learners to edit technical documents for style and mechanics by improving their knowledge of basic standard American English usage, punctuation, grammar, sentence structure, and proofreading to technical documents as a foundation for success in the Technical Communication Associate Degree program. (Students need a B or better to continue in the Technical Communication Program.)

699-110 Journalism in the Workplace 3 Credits
This course focuses on journalistic writing as it is typically applied in a business setting. Students will gather information, apply Associated Press Stylebook guidelines for newswriting, write articles for publication, design layouts for newsletters, conduct interviews and publish newsletters (paper copy and online). ***Pre-requisite: 801-195 Written Communication***

699-112 Professional Business Writing 3 Credits
Building on the writing skills developed in Written Communication, this course prepares students for the communication skills required in the workplace. In addition to studying intercultural communication, students write documents typical of the corporate environment, including job search materials, good-news, bad-news, and persuasive messages, formal reports, and learn about simple grant proposals. ***Pre-requisite: 801-195 Written Communication***

699-113 HTML/Web Programming for Writers 3 Credits
Technical Communicators need an awareness of the potential and constraints of web programs and how they affect writing in a web environment. Topics covered are web history, website organization, HTML, graphics use, page and site design, with a brief look at XML, CSS, and JavaScript. Students use Notepad and a web editor to create code, and an FTP program to publish. Students produce a website to showcase future web work.

203-125 Digital Photography 3 Credits
Students will use digital cameras to create digital images. Basic image manipulation and output will be taught using Photoshop software. Topics and projects include depth of field, production planning, studio flash photography and producing a number of PowerPoint presentations. Before beginning this class, you should have a working knowledge of your computer and its operating systems. **STUDENTS MUST PROVIDE THEIR OWN CAMERA.**

699-114 Writing-The Electronic Medium 3 Credits
Computers have become the tools of choice for composition, and networks the medium of choice for publications. Learn the effects of these contexts on your writing: real time, synchronous communication (MOOs, chat software); anytime, asynchronous communication (E-mail, discussion lists); and various web publications. Emphasis will be on reader awareness in evaluating the credibility of material in the on-line environment, and on copyright issues. ***Pre-requisites: 801-195 Written Communication and 699-113 HTML/Web Programming for Wrtrs or 107-183 HTML/Web Page Development or 152-114 Introduction to Programming or Instructor Consent***

699-116 Procedure Manuals 3 Credits
This course focuses on the preparation of procedure manuals. Students will work through the following process for creating a manual: analyze needs, prepare a project schedule, create a design, prepare a draft, conduct user tests and reviews, make revisions, obtain edits, make revisions, prepare the document for production, and close out the project. Students will work as part of a team that may include outside clients and/or vendors. ***Pre-requisite: 801-197 Technical Reporting***

699-118 Learning and Teaching Online 3 Credits
Production of training materials is a growing facet of the technical communicator's work. Learning and Teaching Online provides instruction in the tools used for online training, production of webbed instructional writing, conversion of printed materials, and communication strategies used in an online learning environment.

It identifies models for efficient and effective training and provides practice with online instructional skills. ***Pre-requisite: 699-114 Writing for the Electronic Medium or Instructor Consent***

699-122 Practicum in Technical Communication 3 Credits
This course provides practical experience working as a technical writer. Students will be assigned to work with, and learn from, an area employer. Specific tasks and focuses will be tailored to the interests of the student and the needs of area employers. Evaluation of the student's performance will be a cooperative effort between the employer and the instructor. ***Pre-requisites: 699-101 Editing for Style and Mechanics, 699-110 Journalism for Technical Writers, 699-112 Professional Business Writing, 699-114 Writing for the Electronic Medium and 699-116 Procedure Manuals***

201-112 Design Fundamentals 3 Credits
Creative ability of each student will be directed toward the layout, design and production of graphic design related projects. Through lectures, demonstrations and lab assignments, students will create and design projects utilizing a variety of materials and techniques.

General Education Course Requirements:

801-195	Written Communication	3 Credits
801-198	Speech	3 Credits
801-197	Technical Reporting	3 Credits
809-196	Intro to Sociology	3 Credits
809-198	Intro to Psychology	3 Credits
804-189	Introductory Statistics	3 Credits
809-166	Intro to Ethics	3 Credits
809-195	Economics	3 Credits

Welding

Welding is the most common way of permanently joining metal parts. Heat is applied to the pieces to be joined, melting and fusing them to form a permanent bond. Because of its strength, welding is used to construct and repair parts of ships, automobiles, spacecraft, and thousands of other manufactured products. Welding is used to join beams and steel reinforcing rods when constructing buildings, bridges, and other structures, and also in utilities such as nuclear power plants.

Welding program students advance through each semester in a cohort group, or may choose single process classes. Learning modules progressively build on what has been accomplished in exercises, practical assignments and exams. Students in the morning cohort group must take 442-307 and 442-308 together during the fall semester, and 442-310 and 442-312 together during the spring semester as part of their learning group. Students in the afternoon, evening or Saturday sessions may elect to take one or more process classes.

Welders may perform manual welding, in which the work is entirely controlled by the welder, or semi-automatic welding, in which the welder uses machinery, such as a wire feeder, to perform welding tasks.

Welders develop those manipulative skills, which are necessary to the welding of joints common to all metal industries. They understand and apply the proper theories of welding, cleaning and fabrication to appropriate shop applications. Welders know how to read blueprints, utilize the necessary tools, and perform the mathematical functions essential to the completion of a project. Welders follow and apply safety practices and procedures as they relate to industrial situations. They are able to understand and communicate technical information related to the profession.

Graduates of the program can expect to be proficient in welding structural steel, aluminum, stainless steel and other metals. They will develop the ability of blueprint reading, sketching, and layout for welding. Major job skills learned will include: Oxygen-Fuel Cutting (OFC), Plasma Arc Cutting (PAC), Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), Flux Core Arc Welding (FCAW), Metal Core Arc Welding (MCAW), and Gas Tungsten Arc Welding (GTAW).

Program Outcomes -
Upon completion of this program, you will be able to:

- Integrate established safety protocol
- Set-up, repair, and maintain tools and equipment using established procedures
- Operate power tools and equipment using established processes and procedures
- Perform welding, cutting, and allied processes using established procedures
- Inspect welded specimens
- Meet time guidelines

Career Outlook:
In construction, wholesale trade, and repair services, employment of welders and cutters will grow more rapidly than most other occupations. The level of construction is expected to expand, as is the number of metal products needing repair, increasing the need for welding and cutting.

Graduates from this program have found employment as:

- Production Line Welder
- Welder Helper
- Welder Tacker
- Fabrication Helper
- Fabricator
- Machine Maintenance Helper
- Union or Nonunion Apprentice in Boilermaker, Steamfitter or Iron worker trades

Note: Short-term certificate options are also available.

835-104 – Student Success
Students should take this course prior to or during their first semester of their program. This is an institutional requirement for all students.

	Course Name	Credits	Lec-Lab
Semester 1			
421-380	Blueprint Reading (Welding)	2	3 - 0
442-307	Gas Metal Arc Welding (GMAW)	5	2 - 8
442-308	Flux Cored Arc Welding (FCAW)	5	2 - 8
442-315	Metal Fabrication – Structural	3	1 -4
804-306	Shop Math I	2	3 – 0
Semester 2			
442-310	Shielded Metal Arc Welding (SMAW)	5	2 - 8
442-312	Gas Tungsten Arc Welding (GTAW)	5	2 - 8
442-316	Metal Fabrication – Sheet Metal	3	1 -4
801-311	Communication	2	3 - 0
804-308	Shop Math II	2	3 - 0
	TOTAL CREDITS	**34**	

Morning courses must be taken concurrently as part of the learning cohort group. Afternoon, evening and Saturday classes may be taken individually or together.

COURSE DESCRIPTIONS

421-380 Blueprint Reading (Welding) 2 Credits
This course is designed to help the student acquire the ability to visualize spatial relationships between two and three view drawings. Introduction to machine and welding terminology and concepts is acquired by reading a series of prints. A study of welding symbols is covered. The course emphasizes training in visualization and factual information as a means of gaining a working knowledge of the interpretation of prints related to the welding or fabrication industry.

442-307 Gas Metal Arc Welding (GMAW) 5 Credits
This is an introductory course designed for students who desire to learn the theories and skills of welding. Students will learn to make sound welds in all positions with the Gas Metal Arc Welding process (GMAW) on mild steel in all positions using short circuiting transfer mode. Students will also make sound welds in the Spray Transfer Mode on mild steel in the flat and horizontal positions. Industry standards and codes will be explored as visual and destructive testing of welded samples are carried out by students as an introduction to aspects of weld quality assurance and weld quality control. Health hazards and safety rules are discussed along with grinding, shearing, joint design and welding certification procedures. Students will have an opportunity to have their work samples evaluated and qualified to AWS D1.1 Structural welding code and AWS SENSE standards.

442-308 Flux Cored Arc Welding (FCAW) 5 Credits
This is an introductory course designed for students who desire to learn the theories and skills of welding. Students will learn to make sound welds in all positions with the Flux Cored Arc Welding process (FCAW) and Metal Cored Arc Welding Process (MCAW) on mild steel in all positions using short circuiting, spray and semi-spray transfer modes. Industry standards and codes will be explored as visual and destructive testing of welded samples are carried out by students as an introduction to aspects of weld quality assurance and weld quality control. Health hazards and safety rules are discussed along with grinding, shearing, joint design and welding certification procedures. Library research, written assignments and tests, and basic metallurgy and certification preparation are all units of instruction involved in the above area. Students will have an opportunity to have their work samples evaluated and qualified to AWS D1.1 Structural welding code and AWS SENSE standards.

442-310 Shielded Metal Arc Welding (SMAW) 5 Credits
This is an introductory course designed for students who desire to learn the theories and skills of welding. Students will learn to make sound welds with the Shielded Metal Arc Welding Process (SMAW) on mild steel in all positions with non low hydrogen electrodes such as E6010, E6011, E6013, and E7014. Health hazards and safety rules are discussed along with metal weldability, electrode classification and weld inspection. Industry standards and codes will be explored as visual and destructive testing of welded samples are carried out by students as an introduction to aspects of weld quality assurance and weld quality control. Library research, written assignments and tests, and basic metallurgy and certification preparation are all units of instruction involved in the above areas. Students will have an opportunity to have their work samples evaluated and qualified to AWS D1.1 Structural welding code and AWS SENSE standards.

442-312 Gas Tungsten Arc Welding (GTAW) 5 Credits
This is an introductory course designed for students who desire to learn the theories and skills of welding. Students will learn to make sound welds with the Gas Tungsten Arc Welding Process (GTAW) on mild steel, stainless steel and aluminum alloys. Industry standards and codes will be explored as visual and destructive testing of welded samples are carried out by students as an introduction to aspects of weld quality assurance and weld quality control. Health hazards and safety rules are discussed along with weldability, tungsten electrode selection, shielded gasses, grinding, shearing, joint design and welding certification procedures. Library research, written assignments and tests, basic metallurgy and certification preparation are all units of instruction involved in the above areas. Students will have an opportunity to have their work samples evaluated and qualified to AWS D1.9 Sheet mettal welding code and AWS SENSE standards.

Metal Fabrication – Structural 3 Credits
This course is designed to include basic light and heavy duty structural steel fabrication skills. The class will link the student's understanding of welding processes with real world fabrication

techniques used in the industry today. The class will introduce a variety of skills needed to perform in today's fast paced and highly skilled workforce that will include; tools of the trade, measuring, cutting and bolting principles, layout and design, drilling, bending, shaping and actual construction of light and heavy duty structural steel projects. This class will also involve exposure to riveting, automated CNC cutting equipment, basic manufacturing principles, and promotion of teamwork and communication skills as learners. Students will design, layout and fabricate real projects.

442-316 Metal Fabrication – Sheet Metal 3 Credits

This course is designed to introduce the basic skills involved in the sheet metal fabrication industry. The class will involve design and layout, tools of the trade, measuring and location techniques, forming and "shaping" o f sheet metal. The class will involve specialty equipment used in the aviation industry, the custom auto and motorcycle industry, food industry, and other specialty sheet metal industries. This class will also include exposure to fastener types, riveting, CNC cutting equipment, and promotion of teamwork and communication skills required in this highly skilled industry. Some of the specialty tools presented will include; English wheels, Shot bag and mallets, shrinking and stretching equipment, bead rollers, hammers and dollies, the Pullmax machine and the techniques used with them. Students will design, layout and construct real sheet metal projects in groups and individually.

General Education Course Requirements:

801-311	Communication	2 Credits
804-306	Shop Math I	2 Credits
804-308	Shop Math II	2 Credits

Library research, written assignments and tests, and basic metallurgy and certification preparation are all units of instruction involved in the above area.

Certificates and Shared Programs

Accounting Assistant Certificate

(32 credits) Certificate 99-9101

Students may choose to receive a certificate as an Accounting Assistant upon satisfactory completion of the first two semesters of the Accounting Associate Degree Program. With this certificate, you will be better prepared for entry level positions related to accounts receivable, accounts payable, payroll, bookkeeping, and other related office functions. Students selecting this option may return to BTC at a later date (in accordance with the College's advanced standing policy) to complete the Associate Degree in Accounting.

	Course Name	Credits	Lec-Lab
Semester 1			
101-111	Accounting I	4	2 - 4
101-130	Accounting Information Systems	3	3 - 0
103-116	Introduction to MS Word	1	0 - 2
106-145	Information Technology Essentials	3	2 - 2
801-195	Written Communication	3	3 - 0
804-123	Math with Business Applications	3	3 - 0
Semester 2			
101-105	Accounting Spreadsheets [1]	3	1 - 4
101-112	Accounting II[1]	4	2 - 4
101-135	Payroll Accounting [1]	2	1 - 2
101-136	Computerized Accounting[1]	1	0 - 2
801-196	Oral/Interpersonal Communication	3	3 - 0
809-166	Intro. to Ethics: Theory and Application	3	3 - 0

[1]Course has Pre-requisites

Refer to the Blackhawk Technical College Catalog for the Accounting Associate Degree program description and courses.

COURSE DESCRIPTIONS

101-105 Accounting Spreadsheets 3 Credits

This course provides hands-on experience in reporting financial data utilizing a popular spreadsheeting program. The course focuses on the application of spreadsheeting software in the Accounting profession. A working knowledge of Microsoft Windows and a basic knowledge of the accounting cycle are recommended. It is helpful to take Accounting I concurrently.

101-111 Accounting I 4 Credits

This is an introductory course to the basic structure of accounting. Fundamental accounting concepts and principles are presented with their application to the analysis and recording of business transactions through the use of problems and a practice set. The course focus is on journalizing, posting, preparing financial statements, accounting for merchandisers, purchases, and banking transactions. A working knowledge of Microsoft Office is highly recommended.

101-112 Accounting II 4 Credits

Accounting II is a continuation of Accounting I. Account groups are studied for their composition, valuation, recognition, and

appropriate accounting treatment. The accounting groups focused on are: receivables, inventory, fixed assets, and current liabilities. In addition, managerial/cost accounting concepts and principles, and cost-volume-profit analysis are introduced. ***Pre-requisites: 101-105 Accounting Spreadsheets, 101-111 Accounting I, 804-110 Elementary Algebra with Applications***

101-130 Accounting Information Systems 3 Credits
This course helps students develop their professional judgment as accountants while studying the flow of information in an organization. Using scenarios, each transaction cycle is analyzed and studied for internal control weaknesses. Based on the analysis, the students are required to identify ways to strengthen any weakness identified. Students will learn flowcharting techniques and principles of system design.

101-135 Payroll Accounting 2 Credits
This course emphasizes methods of computing wages and salaries, methods for keeping payroll records and the preparation of government reports. Included is a project requiring the student to record all the payroll information for a business during a three-month operating period. ***Pre-requisites: 101-111 Accounting I, 804-110 Elementary Algebra with Applications***

101-136 Computerized Accounting 1 Credit
This course is designed to build the bridge between a manual accounting system and a computerized system, explaining the "behind-the-scenes" actions of the computerized system. A popular computerized accounting software package is used to record business transactions within a computerized system and produce financial statements and various other reports for management. This course is designed to provide the user with an intermediate level of proficiency in a computerized accounting software package. ***Pre-requisite: 101-111 Accounting I or equivalent experience***

103-106 Introduction to MS Office 3 Credits
This course will introduce students to the Microsoft Office Suite and overview many of the core competencies of Outlook, Word, Excel, Access, PowerPoint, and Explorer. Students will develop the use of technology for both problem solving and decision-making and will be expected to learn to use the resources available to search for answers to problems.

103-116 Introduction to MS Word 1 Credit
Learn to use Microsoft Word 2007 as a word processor to create documents such as reports, letters, and research papers. You can even publish brochures, newsletters, and announcements with additional training. Students will learn to create, edit, format and print a variety of business and school documents and become proficient with powerful editing tools such as spelling and grammar checkers, Thesaurus, and Autocorrect.

106-145 Information Technology Essentials 3 Credits
This course provides an introduction to computers and information processing terms, hardware, software, networks, and buying a computer. Major topics also include effective use of a web browser, Microsoft Outlook's electronic mail, calendar, and contacts modules, and the basics of Windows operating system. Touch keyboarding skills are recommended.

801-195 Written Communication 3 Credits
Develops writing skills which include prewriting, drafting, revising, and editing. A variety of writing assignments is designed to help the learner analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Also develops critical reading and thinking skills through the analysis of a variety of written documents. Word processed assignments and a 5-7 page research paper are required

801-196 Oral/Interpersonal Communication 3 Credits
Focuses upon developing speaking, verbal and nonverbal communication, and listening skills through individual presentations, group activities, and other projects.

801-197 Technical Reporting 3 Credits
The student will prepare and present oral and written technical reports. Types of reports may include lab and field reports, proposals, technical letters and memos, technical research reports, and case studies. Designed as an advanced communication course for students who have completed at least the pre-requisite introductory writing course. ***Pre-requisite: 801-195 Written Communication***

804-123 Math with Business Applications 3 Credits
This course covers...real numbers, basic operations, linear equations, proportions with one variable, percents, simple interest, compound interest, annuity, apply math concepts to the purchasing/buying process, apply math concepts to the selling process, and basic statistics with business/consumer applications.

Pre-requisite: Minimum COMPASS Pre-algebra score of 44

809-166 Introduction to Ethics: Theory and Application 3 Credits
This course provides a basic understanding of the theoretical foundations of ethical thought. Diverse ethical perspectives will be used to analyze and compare relevant issues. Students will critically evaluate individual, social and/or professional standards of behavior, and apply a systematic decision-making process to these situations.

Business Technology

(28 credits) Certificate 99-9121

This certificate prepares students for careers in business, office and office support related areas. From front line receptionists to office managers, individuals completing this certificate will have critical entry-level business and technology skills used in today's modern office environments. Managers and supervisors will also benefit from improving their business technology skills and knowing more about what skills and abilities can be developed in their office personnel. Warehouse and seasonal lead workers and others with no post high school education who are looking to move up within an organization may also benefit from this training.

Course	Course Name	Credits	Lec-Lab
101-102	Office Accounting	3	2 - 2
102-137	Business Communications	1	1 - 0
104-130	Fundamentals of Customer Service	3	3 - 0

106-108	Proofreading and Editing	1	0 - 2
106-129	Business Filing	1	0 - 2
106-140	Keyboarding	1	0 - 2
106-145	Information Technology Essentials	3	2 - 2
106-146	Word Processing Applications[1]	3	1 - 4
106-155	Publication Design and Production	2	2 - 2
106-156	Business Databases	3	2 - 2
106-159	Business Spreadsheets	3	2 - 2
106-165	Business Presentations/Training	2	1 - 2
804-117	Business Math	3	3 - 0

[1] Course has pre-requisites

COURSE DESCRIPTIONS

101-102 Office Accounting 3 Credits
Office Accounting is a basic course in accounting principles and bookkeeping procedures. Topics include journalizing and posting transactions, preparing worksheets, adjusting and closing entries, and preparing the financial statements. Emphasis is on the service enterprise and accounting for cash.

102-137 Business Communications 1 Credit
In Business Communications, students will learn the basics of professional and effective communication in business settings. Students will receive instruction and feedback on oral communication as well as the use of written communications to include business emails, memos, and letters. The importance of favorable and appropriate communication with both internal and external parties will be covered. All written communications will require keyboard use.

104-130 Fundamentals of Customer Service 3 Credits
This course is designed for learners who desire training in the fundamentals of customer service as they relate to business. It introduces core customer service concepts and an overview of the essential skills needed to succeed in any organization. In addition to dealing with internal and external audiences, specific topics include: listening techniques, verbal and nonverbal communication, dealing with various customer types, use of technology, handling a variety of complex customer situations, as well as an overview of careers within the customer service industry.

106-108 Proofreading and Editing 1 Credit
Students will develop proofreading skills for identifying and correcting punctuation, grammar, spelling, and usage errors. This course also includes editing skills for improving format, consistency, clarity, conciseness, and completeness. Activities require applying proofreading and editing skills to realistic business communications in both print and electronic formats. Touch keyboarding and basic word processing skills are helpful.

106-129 Business Filing 1 Credit
Students learn the Association of Records Managers and Administrators (ARMA) filing rules through experience with various filing methods in a practice simulation. Students will also be introduced to file maintenance procedures, supplies, and equipment.

106-140 Keyboarding 1 Credit
Students will master the computer keyboard by touch including the letters and numeric keypad. Computer software is used to begin development of acceptable speed and accuracy levels. Students completing this course may be ready for 106-131 Keyboarding Applications, or may continue to develop their proficiency and keyboarding abilities in Skillbuilding. This course is not required for students who can demonstrate keyboarding skills of 30 words per minute with 3 or fewer uncorrected errors on a 3-minute timing.

106-145 Information Technology Essentials 3 Credits
This course provides an introduction to computers and information processing terms, hardware, software, networks, and buying a computer. Major topics also include effective use of a web browser, Microsoft Outlook's electronic mail, calendar, and contacts modules, and the basics of Windows operating system. Touch keyboarding skills are recommended.

106-146 Word Processing Applications 3 Credits
Students use word processing software to create, format, and edit business documents applying features such as headers/footers, macros, merge, templates, tables, columns, outlines, fonts, and graphics. Software functions, theory and production will be assessed. ***Pre-requisite: Touch keyboarding speed of 40 words per minute and basic computer skills.***

106-155 Publication Design and Production 3 Credits
Utilizing software such as Photoshop Elements and Adobe InDesign, students will combine the technology of the personal computer, scanners, digital cameras, color printers, and desktop publishing software with specific design and layout concepts. Students will apply the proper use of typefaces, graphics, tables, text and user-defined boxes, horizontal and vertical rules to the design and layout of newsletters, brochures, and other documents. The pace of this course is based on touch keyboarding skill of 40 words per minute and basic computer skills.

106-156 Business Database 3 Credits
This course is designed to teach the basic elements of Microsoft Access. Applications will include the creation of a database; finding, displaying, and deleting records; providing listings and reports; making tables; and managing mailing lists. Basic computer skills are expected.

106-159 Business Spreadsheets 3 Credits
Using Microsoft Excel, students will learn the elements of a spreadsheet: worksheet capabilities (create, modify, enhance, save, print, and erase worksheets), graphing capabilities (create graphs, bar charts, and pie charts), and database capabilities (create, sort, and query). Basic computer skills are expected.

106-165 Business Presentations/Training 2 Credits
Microsoft PowerPoint software will be used to create dynamic, professional-looking presentations. In addition, emphasis will be placed on developing training skills that will include analyzing/determining training needs, understanding learning styles, development of resources/curriculum, using presentation/training technologies, and evaluating training

success. Touch keyboarding and basic word processing skills are necessary.

804-117 Business Mathematics 3 Credits
This course is designed to build your knowledge of math including whole numbers, decimals, fractions, percents, formulas, equations, and statistics. These skills will be reinforced in business applications including bank records, payroll, discounts, markup and markdown, interest calculations, annuities, depreciation, inventory and more.

Computer Hardware Support Certificate

(15 credits)*

This certificate program provides the extensive hands-on training with hardware, software, and operating systems needed to keep PC-based systems operational and functioning at peak efficiency. These courses provide the basic knowledge, attitudes, skills, and habits needed to guide and implement the systematic enhancement of PC based systems as the technology continues to evolve. Students will learn to: assemble/disassemble a complete PC; diagnose and repair hardware/software problems; install and configure PC hardware; resolve memory conflicts; install, configure, optimize and troubleshoot hardware, software and operating systems.

	Course Name	Credits	Lec-Lab
Semester 1			
631-100	Microcomputer Fundamentals	3	varies
631-101	Troubleshooting Operating Systems	3	varies
450-315	Customer Service Fundamentals	2	varies
631-102	Microcomputer Hardware Service	3	varies
450-316	Microcomputer Software Service	2	varies
450-317	Troubleshooting Microcomputers	2	varies
	TOTAL CREDITS	***15***	

**** Participants must complete BTC's program admission process for certain certificates. Pre-requisite: Must be registered in the Computer Service Technician Program.***

Basic Corrections Academy

Spring Semester–Certificate/Special Program

The Basic Corrections Academy is a program that provides the curriculum required for correctional officer certification with the Wisconsin Department of Justice, Law Enforcement Standards Board. The program is a 160 hour course that focuses on the philosophical and tactical principles of working as a correctional officer in Wisconsin. The course includes a skills-assessment examination prior to completion to verify student competence. Upon the completion of the program, a student will be eligible for certification with the Wisconsin Department of Justice, Law Enforcement Training and Standards Board.

Criminal Justice-Full-Time Law Enforcement Academy (16 cr.)

Spring/Fall Semester

The Law Enforcement Basic Recruit Academy is a program for those that are interested in a career in law enforcement. The program is thirteen consecutive weeks totaling 520 instructional hours. Upon completion of the program, a student will be eligible for certification with the Wisconsin Department of Justice, Law Enforcement Training and Standards Board. The program focuses on both the theories of law enforcement and is coupled with the tactical skills necessary to be a police officer, deputy sheriff, or sworn member of law enforcement in Wisconsin.

Part-Time Law Enforcement Academy

(16 credits) Fall Semester

The part-time Law Enforcement Basic Recruit Academy is a program for those that are interested in a career in law enforcement yet may have other life commitments which prevent them from attending a traditional full-time program. The program is a full year program consisting of 520 instructional hours. Upon completion of the program, a student will be eligible for certification with the Wisconsin Department of Justice, Law Enforcement Training and Standards Board. The program focuses on both the theories of law enforcement and is coupled with the tactical skills necessary to be a police officer, deputy sheriff, or sworn member of law enforcement in Wisconsin. The program meets Tuesday and Thursday nights from 6:00 p.m. until 10:00 p.m. The program also meets every-other Saturday as scheduled.

Civil Engineering Technician

Offered as a shared program with Gateway Technical College, this program is designed with three different emphases to choose from: Architectural/Structural, Public Works and Survey.

The first year of the program is the same for all three emphases. In the second year, you specialize. The first year allows you to become exposed to and develop a basic understanding regarding the many aspects of the profession.

First year classes are offered both days and evenings. Second year classes are offered mostly evenings and Saturdays (allowing those who have secured jobs to hone their skills and showcase their talents). However, classes are also offered in a NODAL* format-distance education at its best. Classes are taught at Gateway Tech, but students can take the lab in room 1106 on BTC's Central Campus. Also the use of CDs allow each student to study at their own pace and review at their leisure. Only two classes would need to be taken on-site, which could be done at Gateway's Elkhorn Campus. Those classes are Land Survey and Conflict Resolution.

Customer Service Associate

(16 credits) Certificate 99-9130

This certificate program includes occupational skills needed to be successful in the world of customer service. Business skills, people skills, technology, personal effectiveness and much more will be explored to help the learner establish a solid customer service foundation for any career. Topical areas included in this short-term certificate are:

- Service Professions
- Business Skills
- Communication
- Customer Retention
- Business Software
- Interpersonal Assessments

Course	Course Name	Credits	Lec-Lab
103-106	Introduction to MS Office	3	3 - 0
104-130	Fundamentals of Cust. Svc.	3	3 - 0
104-131	Relationship Mgmt in Cust. Svc.	3	3 - 0
104-132	Time Management and Problem	3	3 - 0
104-133	Sales Skills for Customer Svc.	3	3 - 0
106-140	Basic Keyboarding	1	0 - 2

COURSE DESCRIPTIONS

103-106 Introduction to MS Office 3 Credits
This course will introduce students to the Microsoft Office Suite and overview many of the core competencies of Outlook, Word, Excel, Access, PowerPoint, and Explorer. Students will develop the use of technology for both problem solving and decision-making and will be expected to learn to use the resources available to search for answers to problems.

104-130 Fundamentals of Customer Service 3 Credits
This course is designed for learners who desire training in the fundamentals of customer service as they relate to business. It introduces core customer service concepts and an overview of the essential skills needed to succeed in any organization. In addition to dealing with internal and external audiences, specific topics include: listening techniques, verbal and nonverbal communication, dealing with various customer types, use of technology, handling a variety of complex customer situations, as well as an overview of careers within the customer service industry.

104-131 Relationship Management in Customer Service 3 Credits
Effectively managing relations with customers is critical to any successful customer service operation. Learners will explore strategies to identify customer needs, communicate effectively, and demonstrate professional work attitudes and ethics. Hands-on activities will help develop interpersonal and intrapersonal skills and an appreciation for various cultures and customers.

104-132 Time Management and Problem Solving in Customer Service 3 Credits
Learn techniques for prioritizing work, handling multiple tasks, and managing change in this course designed for anyone interested in improving their customer service skills. Participants will also learn how to resolve conflict and improve working relationships with customers and peers.

104-133 Sales Skills for Customer Service 3 Credits
This course is designed for learners who seek sales-related training as it applies to the role of a customer service agent. Concepts such as up selling and cross selling will be discussed as well as basic sales information such as profits and losses, referrals, finding alternative solutions, and use of resources available to customer service personnel.

106-140 Keyboarding 1 Credit
Students will master the computer keyboard by touch including the letters and numeric keypad. Computer software is used to begin development of acceptable speed and accuracy levels. Students completing this course may be ready for 106-131 Keyboarding Applications, or may continue to develop their proficiency and keyboarding abilities in Skillbuilding. This course is not required for students who can demonstrate keyboarding skills of 30 words per minute with 3 or fewer uncorrected errors on a 3-minute timing.

Dental Hygiene

This associate degree program prepares individuals for a career as a Dental Hygienist. The dental hygienist is a member of the dental team and helps individuals maintain oral health and prevent oral diseases. Under the supervision of a dentist, the hygienist inspects the mouth, removes stains and deposits from teeth, applies preventative agents, prepares clinical and diagnostic tests, completes dental x-rays, and performs many other services related to oral care. Dental hygienists counsel patients about preventive measures such as nutrition, oral hygiene and dental care.

Blackhawk Technical College maintains shared program agreements with both Madison Area Technical College (MATC) and Waukesha County Technical College (WCTC) for the Dental Hygiene Program. While Blackhawk students attend Dental Hygiene program courses at one of these facilities, General Education and Elective requirements (as applicable) may be taken at BTC.

The admission and program completion requirements vary somewhat between MATC and WCTC. Blackhawk Technical College recommends meeting the "Program-Ready" requirements for both institutions to assure the earliest program acceptance. Please contact the BTC Student Services Counseling department for details related to Program-Ready and Program Completion requirements.

General Education Requirements: WCTC

Course #	Course	Credits
806-177	General Anatomy and Physiology	4

806-186	Intro to Biochemistry	3
806-197	Microbiology	4
801-195	Written Communication	3
801-196	Oral Communication	3
809-198	Introduction to Psychology	3
809-195	Economics	3
809-196	Introduction to Sociology	3
	Elective	3

General Education Requirements: MATC

Course #	Course	Credits
806-201	General, Organic and Biological Chemistry	5
806-197	Microbiology	4
809-198	Introduction to Psychology	3
801-195	Written Communication	3
809-196	Introduction to Sociology	3
809-159	Abnormal Psychology	3
801-196	Oral Communication	3
	Elective	6

Healthcare Office Specialist

(33 Credits) Certificate 99-9106

Students may elect to receive a certificate as a Healthcare Office Specialist upon satisfactory completion of the first two semesters of the Medical Administrative Specialist Degree Program. Earning this certificate will help prepare you for entry-level office positions in healthcare, including clerks and medical records.

	Course Name	Credits	Lec-Lab
Semester 1			
106-113	Introduction to Health Insurance	3	2 - 2
106-114	Healthcare Records Management	3	2 - 2
106-181	Office Professionalism	3	3 - 0
106-185	Healthcare Document Formatting and Proofreading[1]	3	1 - 4
804-106	Introduction to College Math	3	3 - 0
Semester 2			
106-107	Computerized Patient Billing[1]	3	2 - 2
106-120	Medical Terminology for Transcription/Coding	3	3 - 0
106-127	Healthcare Documentation[1]	3	1 - 4
103-106	Introduction to Microsoft Office	3	3 - 0
801-196	Oral/Interpersonal Communication	3	3 - 0
809-166	Intro to Ethics: Theory and Application	3	3 - 0

[1] Course has pre-requisites

COURSE DESCRIPTIONS

103-106 Introduction to MS Office 3 Credits
This course will introduce students to the Microsoft Office Suite and overview many of the core competencies of Outlook, Word, Excel, Access, PowerPoint, and Explorer. Students will develop the use of technology for both problem solving and decision making and will be expected to learn to use the resources available to search for answers to problems.

106-107 Computerized Patient Billing 3 Credits
This course emphasizes computerized patient billing procedures in the medical office environment. The students will input patient information, charges, payments, and appointments. In addition, reports and insurance forms are generated using a microcomputer-billing program.

Pre-requisite: 106-113 Introduction to Health Insurance

106-113 Introduction to Health Insurance 3 Credits
Students are introduced to the various private and government insurance programs. Students will gain knowledge in understanding the ever-changing role of the healthcare industry and the need for confidentiality and compliance. A basic introduction of payment systems and coding will be covered.

106-114 Healthcare Records Management 3 Credits
This course covers the systematic control of information in each phase of the record life cycle: creation, distribution, use, maintenance, and disposition. Topics will include systems of filing and storage (general and medical specific); organizing, managing, and controlling the system; potential careers; and trends in technology. Ethical/legal issues in the health care field will be addressed. Students will learn to organize files through Windows Explore. Students will also gain knowledge of Microsoft Outlook for sharing files and as a communication tool. A simulation will provide hands-on experience with major filing classification systems in both paper and computer database format. Touch keyboarding and basic computer skills are necessary.

106-120 Med. Terminology for Transcription/Coding 3 Credits
This course provides a combination of the study of medical vocabulary and the application of that vocabulary in an office setting. Students will learn the pronunciation, spelling, definition, and correct usage of medical terms used in a variety of healthcare office applications, with an emphasis on terminology necessary for medical reports used in transcription and coding. Students will also learn how to divide medical words into their component parts: the root word, the suffix, the prefix, and the combining form.

106-127 Healthcare Documentation 3 Credits
The emphasis of this course is on medical report types, formats, grammar, spelling, and punctuation. Students will become familiar with a variety of medical reference materials available to them - books and computer sites. The AHDI Book of Style for Medical Transcription will be used during a module that will include an introduction to transcription. Students will learn to take meeting minutes in a variety of settings that will culminate in taking minutes during a meeting. Touch keyboarding and basic word processing skills are necessary. Students should also have a strong background in grammar and punctuation. ***Pre-requisite: 106-185***

Healthcare Document Formatting and Proofreading

106-181 Office Professionalism 3 Credits
The mission of the course is to empower students to enhance performance through personal self-management. The course, which is built around Tom Rath's "Strengths Finder" book, provides an opportunity to develop both personally and professionally in effectively dealing with change. In addition, students will focus on the soft skills of team building and customer service through the use of problem-based video "field-trips".

106-185 Healthcare Doc. Formatting and Proofreading 3 Credits

Students will learn to use word processing software to create, format, and edit medical documents. Course includes the development of proofreading skills for identifying and correcting punctuation, grammar, spelling, and usage errors. Work will also be done to improve speed and accuracy through the use of timed writings. ***Pre-requisite: Keyboarding speed of 30 words per minute.***

801-196 Oral/Interpersonal Communication 3 Credits
Focuses upon developing speaking, verbal and nonverbal communication, and listening skills through individual presentations, group activities, and other projects.

804-106 Introduction to College Math 3 Credits
This is an introductory level course designed to review and develop fundamental concepts of arithmetic, algebra, geometry, and statistics. Emphasis will be placed on computational skills and applications of rational numbers; problem solving skills with rations, proportions, and percent; basic principles and application of algebra, geometry, graphing, and statistics; measurement skills in U.S. Customary and Metric Systems; and the use of calculators as a tool.

809-166 Intro to Ethics: Theory and Application 3 Credits
This course provides a basic understanding of the theoretical foundations of ethical thought. Diverse ethical perspectives will be used to analyze and compare relevant issues. Students will critically evaluate individual, social and/or professional standards of behavior, and apply a systematic decision-making process to these situations.

Industrial Engineering Certificate (13 cr.)

The Industrial Engineering certificate is a 13-credit certificate designed to train persons in the field of industrial engineering and manufacturing production.

Industrial Engineering Technicians work on problems involving the efficient use of personnel, materials, and machines in the production of goods and services. They are employed in a variety of businesses and industries, including the manufacture of goods and equipment of all kinds, food processing, health care facilities, and many others.

This program is designed with the working student in mind and is offered as independent study. Access to many books and resource materials is provided by BTC. Use of these materials will require frequent visits to the campus. Some on-campus time for study, testing, and use of videotapes, etc., will also be required.

These courses are offered in a self-paced format. Several of the courses are also available in a classroom setting.

	Course Name	Credits	Lec-Lab
Semester 1			
623-121	Engineering Drawings and Measurements	3	SP
623-160	Manufacturing Materials and Processes	3	SP
623-165	Facilities Planning	3	SP
623-166	Industry and Quality Control	3	SP
623-196	Standards and Regulations	1	SP
	TOTAL CREDITS	***13***	

IT Database Management

(15 Credits) Certificate 99-9125

This certificate is designed to prepare information technology professionals through credit-based lifelong learning and continuing education. Students completing the series of courses offered in this certificate will learn skills related to relational database coding, design, and development.

Prior knowledge of programming logic, web development, database concepts, and programming are recommended. Recommended pre-admission skills/requirements include an associate degree in information technology or a minimum of 3 years of related work experience. Learners in this certificate will be expected to have experience with relational database design, at least one procedure programming language and a Visual programming language.

Course	Course Name	Credits	Lec-Lab
152-147	Relational Database Development	3	2 - 2
152-148	Relational Database Coding[1]	3	2 - 2
152-160	Object-Oriented Design with UML	3	3 - 0
152-162	Object-Oriented Systems Analysis [1]	3	3 - 0
152-163	Relational Database Design [1]	3	3 - 0

[1]Course has Pre-requisites

COURSE DESCRIPTIONS

152-147 Relational Database Development 3 Credits
Relational Database Development provides a general overview of database theory, including relational database management systems (RDBMSs) and normalization. The fundamentals of the structured query language (SQL), data definition language (DDL), and data manipulation language (DML) commands, utilizing client/server based database software, (e.g., MySQL) are also covered.

152-148 Relational Database Coding 3 Credits
This is class includes hands-on training utilizing a relational database management system (e.g., MySQL) in an advanced

client/server software environment. Topics covered include: advanced structured query language (SQL) commands and concepts, and database programming utilizing the PHP programming language. ***Pre-requisite: 152-147 Relational Database Development***

152-160 Object-Oriented Design with UML 3 Credits
This course is designed to be a practical, introductory-level systems analysis course utilizing Unified Modeling Language (UML) concepts. Emphasis is on the physical system elements: data design, object-oriented design, user interface design (screen and report) and system interface design. The use of CASE tools (e.g. Visio) is integrated throughout the course to enhance the design experience.

152-162 Object-Oriented Systems Analysis 3 Credits
Object-Oriented Systems Analysis is an intermediate course in systems analysis from an object-oriented (OO) point-of-view. The course will emphasize the analysis and documentation of systems, physical OO modeling, and OO design. Students will demonstrate knowledge of OO concepts/terminology, and the role UML plays in the systems analysis and design process. ***Pre-requisite: 152-160 Object-Oriented Design with UML***

152-163 Relational Database Design 3 Credits
Relational database design is an advanced course in database concepts and design. Students will design, normalize, and develop a database and program the associated interface in a realistic environment. ***Pre-requisite: 152-148 Relational Database Coding***

IT Information Systems Security Specialist

(36 Credits) Certificate 99-9120

Cyber-security, including computer and information systems security, is a rapidly maturing area. Industry and government, including federal, state, and local governmental units, are looking for people who have specialized knowledge, skills, and abilities related to information assurance, information systems security, network security, web page programming, e-Commerce applications, and much more. This certificate prepares students for entry-level employment in support positions related to computer security with a special emphasis on Information Assurance.

Course	Course Name	Credits	Lec-Lab
150-133	Network Security[1]	3	2 - 2
150-134	Router Security[1]	3	2 - 2
150-135	Operating Systems Security[1]	3	2 - 2
150-136	Perimeter Security[1]	3	2 - 2
150-151	Information Security Principles	3	2 - 2
150-152	Security Policies and Procedures[1]	3	2 - 2
150-153	Information Security Management[1]	3	2 - 5
150-154	Security Measures and Threat Mitigation[1]	3	2 - 2
150-155C	Computer Forensics[1]	3	2 - 2
150-155	Current Issues and Trends Seminar*	3	2 - 2
152-191	Secure e-Commerce Concepts	3	2 - 2
152-192	Designing Secure Websites	3	2 – 2

[1]Course has Pre-requisites

* Choice of Seminar

150-155A	Current Issues and Trends Seminar: Business Continuity Planning[1]	3	2 – 2
150-155B	Current Issues and Trends Seminar: Cyber Law and Ethics	3	2 – 2
150-155D	Network Forensics	3	2 - 2

COURSE DESCRIPTIONS

150-133 Network Security 3 Credits
This course introduces learners to the fundamentals of network security. The course covers various topical areas involved in network security, including security topology, intrusion detection, device configurations, access lists, authentication, and encryption. Different methods of attacks, such as viruses, Trojan horses, and worms are also reviewed. This course also introduces wireless security concepts. This course currently covers material from MCSE exam 70-291, Implementing, Managing and Maintaining a MS Windows Server 2003 Network Infrastructure. ***Pre-requisite: 150-120 Micro Operating Systems I***

150-134 Router Security 3 Credits
This course covers how to secure internetworked information systems (i.e., those connected by hubs, switches, routers, etc.), including defense against methods used by hackers to enter dedicated systems. Topics covered include confidentiality, integrity and reliability; user and group authentication; authorization and accounting; encryption replication; and security enhancement features. This course currently covers material from MCSE Exam 70-298, Designing Security for a MS Window Server 2003 Network. ***Pre-requisite: 150-130 Network Design***

150-135 Operating Systems Security 3 Credits
Students will cover the essentials of securing popular operating workstations and networks. Topics include authentication, group security, remote access security, resource security, Internet Protocol security, and more. Active Directory and similar topics are also covered. This course currently covers material from MCSE exam 70-290, Managing and Maintaining a MS Window Server 2003 Environment. ***Pre-requisite:*** **150-120 Micro Operating Systems I; 150-151 Information Security Principles**

150-136 Perimeter Security 3 Credits
This course covers internetworked systems security management and configuration, integrated system security software, configuring network access servers for enhanced security, and an understanding of systems security support and management. Students will learn how to use Active Director, or a similar service, to create and maintain secure perimeters within a network. This course currently covers material from MCSE exam 70-294, Planning, Implementing and Maintaining a MS Window Server 2003 Active Directory Infrastructure. ***Pre-requisite: 150-130 Network Design***

150-151 Information Security Principles 3 Credits

Students will be provided with a detailed knowledge of information security concepts, by addressing the five phases of security: inspection, protection, detection, reaction, and reflection. You will learn how to analyze the most critical risks and threats, define an information security strategy and architecture, and plan for and respond to intentional and unintentional insecurities.

150-152 Information Security Policies and Procedures 3 Credits
Students will learn how to develop a security vision statement; write effective but simple security policies and procedures that protect information, people, and property; control e-Commerce information systems; and comply with legal and policy requirements. Students will also evaluate information and systems, assign ownership and responsibilities, and develop an emergency response plan. ***Pre-requisite: 150-151 Information Security Principles***

150-153 Information Security Management 3 Credits
Students will learn how to establish well-structured documentation systems for control of both sanctioned and unsanctioned activities, including those reports required by law. They will learn to write technical guidelines and descriptions, and develop checklists. Students will also document the application of updates and configuration changes. A resume and portfolio, which is a culmination of all information security coursework, will be compiled. ***Pre-requisites: 150-152 Information Security Policies and Procedures***

150-154 Security Measures and Threat Mitigation 3 Credits
This is the capstone course for the IT-Information Systems Security Specialist Program and allows the student to gain a systemic view of Information Security principles and procedures. The course covers compliance auditing and monitoring, as well as a review of the body of knowledge gained in previous courses. The primary methods of learning will be "hands-on", as students work in small groups to prepare for entry into an enterprise position involving the practice of Cyber-Security skills. This course currently covers material from MCSE exam 70-299, Implementing and Administering Security for a MS Windows Server 2003 Network. ***Pre-requisites: 150-130 Network Design***

150-155A Current Issues and Trends Seminar: 3 Credits
Business Continuity Planning
This current issues and trends seminar course is designed for students enrolled in information technology, information security, e-Commerce and other business related programs. Learners will discuss a step-by-step process for addressing the fundamentals of disaster recovery planning as it pertains to getting an organization's IT systems back online as quickly as possible. Learners will first explore assessing the risks an organization faces to attacks from hackers, viruses and worms. The course will then review strategies to develop, document, test, implement and maintain procedures that helps an organization quickly return to normal operations with minimal losses. The entire disaster recovery planning process will be applied to student projects or case studies. This course is intended for IT personnel, as well as managers and supervisors. ***Pre-requisite: 150-151 Information Security Principles***

150-155B Current Issues and Trends Seminar: 3 Credits
Cyber Law and Ethics
This current issues and trends seminar course is designed for students enrolled in information technology, information security, e-Commerce and other business related programs. Learners will be introduced to issues related to cyber crime, ethical issues surrounding internet use, personal and organizational privacy, intellectual property laws, and the regulation of information. A familiarity with computers and the internet will be helpful to participants in the course.

150-155C Computer Forensics 3 Credits
The purpose of this course is to provide broad exposure to both the computer forensics field and toolkits. It is meant to provide a hands-on training environment, with classes and labs composed of learning activities for both information technology and legal/law enforcement professionals. The intent of the course is to share (and exponentially increase) understanding of the disciplines of the different constituent students. ***Pre-requisite: 150-120 Micro Operating Systems I***

150-155D Network Forensics 3 Credits
This course will cover both advanced endpoint forensics (i.e., as a continuation of 150-155C) and network forensics. Students will learn how to capture and analyze data from a network interface, as well as where and how to preserve it. The topic of eDiscovery, as a new discipline, will also be examined. ***Pre-requisite: 150-155C Current Issues and Trends Seminar: Computer Forensics***

152-191 Secure e-Commerce Concepts 3 Credits
This course is a review of Internet/Worldwide Web/e-Commerce concepts, including Internet development, internetworking principles, Internet services, Web programming, site administration, and business and security concepts, including both human and technological factors.

152-192 Designing Secure Websites 3 Credits
This course is designed to educate students about the security issues of the Worldwide Web, Web servers, and Web applications. The learner will be introduced to client and server-side security principles and programming. At course completion, the student will be able to define, design, and implement a secure Web site.

IT - Java Developer

(12 Credits) Certificate 99-9128

This certificate is designed to prepare information technology professionals through credit-based lifelong learning and continuing education. Students completing the series of courses offered in this certificate will learn skills related to Java programming, including server-side and client-side applications. Anyone without a background in object-oriented analysis and design are encouraged to take these optional courses.

The current demand for IT professionals with Java experience is growing. Typical occupational placement is likely to include positions related to software development and Java or J2EE development. Current programmers who want to increase their

skills will benefit. Also Database managers, and Web, Intranet and Extranet support positions will benefit from the competencies presented in this certificate.

Prior knowledge of programming logic, web development, database concepts, and programming are recommended. Recommended pre-admission skills/requirements include an associate degree in information technology or a minimum of 3 years of related work experience. Learners in this certificate will be expected to have experience with relational database design, at least one procedure programming language and a Visual programming language.

Course	Course Name	Credits	Lec-Lab
152-142	Introduction to Visual Basic .NET Programming	3	2 - 2
152-143	Introduction to Java Programming	3	3 - 0
152-145	Advanced Java Programming[1]	3	2 - 2
152-167	AJAX and Java Script Web Dvlpmnt[1]	3	3 - 0

[1]Course has Pre-requisites

Many of these courses may be available online and accessed via the Web. Please consult the current semester course schedule for more information.

COURSE DESCRIPTIONS

152-142 Introduction to Visual Basic .NET Programming 3 Credits
Introduction to Visual Basic .NET Programming is a lecture/lab course that uses the Visual Basic .NET (VB .NET) programming language to teach problem-solving principles and demonstrates how to apply said principles in the development of algorithms designed to solve typical business problems. Structured programming (sequence, selection, and iteration) utilizing pseudo code is covered in detail. Introductions to database concepts and object-oriented programming (OOP) are also given.

152-143 Introduction to Java Programming 3 Credits
Introduction to Java Programming introduces programming and object-oriented design concepts using the Java programming language. Students learn Java programming basics and use a text editor in a development environment. Design concepts and programming tools will be integrated with an emphasis on practical business solutions.

152-145 Advanced Java Programming 3 Credits
Focuses on the server side of application programming for the Web. Topics include: inheritance, exception handling, advanced GUI applications, applets, generics, collections and array lists. ***Pre-requisite: 152-143 Introduction to Java Programming***

152-167 AJAX and JavaScript Web Development 3 Credits
This course covers the basics of DHTML, JavaScript, and the XmlHttpRequest call. Students learn how to add JavaScript and AJAX to existing programs, and design new applications to exploit the power of Web 2.0. ***Pre-requisites: Grade of C or better in 152-158 Advanced Website Development and 152-148 Relational Database Coding***

IT - Visual Basic.Net (VB.Net) Developer

(12 Credits) Certificate 99-9126

This certificate is designed to prepare information technology professionals through credit-based lifelong learning and continuing education. Students completing the series of courses offered in this certificate will learn skills related to Visual Basic .NET programming, including server-side (utilizing ASP .Net) and client-side applications. Anyone without a background in object-oriented analysis and design and/or databases is encouraged to take the listed optional courses.

The current demand for IT professionals with Visual Basic .NET experience is growing. Typical occupational placement is likely to include positions related to software development and Web-based development. Current programmers who want to increase their skills will benefit. Database managers, Web, Internet and Extranet support positions will benefit from competencies presented in this certificate. This certificate will also help prepare the attendee for Microsoft's Visual Basic .Net Certification.

Prior knowledge of programming logic, Web development, database concepts, and programming are recommended. Recommended pre-admission skills/requirements include an Associate's Degree in Information Technology or a minimum of three years related work experience. Learners in this certificate will be expected to have experience with relational database design, at least one procedural programming language and a Visual programming language.

Course	Course Name	Credits	Lec-Lab
152-142	Introduction to Visual Basic .NET	3	2 - 2
152-167	AJAX and Java Script Web Dvlpmnt[1]	3	3 - 0
152-148	Relational Database Coding[1]	3	2 - 2
152-161	Web Application Development[1]	3	3 - 0

COURSE DESCRIPTIONS

152-142 Introduction to Visual Basic .NET Programming 3 Credits
This lecture/lab course uses the Visual Basic .NET (VB .NET) programming language to teach problem-solving principles and demonstrates how to apply said principles in the development of algorithms designed to solve typical business problems. Structured programming (sequence, selection, and iteration) utilizing pseudocode is covered in detail. Introductions to database concepts and object-oriented programming (OOP) are also given.

152-144 Intermediate Visual Basic .NET Programming 3 Credits
This course provides students with a comprehensive understanding of object-oriented system development. It examines and uses the prewritten .NET Framework classes and utilizes the MSDN help facility. Topics include: collections, exception handling and advanced development techniques such as ASP .NET and database programming using ADO .NET ***Pre-requisite: 152-142 Introduction to Visual Basic .NET Programming***

152-148 Relational Database Coding 3 Credits
This is class includes hands-on training utilizing a relational database management system (e.g., MySQL) in an advanced client/server software environment. Topics covered include: advanced structured query language (SQL) commands and concepts, and database programming utilizing the PHP programming language. ***Pre-requisite: 152-147 Relational Database Development***

152-161 Web Application Development using ASP .NET 3 Credits
Students learn to develop Microsoft ASP .NET applications that deliver dynamic content to the Web. An emphasis is placed on server-side programming and the role ASP .NET plays. As part of the class, students create Web forms with server controls, display dynamic data from a database using Microsoft ADO .NET, read XML configuration files and learn to debug ASP .NET web pages. ***Pre-requisite: 152-144 Advanced Visual Basic .NET Programming***

152-167 AJAX and JavaScript Web Development 3 Credits
This course covers the basics of DHTML, JavaScript, and the XmlHttpRequest call. Students learn how to add JavaScript and AJAX to existing programs, and design new applications to exploit the power of Web 2.0. ***Pre-requisites: Grade of C or better in 152-158 Advanced Website Development and 152-148 Relational Database Coding***

IT- Web Programming

(12 Credits) Certificate 99-9127

This certificate is designed to prepare information technology professionals through credit-based lifelong learning and continuing education. Students completing the series of courses offered in this certificate will learn skills related to Internet Web programming, including server-side and client-side website development. Anyone without a background in object-oriented analysis and design are encouraged to take these optional courses.

This certificate also introduces important competencies related to e-Commerce and protocols for building and maintaining secure website. Prior knowledge of programming logic, web development, database concepts, and programming are recommended. Recommended pre-admission skills/requirements include an associate degree in information technology or a minimum of 3 years of related work experience. Learners in this certificate will be expected to have experience with relational database design, at least one procedure programming language and a Visual programming language.

Course	Course Name	Credits	Lec-Lab
152-157	Website Development - XHTML/CSS	3	3 - 0
152-158	Advanced Website Development[1]	3	3 - 0
152-191	Secure e-Commerce Concepts	3	2 - 2
152-192	Designing Secure Websites[1]	3	2 - 2

[1] Course has prerequisites.

COURSE DESCRIPTIONS

152-157 Website Development-XHTML/CSS 3 Credits
Website Development - XHTML/CSS is a beginning class in client-side Web development. Topics covered include: The fundamentals of the Hypertext Markup Language (HTML) and its successor XHTML, Cascading Style Sheets (CSS), and an introduction to JavaScript.

152-158 Advanced Website Development 3 Credits
Advanced Website Development is a course in developing an actual working website, utilizing a server-side programming language (e.g., PHP or ASP .NET) in conjunction with a Relational Database Management System (RDBMS) package such as MySQL. ***Prerequisites: 152-147 Relational Database Development and 152-157 Website Development-XHTML/CSS***

152-191 Secure e-Commerce Concepts 3 Credits
This course is a review of Internet/Worldwide Web/e-Commerce concepts, including Internet development, internetworking principles, Internet services, Web programming, site administration, and business and security concepts, including both human and technological factors.

152-192 Designing Secure Websites 3 Credits
This course is designed to educate students about the security issues of the Worldwide Web, Web servers, and Web applications. The learner will be introduced to client and server-side security principles and programming. At course completion, the student will be able to define, design, and implement a secure Web site. ***Prerequisite: 152-191 Secure e-Commerce Concepts***

Leadership Development

(32 Credits) Certificate 99-9115

The Business & Information Technology Division of Blackhawk Technical College offers a Leadership Development Certificate for anyone interested in careers involving leadership, management, and coordinating business and human resources. Every enterprise is a people business and with this certificate you will better understand and be able to perform the necessary skills in supervision, diversity, change management, or leadership. Organizations large and small, profit and non-profit, local or global, all need people to help their organization meet its goals and adopt change. Intended learning outcomes include:

- basic computer & technology skills with Microsoft Office 2007
- perform the roles and responsibilities of an effective supervisor and leader
- apply problem solving principles and working effectively in teams
- demonstrate effective leadership, organizational development, and change
- demonstrate abilities to plan, organize and lead a project

- business, management, and entrepreneurship abilities
- other critical success skills such as oral and written communications

Course	Course Name	Credits	Lec-Lab
102-110	Business Career Planning	1	1 - 0
102-137	Business Communications	1	1 - 0
103-106	Introduction to Microsoft Office	3	3 - 0
196-104	Legal Issues	3	3 - 0
196-110	Leadership and Change	3	3 - 0
196-111	Project Management for Supervisors	3	2 - 2
196-113	Evolution of Management	3	3 - 0
196-191	Supervisor as Leader	3	3 - 0
196-135	Leadership: Individuals and Teams	3	3 - 0
196-190	Leadership & Personal Development	3	3 - 0
196-193	Human Resource Management	3	3 - 0
804-117	Business Math	3	3 - 0

COURSE DESCRIPTIONS

102-110 Business Career Planning 1 Credit
Students will focus on personal and professional preparation for a career in business related occupations. Course covers interpersonal and intrapersonal success skills including self-esteem, understanding human behavior, creative problem solving and decision making, effective communication skills time management, setting priorities, and organizational techniques. Job search strategies will be introduced.

102-137 Business Communications 1 Credit
This course prepares students with both oral and written communication skills required in businesses. In addition to studying interpersonal communications, students learn to write documents typical of the corporate environment. Course activities may include job search materials, memo and letter writing, persuasive messages, formal reports, and effective use of electronic forms of communication. Students completing this course will have acquired the tools to craft effective business written documents and oral communications.

103-106 Introduction to MS Office 3 Credits
This course will introduce students to the Microsoft Office Suite and overview many of the core competencies of Outlook, Word, Excel, Access, PowerPoint, and Explorer. Students will develop the use of technology for both problem solving and decision-making and will be expected to learn to use the resources available to search for answers to problems.

196-104 Legal Issues 3 Credits
Students will thoroughly explore the issues surrounding the employee/employer relationship (interviewing, hiring, promotion, discipline, termination) including: discrimination, privacy, wrongful discharge, and organized labor. Student will understand the context of the laws by examining the history of American labor. Student will identify employment issues currently being defined by the court system. Student will apply such knowledge to their workplace as a manager to minimize employer liability.

196-110 Leadership and Change 3 Credits
In today's face-paced world, simply managing change is insufficient. Successful change requires leadership. The emphasis of this course is the study and application of a comprehensive change framework that can be followed by organizational leaders at all levels. Topics include creating a vision for change, developing employees to implement change, the risk of change, eliminating barriers to change and sustaining the change.

196-111 Project Management for Supervisors 3 Credits
Learners will recognize the role of projects and the importance of project management in the current business environment. Learners will develop successful proposals, plan, schedule, and budget a project. Learner will use computer software to assist them in controlling the progress of the project. Learner will acknowledge firsthand the importance of people skills in managing a project.

196-113 Evolution of Management 3 Credits
Applies the personal leadership qualities identified in the Leadership Development course to the supervisor's role. Focus is placed on: using leadership theories, delegating tasks, leading the group to a vision, managing conflict, influence organizational culture, and related topics that affect the leader's role in the organization.

196-135 Leadership: Individuals and Teams 3 Credits
This course focuses on how to build and lead successful teams to strengthen the overall performance of organizations. Team building models will be analyzed with emphasis on steps that can be taken to overcome common hurdles and build cohesive, high performing teams. An emphasis will be placed on the stages of team development, roles of the leader in developing successful work and project teams. Facilitation tools, problem-solving strategies, facilitation tools and conflict resolution techniques will be introduced during an in-class team simulation.

196-190 Leadership & Personal Development 3 Credits
Designed to assist individuals to apply leadership skills effectively in any organizational structure; the emphasis is placed on leadership and employee involvement strategies. Focus is on the role of the supervisor in defining direction, aligning the organization, empowering people and teams, modeling trustworthiness, balancing the needs of all stakeholders, and optimizing the allocation resources.

196-191 Supervisor as Leader 3 Credits
Designed to help participants build the skills required to effectively direct the work of others within the structure of organization. Emphasis is placed on the human behavioral aspect of supervision. Focus is on application of managerial process to the daily job of a supervisor.

196-193 Human Resources Management 3 Credits
Establishes a foundation for development of employee effectiveness by focusing on the supervisor's role in understanding, communicating, and implementing organizational policies. Focus is placed on: employee hiring; orientation and

training; performance management; motivating employees and related topics that affect the supervisor's work group.

804-117 Business Mathematics 3 Credits
This course is designed to build your knowledge of math including whole numbers, decimals, fractions, percents, formulas, equations, and statistics. These skills will be reinforced in business applications including bank records, payroll, discounts, markup and markdown, interest calculations, annuities, depreciation, inventory and more.

Lodging and Hospitality Management

(33 Credits) Certificate 99-9124

Explore the exciting world of hospitality and lodging management in a one-year certificate at Blackhawk Technical College, Janesville, Wisconsin. The employment opportunities are diverse and varied and may fit your interests, skills and personality traits. Contact Blackhawk Technical College to learn more about local hospitality related educational opportunities.

Hospitality related careers include managing food and beverage services, marketing and sales, human resources, housekeeping, uniformed services, security, front office, accounting and financial management, property management, and facilities maintenance and environmental engineering. Blackhawk Technical College is a member of the American Hotel and Lodging Educational Institute.

Lodging managers are responsible for keeping their establishments running efficiently and profitably. They help ensure guests have a pleasant stay and also support business travelers with needed services such as meeting rooms and electronic equipment. Larger hotels hire hundreds of workers and the role of supervision and training are core competencies for management positions in larger properties. Accounting, computer and broad business skills along with a high level of customer service and interpersonal abilities are all critical to success in this occupation. Written and oral communication skills and a desire to work with people are needed to enter this field. Industry certifications are available to students employed in this field and this Blackhawk Technical College certificate provides entry-level skills that can lead to future related certifications.

Occupational Analysis:

Lodging management related positions are expected to grow at a rate of 17% through 2014. These projected job openings include net replacement and new job openings due to growth.

Hotels increasingly emphasize specialized training for their employees. Postsecondary training in hotel, restaurant, or hospitality management is preferred for most hotel management positions; however, a college liberal arts degree may be sufficient when coupled with related hotel experience or business education. Internships, part-time or summer work experience in a hotel are an asset to students seeking a career in hotel management. The experience gained and the contacts made with employers can greatly benefit students after graduation. Most degree programs include work-study opportunities.

Other colleges, and many universities, offer certificate or degree programs in hotel, restaurant, or hospitality management leading to an associate, bachelor, or graduate degree. Technical institutes, vocational and trade schools, and other academic institutions also offer courses leading to formal recognition in hospitality management. In total, more than 800 educational facilities provide academic training related to employment as lodging managers. Hotel management programs include instruction in hotel administration, accounting, economics, marketing, housekeeping, food service management and catering, and hotel maintenance engineering. Computer training also is an integral part of hotel management training, due to the widespread use of computers in reservations, billing, and housekeeping management.

Core Career Success Competency Areas:

- Customer and Personal Service
- Administration and Management
- English language proficiency
- Sales and Marketing
- Personnel and Human Resources
- Speaking, active listening,
- Critical thinking and problem solving
- Reading comprehension
- Social perceptiveness

Blackhawk Technical College Curriculum Plan:

Course	Name	Credits	Led-Lab
101-102	Office Accounting	3	2 - 2
102-110	Business Career Planning	1	1 - 0
102-135	Lodging and Hospitality Management	3	3 - 0
102-136	Hotel Operations Management	3	3 - 0
102-137	Business Communications	1	1 - 0
102-148	Introduction to Business	3	3 - 0
103-106	Introduction to MS Office	3	3 - 0
104-102	Marketing Principles	3	3 - 0
104-104	Selling Principles	3	3 - 0
104-130	Fundamentals of Customer Service	3	3 - 0
106-140	Keyboarding	1	2 - 0
801-196	Oral/Interpersonal Communications	3	3 - 0
804-123	Math with Business Applications	3	3 - 0
	TOTAL CREDITS	**33**	**630**

COURSE DESCRIPTIONS

101-102 Office Accounting 3 Credits
Office Accounting is a basic course in accounting principles and bookkeeping procedures. Topics include journalizing and posting transactions, preparing worksheets, adjusting and closing entries, and preparing the financial statements. Emphasis is on the service

enterprise and accounting for cash.

102-110 Business Career Planning 1 Credit
Students will focus on personal and professional preparation for a career in business related occupations. Course covers interpersonal and intrapersonal success skills including self-esteem, understanding human behavior, creative problem solving and decision making, effective communication skills time management, setting priorities, and organizational techniques. Job search strategies will be introduced

102-135 Lodging Management 3 Credits
This course takes a management perspective in introducing students to the organization and structure of hotels, restaurants, clubs, cruise ships, and casino hotels. Topics include: business ethics, franchising, management responsibility such as human resources, marketing and sales, and advertising.

102-136 Hotel Operations Management 3 Credits
This course takes a management perspective in introducing students to lodging operations. There are chapters on Structure and service in the lodging industry, front office, housekeeping, sales and marketing accounting human resources and maintenance departments. Also chapters in safety and security and careers in the lodging industry.

102-137 Business Communications 1 Credit
This course prepares students with both oral and written communication skills required in businesses. In addition to studying interpersonal communications, students learn to write documents typical of the corporate environment. Course activities may include job search materials, memo and letter writing, persuasive messages, formal reports, and effective use of electronic forms of communication. Students completing this course will have acquired the tools to craft effective business written documents and oral communications.

102-148 Introduction to Business Organization and Management 3 Credits
Students will be introduced to business operations, focusing on a basic understanding of the activities, functions, and principles of business enterprises. This course covers the responsibilities and challenges of operating a business. The course emphasizes human relations, management, marketing, finance, labor relations, franchising, forms of ownership and careers.

103-106 Introduction to MS Office 3 Credits
This course will introduce students to the Microsoft Office Suite and overview many of the core competencies of Outlook, Word, Excel, Access, PowerPoint, and Explorer. Students will develop the use of technology for both problem solving and decision-making and will be expected to learn to use the resources available to search for answers to problems.

104-102 Marketing Principles 3 Credits
This course introduces core marketing concepts and terminology for Marketing and non-Marketing students. In addition to developing the rational for a marketing approach to strategic planning, specific topics include: target market selection, and issues related to product, price, distribution, and promotion decisions.

104-104 Selling Principles 3 Credits
Learners will cover the personal and occupational applications of selling (defined as "an interpersonal persuasive process designed to influence some person's decision"). Selling is investigated from the following viewpoints: personal, industrial, wholesale, retail, door-to-door, and service. Students also learn and practice the professional principles involved in relationship selling.

104-130 Fundamentals of Customer Service 3 Credits
This course is designed for learners who desire training in the fundamentals of customer service as they relate to business. It introduces core customer service concepts and an overview of the essential skills needed to succeed in any organization. In addition to dealing with internal and external audiences, specific topics include: listening techniques, verbal and nonverbal communication, dealing with various customer types, use of technology, handling a variety of complex customer situations, as well as an overview of careers within the customer service industry.

106-140 Keyboarding 1 Credit
Students will master the computer keyboard by touch including the letters and numeric keypad. Computer software is used to begin development of acceptable speed and accuracy levels. Students completing this course may be ready for 106-131 Keyboarding Applications, or may continue to develop their proficiency and keyboarding abilities in Skillbuilding. This course is not required for students who can demonstrate keyboarding skills of 30 words per minute with 3 or fewer uncorrected errors on a 3 minute timing.

801-196 Oral/Interpersonal Communication 3 Credits
Focuses upon developing speaking, verbal and nonverbal communication, and listening skills through individual presentations, group activities, and other projects.

804-123 Math with Business Applications 3 Credits
This course covers...real numbers, basic operations, linear equations, proportions with one variable, percents, simple interest, compound interest, annuity, apply math concepts to the purchasing/buying process, apply math concepts to the selling process, and basic statistics with business/consumer applications.

Network Support Certificate (20 cr.)*

	Course Name	Credits	Lec-Lab
Semester 1			
631-100	Microcomputer Fundamentals	3	varies
631-101	Troubleshooting Operating Systems	3	varies
631-115	LAN/WAN Fundamentals	3	varies
631-116	Troubleshooting Network Oper. Syst.	3	varies
450-316	Microcomputer Software Service	2	varies
450-319	Microcomputer Peripherals	2	varies
450-320	Troubleshooting Comm. Systems	2	varies
450-321	Troubleshooting Network Hardware	2	varies
	TOTAL CREDITS	**20**	

*Participants must complete BTC's program admission process for certain certificates. *Pre-requisite: Must be registered in the Computer Service Technician Program.*

Office Assistant

(16 credits) Certificate 99-9119

This certificate prepares students for careers in smaller businesses, home offices, family run businesses and other office support related areas. Individuals with little or no post high school education who are looking to move up within an organization may benefit from this training. Employment potential includes general office, small offices, software applications, and various positions requiring office technology professionals.

Intended learning outcomes include

- Business writing and communication skills
- Customer service abilities
- Basic computer literacy including Windows, Outlook and Internet
- Basic office technology skills including keyboarding, word processing and the Microsoft Office Suite.
- Proofreading, editing, and business filing skills.

Course	Course Name	Credits	Lec-Lab
102-137	Business Communications	1	1 - 0
103-106	Introduction to Microsoft Office	3	3 - 0
104-130	Fundamentals of Customer Service	3	3 - 0
106-108	Proofreading and Editing	1	0 - 2
106-129	Business Filing	1	0 - 2
106-140	Keyboarding	1	0 - 2
106-145	Information Technology Essentials	3	2 - 2
106-146	Word Processing Applications[1]	3	1 - 4

[1] Course has prerequisites.

COURSE DESCRIPTIONS

102-137 Business Communications 1 Credit
This course prepares students with both oral and written communication skills required in businesses. In addition to studying interpersonal communications, students learn to write documents typical of the corporate environment. Course activities may include job search materials, memo and letter writing, persuasive messages, formal reports, and effective use of electronic forms of communication. Students completing this course will have acquired the tools to craft effective business written documents and oral communications.

103-106 Introduction to MS Office 3 Credits
This course will introduce students to the Microsoft Office Suite and overview many of the core competencies of Outlook, Word, Excel, Access, PowerPoint, and Explorer. Students will develop the use of technology for both problem solving and decision-making and will be expected to learn to use the resources available to search for answers to problems.

104-130 Fundamentals of Customer Service 3 Credits
This course is designed for learners who desire training in the fundamentals of customer service as they relate to business. It introduces core customer service concepts and an overview of the essential skills needed to succeed in any organization. In addition to dealing with internal and external audiences, specific topics include: listening techniques, verbal and nonverbal communication, dealing with various customer types, use of technology, handling a variety of complex customer situations, as well as an overview of careers within the customer service industry.

106-108 Proofreading and Editing 1 Credit
Students will develop proofreading skills for identifying and correcting punctuation, grammar, spelling, and usage errors. This course also includes editing skills for improving format, consistency, clarity, conciseness, and completeness. Activities require applying proofreading and editing skills to realistic business communications in both print and electronic formats. Touch keyboarding and basic word processing skills are helpful.

106-129 Business Filing 1 Credit
Students learn the Association of Records Managers and Administrators (ARMA) filing rules through experience with various filing methods in a practice simulation. Students will also be introduced to file maintenance procedures, supplies, and equipment.

106-140 Keyboarding 1 Credit
Students will master the computer keyboard by touch including the letters and numeric keypad. Computer software is used to begin development of acceptable speed and accuracy levels. Students completing this course may be ready for 106-131 Keyboarding Applications, or may continue to develop their proficiency and keyboarding abilities in Skillbuilding. This course is not required for students who can demonstrate keyboarding skills of 30 words per minute with 3 or fewer uncorrected errors on a 3-minute timing.

106-145 Information Technology Essentials 3 Credits
This course provides an introduction to computers and information processing terms, hardware, software, networks, and buying a computer. Major topics also include effective use of a web browser, Microsoft Outlook's electronic mail, calendar, and contacts modules, and the basics of Windows operating system. Touch keyboarding skills are recommended.

106-146 Word Processing Applications 3 Credits
Students use word processing software to create, format, and edit business documents applying features such as headers/footers, macros, merge, templates, tables, columns, outlines, fonts, and graphics. Software functions, theory and production will be assessed. ***Prerequisite: Touch keyboarding speed of 40 words per minute and basic computer skills.***

Personal Income Taxation

(24 credits) Certificate 99-9132

Intended learning outcomes:

- Perform basic technical skills in accounting principles and income tax
- Basic computer proficiencies in spreadsheets and Microsoft Office.
- Ability to communicate professionally, both verbally and in writing.
- Ability to perform basic math including algebra.
- Demonstrate office professionalism including ethics and confidentiality.

Course	Course Name	Credits	Lec-Lab
Term 1			
101-111	Accounting I	4	2 - 4
101-123	Income Tax Accounting	3	2 - 2
103-106	Introduction to MS Office Suites	3	3 - 0
804-110	Algebra (Compass over 44)	3	3 - 0
Term 2			
101-105	Accounting Spreadsheets	3	1 - 4
101-124	Applied Tax (VITA)	2	0 - 4
101-135	Payroll Accounting[1]	2	1 - 2
102-137	Business Communications	1	1 - 0
106-181	Office Professionalism	3	3 - 0

[1] Course has prerequisites.

COURSE DESCRIPTIONS

101-105 Accounting Spreadsheets 3 Credits
This course provides hands-on experience in reporting financial data utilizing a popular spreadsheeting program. The course focuses on the application of spreadsheeting software in the Accounting profession. A working knowledge of Microsoft Windows and a basic knowledge of the accounting cycle are recommended. It is helpful to take Accounting I concurrently.

101-111 Accounting I 4 Credits
This is an introductory course to the basic structure of accounting. Fundamental accounting concepts and principles are presented with their application to the analysis and recording of business transactions through the use of problems and a practice set. The course focus is on journalizing, posting, preparing financial statements, accounting for merchandisers, purchases, and banking transactions. A working knowledge of Microsoft Office is highly recommended.

101-123 Income Tax Accounting 3 Credits
Federal and state income tax laws are covered as related to the individual taxpayer. Emphasis is on learning to research and interpret tax laws and regulations. The student will study the law, then apply the law to illustrative cases and prepare appropriate tax forms.

101-124 Applied Income Tax 2 Credits
This course provides hands-on experience in preparing federal and state income tax returns for people in the community through the VITA program. Customer relations are an important component of this course. ***Prerequisite: 101-123 Income Tax Accounting***

101-135 Payroll Accounting 2 Credits
This course emphasizes methods of computing wages and salaries, methods for keeping payroll records and the preparation of government reports. Included is a project requiring the student to record all the payroll information for a business during a three-month operating period. ***Prerequisites: 101-111 Accounting I, 804-110 Elementary Algebra with Applications***

102-137 Business Communications 1 Credit
In Business Communications, students will learn the basics of professional and effective communication in business settings. Students will receive instruction and feedback on oral communication as well as the use of written communications to include business emails, memos, and letters. The importance of favorable and appropriate communication with both internal and external parties will be covered. All written communications will require keyboard use.

103-106 Introduction to MS Office 3 Credits
This course will introduce students to the Microsoft Office Suite and overview many of the core competencies of Outlook, Word, Excel, Access, PowerPoint, and Explorer. Students will develop the use of technology for both problem solving and decision-making and will be expected to learn to use the resources available to search for answers to problems.

106-181 Office Professionalism 3 Credits
The mission of the course is to empower students to enhance performance through personal self-management. The course, which is built around "Tom Rath's StrengthsFinder", provides an opportunity to develop both personally and professionally in effectively dealing with change. In addition, students will focus on the soft skills of team building and customer service through the use of problem-based video "field-trips".

804-110 Elementary Algebra with Applications 3 Credits
This course offers traditional algebra topics with applications. Learners develop algebraic problem solving techniques needed for technical problem solving and for more advanced algebraic studies. Topics include linear equations, exponents, polynomials, rational expressions, and roots and radicals. Successful completion of this course prepares learners to succeed in technical mathematics courses.

Project Management

(11 Credits) Certificate 99-9133

The Project Management (PM) Certificate program is designed for anyone who has an interest in expanding their knowledge and skills, seeking career advancement, or building their professional development in the field of project management. The PM Certificate will validate that students have learned and gained the essential skills and knowledge in project management. The PM Certificate will serve as evidence of successful completion of the course requirements.

Career Potential

Students who have completed this Project Management Certificate can take on entry-level project management positions. Below are potential career options that students may venture into.

- Project Manager
- Project Leader
- Project Coordinator
- Project Assistant
- Information Assistant

Course	Course Name	Credits	Lec-Lab
102-155	Introduction to Project Management	3	3 - 0
102-156	Project Leadership and Communication	3	3 - 0
102-157	Managing Projects w/MS Project 2007	2	1 - 2
102-158	Project Management Capstone[1]	3	2 - 2

COURSE DESCRIPTIONS

102-155 Introduction to Project Management 3 Credits
This course gives an overview of project management principles and covers the fundamental knowledge and skills needed to improve the outcome of any project. It focuses on the project management processes and knowledge areas. Students will learn how to plan, schedule, and control projects. Students will learn project management tools and techniques and use them to define project goals, objectives, costs and time, and manage project scope, schedule and resources.

102-156 Project Leadership and Communication 3 Credits
This course focuses on soft skills, including leadership, communications, team organization and development, and conflict management. It will provide students with the essential management and leadership skills to lead a project with confidence. Students will learn how to build high-performance project teams through effective leadership and influence, utilize management skills to encourage productivity and cooperation, and implement creative problem-solving techniques to ensure project success.

102-157 Managing Project w/Microsoft Project 2007 3 Credits
This course focuses on using the Microsoft Project software to plan, schedule and control projects. It will teach students to define the project scope and do Work Breakdown Structure (WBS). Students will learn how to configure tools and options, set up projects, estimate, schedule, and budget projects.

102-158 Project Management Capstone 3 Credits
This course is designed to give students practical experiences in managing projects. Students who take this course should have made significant progress in the program. Students will be given the opportunity to review, synthesize, and apply their project management knowledge and skills from prior courses and experience. Students will be working in a lab setting leading a real-life project and to deliver project management deliverables, including project charter, project plan, status reports, and post-project reviews. Students will facilitate meetings, track planned and actual values, and update project plans.

Pre-requisites: 102-155 Introduction to Project Management 102-156 Project Leadership and Communication, 102-157 Managing Projects w/MS Project 2007

Promotion Certificate (12 cr.)

(15 credits) Certificate 99-9117

Create your own career opportunities by earning this focused certificate in Promotion. The key to sales is proper promotion of your product or service. So regardless of your occupation, satisfactory completion of the following courses within the Marketing Associate Degree Program will help you to advance your career. Courses include:

Course	Course Name	Credits	Lec-Lab
104-102	Marketing Principles	3	3 - 0
104-117	Promotion Principles[1]	3	3 - 0
104-125	Marketing Media[1]	3	3 - 0
104-144	Marketing Communications[1]	3	2 - 2
104-160	Marketing Research[1]	3	3 - 0

[1] Course has prerequisites.

COURSE DESCRIPTIONS

104-102 Marketing Principles 3 Credits
This course introduces core marketing concepts and terminology for Marketing and non-Marketing students. In addition to developing the rationale for a marketing approach to strategic planning, specific topics include: target market selection, and issues related to product, price, distribution, and promotion decisions.

104-117 Promotion Principles 3 Credits
This course provides a broad overview of the entire spectrum of paid and non-paid activities designed to encourage the purchase of products and services, including, but not exclusive to, advertising, display, publicity/news releases, public relations, packaging, special events and sales promotion.

Prerequisite: 104-102 Marketing Principles

104-125 Marketing Media 3 Credits
This course provides a broad overview of the major elements of brand management and media selection. The learning process

focuses on integrating advertising into an overall marketing strategy. The purpose of this course is to introduce the real world of advertising and its diversity, its processes and principles, its people and the professional experiences and ways thinking.

Prerequisites: 104-102 Marketing Principles, 104-144 Marketing Communications

104-144 Marketing Communications **3 Credits**
In this combined lecture/lab & project-based course, students learn how to use computer and multimedia technology to plan, design, and execute marketing related communications activities within the business firm. Learners will learn to use Desktop Publishing and Desktop Design hardware and software suitable for both in-house, or electronic, pre-press production of catalogs, brochures, flyers, posters, and product information sheets.

Prerequisite: 103-106 Introduction to MS Office

104-160 Marketing Research **3 Credits**
The emphasis of this course will be on the collection of primary data through marketing research methodologies: observation, focus groups, interviews, and surveys. The course will also introduce students to the various methods of collecting secondary data. Concepts will be reinforced through group projects. ***Prerequisite: 104-102 Marketing Principles***

Quality Sciences Certificate (29 cr.)

The Quality Sciences Certificate prepares individuals to work under the direction of quality engineers or supervisors to perform a variety of tasks in a modern and fast-paced manufacturing and engineering environment. Quality practitioners analyze and solve problems, prepare inspection plans and instructions, select sampling plan applications, prepare procedures, perform audits and apply fundamental statistical methods for process control. They work with internal and external customers and suppliers to identify expectations and determine satisfaction levels; quality principles for products and processes such as monitoring, measuring and continuous improvement; quality standards, requirements and specifications; meeting management; and team development.

This program is designed with the working adult in mind. Many courses are offered in either self-paced or web-enhanced formats as well as a traditional classroom setting.

While not a requirement it is recommended for students pursuing the Quality Sciences Certificate to have a good working knowledge of basic computer concepts including word processing and spreadsheet applications, directory and file management and Web and email familiarity.

Course	Name	Credits
421-385	Blueprint Reading	2
444-301	Metrology	2
444-304	GD&T Interpretations	1
623-155	Statistical Process Control	3
625-101	Foundations of Quality	3
809-103	Thinking Critically and Creatively	3
801-195	Written Communication	3
801-196	Oral/Interpersonal Communication	3
801-197	Technical Reporting	3
804-107	College Mathematics	3
804-189	Introductory Statistics	3
	TOTAL CREDITS	**29**

Small Business Accounting
(28 credits) Certificate 99-9129

The Small Business Accounting Certificate is designed to prepare students for an entry-level position working as an accounting clerk or bookkeeper. Individuals who are responsible for the accounting and finance functions of a small business or for anyone who wants to better understand accounting related aspects will benefit from this certificate. All credits earned can also be applied toward an associate degree in accounting.

Course	Course Name	Credits	Lec-Lab
101-105	Accounting Spreadsheets	3	1 - 4
101-111	Accounting I	4	2 - 4
101-130	Accounting Information Systems	3	3 - 0
101-135	Payroll Accounting[1]	2	1 - 2
101-136	Computerized Accounting[1]	1	0 - 2
102-100	Introduction to Entrepreneurship **OR**	3	3 - 0
102-148	Introduction to Business		
102-110	Business Career Planning	1	1 - 0
102-130	Business Finance and Budget Management[1]	3	3 - 0
102-137	Business Communications	1	1 - 0
103-106	Introduction to MS Office	3	3 - 0
103-126	Introduction to QuickBooks	1	0 - 2
804-123	Math with Business Applications	3	3 - 0

[1] Course has prerequisites.

COURSE DESCRIPTIONS

101-105 Accounting Spreadsheets **3 Credits**
This course provides hands-on experience in reporting financial data utilizing a popular spreadsheeting program. The course focuses on the application of spreadsheeting software in the Accounting profession. A working knowledge of Microsoft Windows and a basic knowledge of the accounting cycle are recommended. It is helpful to take Accounting I concurrently.

101-111 Accounting I **4 Credits**
This is an introductory course to the basic structure of accounting.

Fundamental accounting concepts and principles are presented with their application to the analysis and recording of business transactions through the use of problems and a practice set. The course focus is on journalizing, posting, preparing financial statements, accounting for merchandisers, purchases, and banking transactions. A working knowledge of Microsoft Office is highly recommended.

101-130 Accounting Information Systems 3 Credits
This course helps students develop their professional judgment as accountants while studying the flow of information in an organization. Using scenarios, each transaction cycle is analyzed and studied for internal control weaknesses. Based on the analysis, the students are required to identify ways to strengthen any weakness identified. Students will learn flowcharting techniques and principles of system design.

101-135 Payroll Accounting 2 Credits
This course emphasizes methods of computing wages and salaries, methods for keeping payroll records and the preparation of government reports. Included is a project requiring the student to record all the payroll information for a business during a three-month operating period.

Prerequisites: 101-111 Accounting I and 804-110 Elementary Algebra with Applications.

101-136 Computerized Accounting 1 Credit
This course is designed to build the bridge between a manual accounting system and a computerized system, explaining the "behind-the-scenes" actions of the computerized system. A popular computerized accounting software package is used to record business transactions within a computerized system and produce financial statements and various other reports for management. This course is designed to provide the user with an intermediate level of proficiency in a computerized accounting software package.

Prerequisite: 101-111 Accounting I or equivalent experience.

102-100 Intro to Entrepreneurship & Innovation 3 Credits
This course will incorporate lecture and discussion materials to improve students' understanding of basic business and entrepreneurship topics. It will include a hands-on component involving interaction with local employers, and community leaders will expose participants to business and management career opportunities available to AAS program graduates.

102-110 Business Career Planning 1 Credit
Students will focus on personal and professional preparation for a career in business related occupations. Course covers interpersonal and intrapersonal success skills including self-esteem, understanding human behavior, creative problem solving and decision making, effective communication skills time management, setting priorities, and organizational techniques. Job search strategies will be introduced

102-130 Business Finance and Budget Management 3 Credits
This is a basic finance course for managers and supervisors. The learner applies the skills necessary to achieve an understanding of the fiscal/monetary aspects of business. Each learner will demonstrate application of business types, cycles, forecasting, budgeting, expense control, and financial statement interpretation relevant to the supervisor as a non-accountant. These finance/accounting principles will then be applied to the managers role in decision-making and includes problem-solving case studies.

Prerequisites: 101-117 Accounting Fundamentals and 103-106 Introduction to MS Office

102-137 Business Communications 1 Credit
This course prepares students with both oral and written communication skills required in businesses. In addition to studying interpersonal communications, students learn to write documents typical of the corporate environment. Course activities may include job search materials, memo and letter writing, persuasive messages, formal reports, and effective use of electronic forms of communication. Students completing this course will have acquired the tools to craft effective business written documents and oral communications.

102-148 Introduction to Business Organization and Management 3 Credits
Students will be introduced to business operations, focusing on a basic understanding of the activities, functions, and principles of business enterprises. This course covers the responsibilities and challenges of operating a business. The course emphasizes human relations, management, marketing, finance, labor relations, franchising, forms of ownership and careers.

103-106 Introduction to MS Office 3 Credits
This course will introduce students to the Microsoft Office Suite and overview many of the core competencies of Outlook, Word, Excel, Access, PowerPoint, and Explorer. Students will develop the use of technology for both problem solving and decision-making and will be expected to learn to use the resources available to search for answers to problems. Office 2007 will be used.

103-126 Intro to QuickBooks 1 Credit
This course is designed to provide the user with a basic level of proficiency in QuickBooks. QuickBooks is used to record business transactions and produce financial statements and various other reports for management. A working knowledge of Microsoft Windows and a basic knowledge of the accounting cycle are recommended.

804-123 Math with Business Applications 3 Credits
This course covers...real numbers, basic operations, linear equations, proportions with one variable, percents, simple interest, compound interest, annuity, apply math concepts to the purchasing/buying process, apply math concepts to the selling process, and basic statistics with business/consumer applications.

Small Business Management

(29 credits) Certificate 99-9110

The Business & Information Technology Division of Blackhawk Technical College offers a Small Business Management Certificate for anyone interested in careers related to owning or operating your own business. The program will introduce students to critical skills needed for careers related to starting your own business, self-employment, and helping manage a small business.

Blackhawk Technical College recommends that students completing this certificate work with their local Small Business Development Center to formalize specific business plans and financial proposals and information about these services will be shared in one or more of the courses. The certificate requirements include:

Course	Course Name	Credits	Lec-Lab
101-117	Accounting Fundamentals[1]	3	3 - 0
102-100	Intro to Entrepreneurship & Innovation	3	3 - 0
102-110	Business Career Planning	1	1 - 0
102-115	Management Principles[1]	3	3 - 0
102-120	Small Business Management[1]	3	3 - 0
102-137	Business Communications	1	1 - 0
102-148	Introduction to Business	3	3 - 0
103-106	Introduction to MS Office	3	3 - 0
104-102	Marketing Principles	3	3 - 0
104-104	Selling Principles	3	3 - 0
804-123	Math with Business Applications	3	3 - 0

[1]Course has prerequisites.

COURSE DESCRIPTIONS

101-117 Accounting Fundamentals 3 Credits
Accounting fundamentals is a study of accounting from the user's perspective. This course will emphasize the effects of transactions on financial statements, the interrelationship among the financial statements, and the interpretation of financial statement information by taking an analytical and interpretative approach.

102-100 Intro to Entrepreneurship & Innovation 3 Credits
This course will incorporate lecture and discussion materials to improve students' understanding of basic business and entrepreneurship topics. It will include a hands-on component involving interaction with local employers, and community leaders will expose participants to business and management career opportunities available to AAS program graduates.

102-110 Business Career Planning 1 Credit
Students will focus on personal and professional preparation for a career in business related occupations. Course covers interpersonal and intrapersonal success skills including self-esteem, understanding human behavior, creative problem solving and decision making, effective communication skills time management, setting priorities, and organizational techniques. Job search strategies will be introduced.

102-115 Management Principles 3 Credits
Students will receive a comprehensive overview of the functions and principles of management that leads to success in the operating climate of modern businesses. The five functions of management will be introduced and applied to business operational problem-solving.

Prerequisites: 102-148 Introduction to Business and 801-195 Written Communication

102-120 Small Business Management 3 Credits
The course provides a detailed study of all phases of managing a small business. Specific problems of small operations such as financing, developing, staffing, and growing a small business are analyzed. Management topics such as quality, leadership, applications of technology, legal issues and more will be applied to isolating significant problems and implementing solutions. Current issues and trends in entrepreneurship will be included.

Prerequisites: 102-115 Management Principles and 104-102 Marketing Principles

102-137 Business Communications 1 Credit
This course prepares students with both oral and written communication skills required in businesses. In addition to studying interpersonal communications, students learn to write documents typical of the corporate environment. Course activities may include job search materials, memo and letter writing, persuasive messages, formal reports, and effective use of electronic forms of communication. Students completing this course will have acquired the tools to craft effective business written documents and oral communications.

102-148 Introduction to Business Organization and Management 3 Credits
Students will be introduced to business operations, focusing on a basic understanding of the activities, functions, and principles of business enterprises. This course covers the responsibilities and challenges of operating a business. The course emphasizes human relations, management, marketing, finance, labor relations, franchising, forms of ownership and careers.

103-106 Introduction to MS Office 3 Credits
This course will introduce students to the Microsoft Office Suite and overview many of the core competencies of Outlook, Word, Excel, Access, PowerPoint, and Explorer. Students will develop the use of technology for both problem solving and decision-making and will be expected to learn to use the resources available to search for answers to problems.

104-102 Marketing Principles 3 Credits
This course introduces core marketing concepts and terminology for Marketing and non-Marketing students. In addition to developing the rational for a marketing approach to strategic planning, specific topics include: target market selection, and issues related to product, price, distribution, and promotion decisions.

104-104 Selling Principles 3 Credits
Learners will cover the personal and occupational applications of

selling (defined as "an interpersonal persuasive process designed to influence some person's decision"). Selling is investigated from the following viewpoints: personal, industrial, wholesale, retail, door-to-door, and service. Students also learn and practice the professional principles involved in relationship selling.

804-123 Math with Business Applications 3 Credits
This course covers...real numbers, basic operations, linear equations, proportions with one variable, percents, simple interest, compound interest, annuity, apply math concepts to the purchasing/buying process, apply math concepts to the selling process, and basic statistics with business/consumer applications.

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