FENG (Facility Engineering Program) Entry Requirements and Technical Standards

Basic Carpentry; Minor Home Repair and Maintenance; Introduction to Building Maintenance; and Interior Finishes

Kauai Community College's FENG Program's Carpentry and Building Maintenance courses have been designed to provide students with the knowledge and practical skills for entry-level employment in the industry, as well as prepare students for entry-level employment in the fields of carpentry, general construction and Facilities Maintenance.

Program Entry Requirements:

Recommended Preparation
High school shop classes, woodworking, blueprint reading, basic English and math

English Requirements:

1. Completion of ENG 20 BCDE (native speakers only)
2. Completion of ESL 11, 13, and 17 (non-native speakers only)
   OR
   COMPASS* placement into ENG 21 or 51

Math Requirements:
Completion of Math 20 BCD OR COMPASS* placement in Math 50 or 53

Program Technical Standards:

Our program technical standards have been developed to help students understand the minimum essential mental, physical, and behavioral skills necessary for participation in and completion of all core aspects of our curriculum.
As a FENG student, you will be expected to do the following:

1. Thinking Skills
   General:
   Apply proper principles and techniques to carpentry and construction projects.
   Specific:
   1. Read textbooks, handouts, and safety procedures. Read blueprints and construction plans.
   2. Interpret symbols, legends, and other information on construction drawings.
   3. Extract information from a set of construction drawings.
   4. Do mathematical calculations.
   5. Take accurate measurements and do conversions.
   6. Estimate the amount of materials and labor needed for a project.
   7. Visualize two and three-dimensional objects.
2. Sensory / Observation Skills
   General:
   Assess the quality of carpentry and construction work.
   Specific:
   1. Determine readings on devices such as tape measures, framing and adjustable
      squares, and builders' levels and transits.
   2. Select proper tools and materials for specific purposes.
   3. Use sensory cues to do proper constructing, installing, and finishing work.
   4. Judge distance and space relationships of objects.

3. Motor Skills
   General:
   Possess sufficient physical strength, stamina, flexibility, and dexterity to do carpen-
   try and construction work.
   Specific:
   1. Operate necessary tools and equipment properly.
   2. Do physical labor for prolonged periods.
   3. Work at varying heights.
   4. Lift and transport equipment and materials as necessary.

4. Communication Skills
   General: Communicate effectively to gather and convey information.
   Specific:
   1. Obtain necessary information from oral and written sources.
   2. Express information coherently.
   3. Document work accurately.

5. Behavioral Skills
   General:
   Behave appropriately and safely in a shared learning environment.
   Specific:
   1. Work independently with periodic supervision.
   2. Work cooperatively with partners and groups.
   3. Follow through with individual and shared responsibilities.
   4. Exercise good judgment.
   5. Follow safety procedures.
   6. Motor Skills
   7. Behavioral Skills
   8. Communication Skills

6. Environmental Tolerance
   General:
Function safely in a carpentry shop environment.
Specific: Work for prolonged periods amidst:
1. Extreme noise
2. Sharp tools and materials
3. Electrical equipment
4. Chemicals and toxins
5. Dust, heat, and fumes
6. Machinery with moving parts
7. Moving objects and vehicles
8. Slippery or uneven surfaces
9. Variations in lighting

For More Information
If you are interested in our program, we encourage you to meet with our CARP counselor (phone: 245-8245) and refer to the information at

Disability Accommodations
We have developed our technical standards in compliance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973. We will provide reasonable accommodations to qualified students with disabilities. If you are interested in our program, we encourage you to review the program technical standards and course information at http://info.kauai.hawaii.edu/program_desc/trade/feng.htm to decide whether the FENG program is right for you.

If you have questions about the FENG program, please call the KCC Counseling Office at 245.8245. If you have questions about disability access and accommodations, please direct them to KCC's Services for Students with Disabilities (SSD) at 245-8314. SSD will be happy to meet with you, evaluate your disability documentation, and, as appropriate, recommend reasonable accommodations consistent with your documented limitations and the technical standards.

Electrical Fundamentals; Wiring Methods, Materials, and Codes; and Industrial Motor Controls

Kauai Community College's FENG Program's Electrical courses have been designed to provide students with the knowledge and practical skills for entry-level employment in the industry. Our curriculum complies with provisions contained in the National Electrical Code.

Program Entry Requirements:
Recommended Preparation
High school algebra, blueprint reading, and physics

English Requirements:
Completion of ENG 20 BCDE (native speakers only)
Completion of ESL 11, 13, and 17 (non-native speakers only) with "e' or higher
OR
COMPASS* placement into ENG 21/51

Math Requirements:
Completion of Math 20 BCD
OR
COMPASS* placement in Math 53 *UH Community College System placement test

Program Technical Standards:

Our program technical standards have been developed to help students understand the minimum essential mental, physical, and behavioral skills necessary for participation in and completion of all core aspects of our curriculum.

As an FENG student in the electrical courses, you will be expected to do the following:

1. Thinking Skills
   General:
   Apply theories and principles for proper installation, troubleshooting, maintenance and repair of electrical components and systems.
   Specific:
   1. Read the National Electrical Code, diagrams, tables, charts and graphs.
   2. Read residential, commercial, and industrial blueprints, schematics and wiring diagrams.
   3. Take measurements and do conversions.
   4. Measure and calculate electrical values.
   5. Interpret readings on analog and digital meters, oscilloscopes, tape rules, and other measurement devices.
   6. Identify names and functions of residential, commercial and industrial wiring circuits and systems.
   7. Explain operating characteristics and control of AC and DC machinery.
   8. Identify tools and materials.
   10. Inspect and test electrical components and systems.
   11. Recognize indicators of malfunctions.
   12. Draw conclusions based on a review of findings.
   13. Formulate service or repair plan.
   14. Perform electrical work according to National Electrical Code requirements.

2. Sensory / Observation Skills
General:
Use sensory cues to conduct inspections and tests to determine root causes of failures and respond properly.
Specific:
1. Take readings with analog and digital meters, oscilloscopes, tape rulers and other measuring devices.
2. Distinguish identifying colors of wires, push buttons, indicating lights, and other objects.
3. Recognize and compare shapes and forms of objects.
4. Detect and respond to warning indicators of malfunctions.
5. Judge distance and spatial relationships of objects.
6. Detect and respond to sensory cues that indicate problems.
7. Select appropriate materials, tools and equipment for installation, maintenance and repairs.

3. Motor Skills
General:
Possess sufficient physical strength, flexibility, and dexterity to safely perform electrical work.
Specific:
1. Operate necessary tools, equipment, and machinery.
2. Remove and replace failed components and small parts.
4. Work at varying heights.
5. Lift and transport equipment and supplies as necessary.

4. Communication Skills
General:
Communicate effectively to gather and convey information.
Specific:
1. Obtain necessary information from oral and written sources.
2. Express information coherently.
3. Document work accurately.

5. Behavioral Skills
General:
Behave appropriately and safely in a cooperative learning environment.
Specific:
1. Fulfill personal and shared responsibilities.
2. Work cooperatively with partners and groups.
3. Exercise good judgment.
4. Follow safety procedures.

6. Environmental Tolerance
General:
Function safely in an electrical shop environment.
Specific:
1. Work for prolonged periods amidst:
2. Sharp tools and materials
3. Electrical equipment
4. Chemicals and toxins
5. Heat, dust. and fumes
6. Machinery with moving parts
7. Slippery or uneven surfaces
8. Variations in lighting
9. Noise

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Basic Fundamentals of Air Conditioning and Refrigeration; Commercial Refrigeration and Air Conditioning Diagnostics; and Plumbing Basics and Repair

Kauai Community College's FENG Program’s Refrigeration, Air Conditioning, and Plumbing Technology courses have been designed to provide students with the knowledge and practical skills for entry-level employment in the industry.

Program Entry Requirements:

Recommended Preparation

Pre-algebra, applied mathematics, basic geometry, and English

English Requirements:
Completion of ENG 20 BCDE (native speakers only)
Grade of "C" or higher in ESL 11, 13, and 17 (non-native speakers only)
OR
COMPASS* placement into ENG 21/51

Math Requirements:
Completion of Math 20 BCD
OR
COMPASS* placement in Math 50
*UH Community College System placement test

Program Technical Standards

Our program technical standards have been developed to help students understand the minimum essential mental, physical, and behavioral skills necessary for participation in and completion of all core aspects of our curriculum.

As a FENG Refrigeration and Plumbing student, you will be expected to do the following:

1. Thinking Skills
   General:
   Apply theories and principles for proper installation, maintenance, troubleshooting, and repair of cooling components and systems.
   Specific:
   1. Read textbooks, handouts, diagrams and charts.
   2. Visualize three-dimensional objects.
   3. Take measurements and do conversions.
   4. Interpret readings on meters, gauges, scales and other measurement devices.
   5. Identify names and functions of cooling components.
   6. Explain operating characteristics of cooling systems.
   7. Relate concepts of physics, chemistry, and electricity to operations of cooling systems.
   8. Identify tools and materials.
   10. Inspect and test cooling components and systems.
   11. Recognize indicators of malfunctions.
   12. Draw conclusions based on a review of findings.
   13. Formulate service or repair plan.
   14. Perform procedures according to proper specifications.

2. Motor Skills
   General:
   Possess sufficient physical strength, flexibility, and dexterity to safely handle electrical and mechanical parts.
   Specific:
   1. Operate necessary tools, equipment, and machinery.
   2. Remove and replace failed components.
   3. Position and maneuver in confined spaces to do repairs.
4. Work at varying heights.
5. Lift and transport equipment and materials as necessary.

3. Sensory / Observation Skills
   General: Use sensory cues to conduct inspections and tests to determine root causes of failures and respond properly.
   Specific:
   1. Read meters, gauges, and other measuring devices.
   2. Distinguish identifying colors of wires, knobs and other objects.
   3. Recognize and compare shapes and forms of objects.
   4. Detect and respond to indicators of malfunctions.
   5. Select appropriate materials, tools and equipment for maintenance and repairs.

4. Communication Skills
   General:
   Communicate effectively to gather and convey information.
   Specific:
   1. Obtain necessary information from oral and written sources.
   2. Express information coherently

5. Behavioral Skills
   General:
   Behave appropriately and safely in a cooperative learning environment.
   Specific:
   1. Fulfill personal and shared responsibilities.
   2. Work cooperatively with partners and groups.
   3. Exercise good judgment.
   4. Follow safety procedures.

6. Environmental Tolerance
   General: Function safely in a refrigeration and air conditioning lab.
   Specific:
   Work for prolonged periods exposed to:
   1. Extreme noise
   2. Dust and fumes
   3. Extreme heat
   4. Machinery with moving parts
   5. Sharp tools and materials
   6. Slippery or uneven surfaces
   7. Electrical equipment
   8. Variations in lighting
   9. Chemicals and toxins

For More information
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