BOILERMAKERS (BMKR)

BMKR 108, OXY-FUEL WELDING AND CUTTING 2 (4)
This course covers the basic theories and practices of oxyacetylene gas welding, cutting, and brazing, types of welding equipment and operational safety issues. Welding equipment design, use, care, and maintenance are emphasized. Oxy-Fuel laboratory work will include fusion welding, brazing, and manual and semiautomatic cutting. Laboratory required. (A special fee will be assessed.) This course is cross-listed as WTEC 108 and BMKR 108.
General Education: IN1
Typically Offered: Fall Semester

BMKR 111, WELDING SPECIFICATIONS/PRINT READING 2 (2)
This course covers basic engineering drawing principles, fundamental concepts of welding specifications, symbols, and blueprint reading as used in industry, and types of welding equipment and operational safety issues. Emphasis is on print reading, interpretation and analysis and safety procedures. This course is cross-listed as WTEC 111 and BMKR 111.
General Education: IN1
Typically Offered: Fall Semester

BMKR 112, WELDING CODES AND STANDARDS 2 (2)
This course is designed to familiarize the student with the many governing codes and standards that are used in the welding industries today. Emphasis is to not only learn the correct applications of welding codes and standards, but to become aware of their function as a quality tool. This course is cross-listed as WTEC 112 and BMKR 112.
General Education: IN1
Typically Offered: Summer Semester

BMKR 113, ENGINEERING MATERIALS 3 (4)
This course covers the properties, structure, and technical information that a technician needs to know to select appropriate materials and treatment processes that could be used in engineering applications. Also covered are the limitations and production processes of plastics, metals, ceramics, composites, cemented carbides, and other materials and variety of testing methods used for selection and specifying design specifications. Laboratory required. (A special fee will be assessed.) This course is cross-listed as EMCH 112 and BMKR 113. (TAG)
General Education: IN1
Typically Offered: Fall and Spring Semesters

BMKR 116, BASIC SHIELDED METAL ARC WELDING 3 (5)
This course covers the basic theories and practices of AC and DC shielded metal arc welding, flat position welding of ferrous metal, and required welding code applications. Welding equipment design, use, care, safety, and maintenance are emphasized. Laboratory, exercises that develop welding skills in a variety of welding positions will be practiced. Welding power source selection will also be studied. Laboratory required. (A special fee will be assessed.) This course is cross-listed as WTEC 116 and BMKR 116.
General Education: IN1
Typically Offered: Spring Semester

BMKR 212, WELDING FABRICATION, LAYOUT/DESIGN 4 (6)
This course introduces the student to the field of welding fabrication. It will provide the student the opportunity to apply knowledge of welding metallurgy, filler metal selection, testing and inspection of welds, Welding codes, standards and certifications, joint design, layout plans and cost estimates to welding fabrication projects. Laboratory required. (A special fee will be assessed.) This course is cross-listed as WTEC 212 and BMKR 212.
General Education: IN1
Typically Offered: Summer Semester

BMKR 216, WIRE FED PROCESSES 3 (5)
This course covers the basic principles and practices of gas metal arc welding (GMAW). Laboratory work involves the application of GMAW as it is used in industry today. Use of various metal transfer modes for aluminum and steel, joint styles, welding positions, and manipulation techniques will be emphasized. Wire fed processes will include sub-arc theory. Laboratory exercises will include flux-covered arc welding. Welding equipment, design, use, care, safety and maintenance are emphasized. Laboratory required. (A special fee will be assessed.) This course is cross-listed as WTEC 216 and BMKR 216.
General Education: IN1
Typically Offered: Fall Semester

BMKR 217, GAS TUNGSTEN ARC WELDING 3 (5)
This course covers the basic principles and practices of gas tungsten arc welding (GTAW). Laboratory work involves the application of GTAW as it is used in industry today. Use of various metal transfer modes for aluminum, carbon steel, and stainless steel, joint styles, welding positions and manipulation techniques will be emphasized. Welding equipment, design, use, care, safety and maintenance are emphasized. Laboratory required. (A special fee will be assessed.) This course is cross-listed as WTEC 217 and BMKR 217.
General Education: IN1
Typically Offered: Spring Semester

BMKR 219, ADVANCED ARC WELDING 3 (5)
This course covers advanced theories and practices of groove, pipe, resistance and other material joining principles. Welding equipment design, use, care, safety and maintenance are emphasized. Laboratory exercises that develop welding skills in a variety of welding positions will be practiced. Welding power source selection will also be studied. Laboratory required. (A special fee will be assessed.) This course is cross-listed as WTEC 219 and BMKR 219.
General Education: IN1
Typically Offered: Spring Semester

BMKR 221, WELD QUALITY INSPECTION 3 (5)
This course introduces the student to the variety of weld test procedures used in the welding industries, and how to determine weld strength and selection of proper weld materials. Test procedures such as visual weld inspection, non destructive testing, and radiographic testing will be covered. Laboratory required. (A special fee will be assessed.) This course is cross-listed as WTEC 221 and BMKR 221.
General Education: IN1
Typically Offered: Fall Semester