METALLURGY (422)

Information provided includes course descriptions by subject only. For complete 2024-2025 programs/academic plans, please refer to Academic Programs (http://catalog.blackhawk.edu/academics/).

422-100 Metallurgy
Credits: 1-3

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.
Aid Code: 10 - undefined.

Complete Course Listing

422-310 Metrology Fundamentals
Credits: 0.5-1

In this course students will explore metrology, the study of measurement. Students will identify and practice methods of inspecting parts for size and accuracy of features using an assortment of precision and semi-precision measuring instruments. Students will also practice instrument care, calibration, handling, and instrument reading.
Aid Code: 32 - undefined.
Co-requisites: (421-310)

Complete Course Listing

422-311 Metrology Inspection
Credits: 0.5-1

In this course students will practice using advanced inspection instruments to carry out high precision inspection, including surface plates, blocks, pins, and dial indicators.
Aid Code: 32 - undefined.
Pre-requisites: (422-310) and (422-115)

Complete Course Listing

422-312 Metrology Gauging/SPC
Credits: 0.5-1

In this course students will demonstrate the use of advanced measuring tools including hand tools and electronic devices. Students will practice proper setup of piece to measure and proper documentation of results.
Aid Code: 32 - undefined.
Pre-requisites: 422-310

Complete Course Listing

422-322 Metallurgy for Machinists
Credits: 1-2

Students engage in basic physics and metallurgy principles, applied to the manufacturing setting. Students review accuracy and precision of measurements, introduces calculations with units and conversions within and between systems of measurements, formula rearranging, and applications in problem solving. Emphasis is placed on the application of the laws and principles of physics to practical problems found in the machine shop and industry.
Aid Code: 32 - undefined.

Complete Course Listing

422-343 Welding Blueprint Reading 1
Credits: 0.5-1

This course covers the fundamentals of Blueprint reading. Students examine and analyze types of drawings, orthographic projection, library of lines, title block dimensions and produce sketching projects.
Aid Code: 31 - undefined.

Complete Course Listing

422-344 Welding Blueprint Reading 2
Credits: 0.5-2

This course covers blueprint reading specific to the welding industry. Students examine and define welding symbols and abbreviations used on welding specific blueprints.
Aid Code: 31 - undefined.

Complete Course Listing

422-400 Metallurgy
Credits: 0.1-4

Aid Code: 47 - undefined.

Complete Course Listing

422-401 Metallurgy Concepts
Credits: 0.05-5.4

Non-credit course focusing on basic metallurgy study and concepts.
Aid Code: 47 - undefined.

Complete Course Listing