

MECHANICAL

Maintenance Technology



Are you interested in working in an industry that deals with the installation, maintenance and repair of pumps, valves, turbines, compressors and other industrial maintenance equipment? Do you like working with your hands? If you answered yes, you may want to consider a rewarding and high-demand career as a Mechanical Maintenance Technician. Bismarck State College's new Mechanical Maintenance Technology program will prepare you for entry-level employment in a variety of industries.

Managers at regional energy plants requested that Bismarck State College develop this program to prepare graduates to fill anticipated openings in this field. Job opportunities should be available in the region and across the nation.

This program is the first of its kind within the North Dakota University System and the region.

Mechanical maintenance technicians install, repair, adjust, and maintain industrial production and processing equipment. They may work in a variety of power and processing plants, in factories, or in large and complex buildings and structures. These skilled technicians are expected to prevent problems and are adept at keeping industrial machinery in optimal working condition. They must be knowledgeable troubleshooters, effective communicators, and skilled repairers. In addition to making repairs, mechanical maintenance technicians help install new machines and must be able to read blueprints and manufacturers' instructions and information.

The program provides a foundation in safety, fabrication, electricity, welding, mechanics, fluid power, hydraulics, and the use of tools. Students apply technical knowledge and techniques to install, repair, and maintain industrial equipment such as motors, pumps, pneumatic tools, conveyor systems, production machinery, pipeline distributions systems, and automated equipment.

An optional summer internship will be available at a number of plants and businesses to provide students with hands-on training to supplement class and shop experiences.

EMPLOYMENT

In North Dakota, job growth in industrial technology occupations is projected at 10 to 13 percent. According to Job Service North Dakota, typical wages range from \$38,400 to \$42,000. Nationwide statistics show that among the top paying industries for these occupations are power generation and supply, pipeline transportation, and petroleum and coal products manufacturing. The mean annual wage nationally is \$39,850. BSC provides career counseling services to help students find employment.

APTITUDE/PREPARATION

Students considering this field should have mechanical aptitude, manual dexterity, and good reading comprehension. They also should have agility and be in good physical condition. Background in these areas is helpful: shop math, blueprint reading, mechanical drawing, computer training, welding, and electronics.

GRADUATION

Students may earn a Program Certificate or an Associate in Applied Science (AAS) degree. The AAS degree can be completed in four semesters and consists of 51 credit hours of specialized courses and 15 credit hours of general education courses. Students seeking the Certificate complete the specialized skills courses and four credit hours of general education.

FACULTY

For more information, contact Craig Dolbeare, mechanical maintenance technology instructor, 701-244-2490, Craig.Dolbeare@bsc.nodak.edu.

HOW TO REACH US

BSC Web site: bismarckstate.edu

Application information: 1-800-445-5073 or 1-701-224-5429 or bismarckstate.edu/prospectivestudents/application.asp

Financial Aid: 1-701-224-5494 or bismarckstate.edu/student/finaid

BSC Foundation Scholarships: 1-701-224-2486 or bismarckstate.edu/scholarships

CURRICULUM

| FIRST SEMESTER | CREDITS |
|--|----------------|
| Introduction to Industrial Operations (MMAT 101) | 1 |
| Safety and Health (MMAT 103)..... | 3 |
| Hand and Portable Tools (MMAT 105) | 2 |
| Basic Mechanics (MMAT 107)..... | 2 |
| Measurements (MMAT 109) | 2 |
| Schematics Symbols and Blueprints (MMAT 111) | 2 |
| Industrial Rigging (MMAT 113)..... | 1 |
| Lubrication, Bearings and Seals (MMAT 115)..... | 2 |
| Material Handling Systems (MMAT 117) | 1 |
| Troubleshooting Skills (MMAT 119)..... | 1 |
| Total credits | 17 |

| SECOND SEMESTER | CREDITS |
|---|----------------|
| Mechanical and Fluid Drive Systems (MMAT 150) | 2 |
| Hydraulics and Pneumatics (MMAT 155)..... | 2 |
| Valves and Steam Traps (MMAT 160) | 3 |
| Piping and Tubing Systems (MMAT 165)..... | 3 |
| Equipment Installation (MMAT 170)..... | 3 |
| Pumps, Compressors, and Turbines (MMAT 175)..... | 4 |
| Nonmetals in the Plant (MMAT 215) | 2 |
| Total credits | 19 |

| THIRD SEMESTER | CREDITS |
|--|----------------|
| Oxyfuel Operations (WELD 110) | 2 |
| Testing OA in Welding, Brazing, Cutting (WELD 118) | 2 |
| Welding Principles (WELD 135)..... | 2 |
| Methods in GMA & FCA Welding (WELD 140)..... | 2 |
| Arc Welding Operations (WELD 170)..... | 2 |
| Methods in Arc Welding Operations (WELD 180)..... | 4 |
| Maintenance Pipefitting (MMAT 200)..... | 1 |
| Basic Electricity and Electronics (MMAT 205)..... | 2 |
| Metals in the Plant (MMAT 210) | 2 |
| Total credits | 19 |

| FOURTH SEMESTER | CREDITS |
|--|----------------|
| Communications General Education Requirements.... | 6 |
| Arts and Humanities General Education Requirement | 3 |
| Business/Math/Science/Technology General Education Requirements | 6 |
| Total credits | 15 |