

**BOARD OF REGENTS  
STATE OF IOWA  
REGENT MERIT SYSTEM**

**Class Title:** Environmental Systems Mechanic II

**Class Code:** 5091

**Pay Grade:** 213

**GENERAL CLASS DESCRIPTION:**

Under general supervision, performs skilled work in the area of installation, repair, alteration, replacement and maintenance of components of environmental systems such as refrigeration, temperature control and heating (all fuel types) and support systems. Utilizes computerized building environmental automation systems to collect mechanical system performance data to ensure system reliability.

**CHARACTERISTIC DUTIES AND RESPONSIBILITIES:**

1. Performs all duties listed under Environmental Systems Mechanic I.
2. Installs and maintains environmental systems equipment and components such as air conditioning equipment, chillers, condensers, pumps, fume hoods, autoclaves, environmental chambers, scientific equipment, cascade cooling units, process water systems, compressors and other pneumatic and computerized controls. Installs and maintains cooling tower equipment, plate-frame heat exchangers, cooling water treatment equipment, heating systems (all fuel types) to include boilers, unit heaters, furnaces, radiant heating, heat pump systems (geothermal and air source), variable frequency drives, and other emerging technology equipment/systems.
3. Tests and evaluates performance of systems using specialized equipment, repairs or replaces defective valves, thermostats, sensor and other parts in both pneumatic and computerized building environmental automation systems.
4. Operates computerized building environmental automation systems that control heating and cooling systems.
5. Performs continuous commissioning and retro commissioning of various types of environmental equipment to assure these systems are meeting energy optimization efficiency goals, operating to desired baselines, and are meeting the expectations of the customer.
6. Utilizes energy monitoring devices and test equipment to establish predictive type maintenance repairs that extend the life of systems and eliminate out of service conditions.

The tasks listed under the heading of Characteristic Duties and Responsibilities are examples of the variety and general nature of duties performed by employees in positions allocated in the class. The list is descriptive only and should be used for no other purpose. It is not intended that any position include every duty listed nor is it intended that related duties cannot be required.

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7. Provides functional guidance and training to apprentices, replacements, students and other personnel as required.
8. Other duties as assigned by appropriate department or administrative personnel.

**KNOWLEDGE, SKILL, AND ABILITIES:**

1. Knowledge of the principles of operations, methods, materials, and tools utilized in the installation, troubleshooting, maintenance, calibration and repair of environmental systems.
2. Ability to properly braze refrigeration tubing and connections.
3. Knowledge of occupational hazards and safety precautions mandated by the Occupational Safety and Health Administration, National Fire Prevention Association, National Fire Code, the Environmental Protection Agency, etc.
4. Knowledge, skill and ability to evaluate and recommend equipment for either installation, repair, or replacement and determine the amount of time and materials necessary to accomplish the task with least expense and downtime of equipment.
5. Knowledge of computerized building environmental automation systems and ability to collect data for mechanical system performance.
6. Skill in the proper use and care of hand and power tools and test equipment.
7. Knowledge of proper bending and lifting techniques.
8. Ability to work in areas of high heat, dust and noise and in confined spaces or on a ladder.
9. Ability to interpret blueprints, diagrams and equipment specifications.
10. Ability to work independently during the normal workday and in an on-call status.
11. Ability to communicate effectively orally and in writing.
12. Ability to work in all types of environmental conditions or in areas where there is exposure to excessive noise, dirt, and fumes and at elevated heights from ladders, scaffolds, or hydraulic lifts.
13. Ability to work independently during normal work hours and after hours.
14. Knowledgeable of the operation and maintenance of variable frequency drives
15. Knowledge of chilled water systems and maintenance requirements

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**MINIMUM ELIGIBILITY REQUIREMENTS:**

1. Six years of experience in temperature and computerized building environmental automation systems, refrigeration or air conditioning work, including apprenticeship, or has two years of experience in computerized building environmental automation systems and meets the minimum eligibility requirements of ESM I; or four years experience in above plus Journeyman's license; and
2. Has refrigeration certificate of at least type 2.
3. May need to possess a valid driver's license and meet University's Fleet Safety Program.
4. Prefer 2 years of college/trade school

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**REVISION EFFECTIVE:**

**August 1, 2021**