

Based on ABET ETAC Student Learning Outcomes

1. Course Number and Name:

CSET-4350 – Operating Systems

2. Credits and Contact hours:

Credits: 4 hours, Contact: 2 lecture hours; 2 lab hours

3. Instructor's or course coordinator's name:

Hong Wang

4. Text book, title, author, and year:

Embedded Systems: Introduction to Arm® Cortex (TM)-M Microcontrollers (Volume 1), 5th Edition, Jonathan Valvano, 2012

a. Other supplemental materials:

Lab Kit: Tiva C-Series TM4C123G Launchpad from Texas Instruments

5. Specific Course Information:

a. Brief description of the content of the course (catalog description):

This course covers the different types of microcontrollers, their architecture and programming and lab testing and troubleshooting. Topics include: Basic Structure, Programming Fundamentals, Algorithms, I/O Interfacing, Interrupts, Communications and Development Tools.

b. Pre-requisites, or co-requisites:

EET-3150

6. Specific goals for the course:

a. Specific outcomes of instruction:

1. To understand basics of C programming in OOP environment
2. To design and understand algorithms
3. To design and understand data structures
4. To design and understand classes
5. To understand and debug microcomputer hardware
6. To design and understand interfacing, program construction, testing, and troubleshooting.
7. To work as part of a team. All students are required to do a team project for this course. Students will be required to submit a written report as well as give an oral presentation.

b. Explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course: a, b, d, l

- a. An ability to select and apply the knowledge, techniques, skills, and modern tools of the discipline to broadly-defined engineering technology activities.
- b. An ability to select and apply a knowledge of mathematics, science, engineering, and technology to engineering technology problems that require application of principles and procedures or methodologies.

d. An ability to design systems, components, or processes for broadly-defined engineering technology problems appropriate to program educational objectives.

1. The application of electric circuits, computer programming, associated software applications, analog and digital electronics, microcomputers, operating systems, local area networks, and engineering standards to the building, testing, operation, and maintenance of computer systems and associated software systems.

7. Brief list of topics to be covered:

- New to Development
- Programming Fundamentals
- Algorithms and Data Structures
- Application Development
- Class Library Development
- Debugger and Debugging
- Language
- Tools
- LINQ