SLO Presentation

ET
Date: 09-15-2022

ISLO

Civic Engagement

• Students will develop values and beliefs in their role as a member of local, national and global societies to promote truth, fairness and goodwill to others. They will use the democratic process to further their values and beliefs and recognize and accept differing perspectives based on cultural diversity. They will engage in actions which provide service to others and have a positive impact on their local community.

Communication and Expression

• Students will demonstrate the ability to effectively and appropriately communicate their thoughts and ideas both in written and oral forms. They will develop verbal and non-verbal delivery skills, in an appropriate manner, to communicate their ideas as well as evaluate the ideas of others in a wide variety of contexts.

Critical Thinking and Quantitative Reasoning

• Students will demonstrate the ability to recognize assumptions within an argument and actively and skillfully analyze underlying reasoning to develop a conclusion. They will apply qualitative and/or quantitative analysis to solve problems, predict outcomes, test hypotheses, and explore alternatives in an ethical manner.

Information Literacy

• Students will demonstrate the ability to determine when gathering additional information is necessary. They will use appropriate resources and technologies to locate, evaluate and incorporate the information when developing supporting arguments and drawing conclusions. Students will also develop the ability to understand any legal, ethical or social issues regarding the use of information.

Personal Knowledge and Responsibility

• Students will develop the necessary skills to define, maintain and complete their personal educational goals. They will learn to work independently to accomplish personal goals toward realizing their full potential academically, physically and emotionally whether for personal enrichment, further education or career advancement.

Technology

ET

Engineering Technology

Electrical and Electronic Engineering Technician

• Student apply principles of engineering technology to design and troubleshoot industrial electrical, electronics and mechatronics systems.

• Student design industrial electrical and electronics systems

• Student troubleshoot industrial electrical and electronics systems

• Student design, install and maintain industrial flexible robotics/mechatronics systems

• Student design electronics schematics and printed circuit board using contemporary

Industrial Engineering Technician

• Student read blueprints up to Industry Standards

• Student applies principle of electrical circuits and electronics in troubleshooting industrial equipment

• Student develop machine tools maintenance program and perform maintenance of industrial equipment L, ET, NPDF

• Student implement and troubleshoot four major plastics manufacturing processes at the shop floor

• Student design, implement and troubleshoot industrial motors control

Mechanical Engineering Technician

• Student read blueprints up to Industry Standards

• Student applies principle of Geometric Dimensioning and Tolerancing in manufacturing

• Student develop machine tools maintenance program and perform maintenance of industrial equipment

• Student select appropriate materials based on design usage, loads and conditions

• Student interpret P&ID diagrams and implement and troubleshoot process control

- Student design, implement and troubleshoot industrial motors control

Engineering Technology: Electrical and Electronic Engineering Technician

- Student apply principles of engineering technology to design and troubleshoot industrial electrical, electronics and mechatronics systems.
- Student design industrial electrical and electronics systems
- Student troubleshoot industrial electrical and electronics systems
- Student design, install and maintain industrial flexible robotics/mechatronics systems.
- Student integrates electrical/electronic systems with mechanical counterpart
- Student design electronics schematics and printed circuit board using contemporary CAD/ eCAD software.

Engineering Technology: Industrial Engineering Technician

- Student read blueprints up to Industry Standards
- Student applies principle of electrical circuits and electronics in troubleshooting industrial equipment
- Student develop machine tools maintenance program and perform maintenance of industrial equipment L, ET, NPDF
- Student implement and troubleshoot four major plastics manufacturing processes at the shop floor
- Student design, implement and troubleshoot industrial motors control

Mechanical Engineering Technician

- Student read blueprints up to Industry Standards
- Student applies principle of Geometric Dimensioning and Tolerancing in manufacturing
- Student develop machine tools maintenance program and perform maintenance of industrial equipment
- Student select appropriate materials based on design usage, loads and conditions
- Student interpret P&ID diagrams and implement and troubleshoot process control
- Student design, implement and troubleshoot industrial motors control

CSLO

ET101 - Principles of Engineering Technology

- Students predict the center of gravity and moment of inertia of a simple solid and verify their answers using software program.
- Students design a truss member with the appropriate factor of safety knowing load and shape.
- Students deduct power requirements knowing a combination of resistance, current, and voltage in a simple analog circuit.
- Students recommend appropriate material for a design given usage, load, and conditions.
- Students evaluate alternative energy outputs and potential uses in a power circuit.

ET102 - Electronics for Engineering Technologists

- Demonostrate proper soldering technique and analyze the result to decide if it needs rework or not
- Calculate missing information in simple analog circuits and verify their answers using circuit design software (CDS)
- Translate verbal design specifications to a working digital circuit using AND, OR, and Inverter gate and verify the functioning of their program using circuit design software (CDS)
- Create a circuit that displays a series of numbers using seven segment displays
- Translate verbal design specifications to a working digital circuit using a field programmable gate array (FPGA) and verify the functioning of their program using a test board

ET103 - Industrial Process Control

- 1. Obtain three commercial quotes for a component of process control component
- 2. Compare and contrast the various industrial equipment needed to measure flow
- 3. Compare and contrast the various industrial equipment needed to measure pressure
- 4. Compare and contrast the various industrial equipment needed to measure level
- 5. Compare and contrast the various industrial equipment needed to measure temperature

ET105 - Industrial Motor Control

- 1. Identify the principal components of an electrical motor
- 2. Document the symbols used to represent electrical motors and their protection equipment
- 3. Compare and contrast the various industrial equipment needed to measure pressure
- 4. Compare and contrast the various industrial equipment needed to measure level
- 5. Compare and contrast the various industrial equipment needed to measure temperature