

## FACILITY AND SERVICE TECHNOLOGY DIPLOMA

**Purpose:** The Facility and Service Technology major is designed to prepare students for careers requiring skills in the operation, maintenance, troubleshooting, and repair of electrical and mechanical equipment found in commercial buildings. Instruction the first year includes courses in boiler operation, electricity, plumbing, tool usage, welding, electrical controls, and programmable controls. Courses in residential and commercial refrigeration, air conditioning, pneumatics, heating and cooling controls, and computerized energy management systems comprise the second year instruction. In the second year, students complete an internship to gain hands-on work experience.

After initial training, students may take the state examination for a special steam engineer's license. After completion of the second year, students who qualify may take the state examination for second class "A" steam engineer's license and/or refrigeration certifications. Graduates usually start at entry-level positions in various educational, manufacturing, processing, and industrial facilities. Graduates have been employed as service technicians in the heating/ventilation/air conditioning (H.V.A.C.) field, building trades, and some are self-employed in the H.V.A.C. field.

### **Award**

FAST Transfer Pathway Diploma.....58 credits total

FAST curriculum ..... 53 credits

MnTC curriculum/General Education..... 5 credits

**\* The course sequence for this program begins in fall only and is intended for full-time enrollment.**

| <b>RECOMMENDED FULL-TIME COURSE SEQUENCE</b>   |              |  |           |
|--|--------------|--|-----------|
| Not all courses are scheduled every semester. See course schedule: <a href="https://eservices.minnstate.edu/registration/search/basic.html?campusid=306">https://eservices.minnstate.edu/registration/search/basic.html?campusid=306</a> . |              |  |           |
| <b>Semester 1</b>  |              | <b>Semester 2</b>                                  |           |
| FST 1500 Boiler Theory   | 4 cr         | FST 1611 Basic Electricity                         | 2 cr      |
| FST 1530 Plumbing Plant Theory   | 1 cr         | FST 1621 Electrical Theory I                       | 3 cr      |
| FST 1540 Operation   | 4 cr         | FST 1631 Electrical Lab I                          | 3 cr      |
| FST 1550 Plumbing Lab  | 2 cr         | FST 1641 Electrical Theory II                      | 3 cr      |
| FST 1560 Basic Pneumatics/Hydraulics   | 2 cr         | FST 1651 Electrical Lab II                         | 3 cr      |
| MATH 1015 Applied Technical Math   | 3 cr         | FST 1661 Electrical Safety National Electric Code  | 1 cr      |
| <b>Or</b>  |              | COMM 1000 Introduction to Workplace Comm           | 3 cr      |
| MATH 1016 Technical Math Essentials  | 1 cr         | <b>Or</b>  |           |
| <b>Or</b>  |              | COMM 1130 Interpersonal Communication              | 3 cr      |
| MATH 1115 College Algebra  | 3 cr         |  |           |
| <b>Total Credits</b>   | <b>14-16</b> | <b>Total Credits</b>                               | <b>18</b> |
| <b>Semester 3</b>  |              | <b>Semester 4</b>                                  |           |
| FST 1520 Welding and Equipment Repair  | 1 cr         | FST 2602 HVAC/Refrigeration Systems Theory         | 3 cr      |
| FST 2500 Refrigeration Theory  | 2 cr         | FST 2612 HVAC/Refrigeration Systems Lab            | 2 cr      |
| FST 2506 Refrigeration Lab   | 3 cr         | FST 2622 HVAC/Control Systems Lab                  | 2 cr      |
| FST 2512 Commercial Refrigeration  | 3 cr         | FST 2632 HVAC Control Systems Theory               | 3 cr      |
| FST 2518 Commercial Refrigeration Lab  | 2 cr         | FST 2655 Facility Service Technology Internship IV | 2 cr      |
| FST 2555 Facility Service Technology   | 2 cr         |  |           |
| Internship III   |              |  |           |
| AOP 2870 Employment Strategies   | 1 cr         |  |           |
| <b>Total Credits</b>   | <b>14</b>    | <b>Total Credits</b>                               | <b>12</b> |

Course descriptions can be found at: <https://www.rctc.edu/academics/courses/course-descriptions>.