

## Based on ABET ETAC Student Learning Outcomes

**1. Course Number and Name:**

CSET 3600 Software Engineering and Human Interfacing

**2. Credits and Contact hours:**

Credits: 3 hours, Contact: 3 lecture hours

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

Weiqing Sun

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

“Software Engineering: A Practitioner’s Approach, 7<sup>th</sup> Edition, Roger S. Pressman, 2005

**a. Other supplemental materials:**

As assigned by instructor

**5. Specific Course Information:**

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

An introduction to software engineering processes for technology students. Includes: user requirements, software specification, design approaches, software tools, validation, modification, maintenance, documentation, lifecycle models, and intellectual property considerations.

**b. Pre-requisites, or co-requisites:**

CSET 3150 or EET 3150

**6. Specific goals for the course:**

**a. Specific outcomes of instruction:**

1. Be able to explain and apply a broad range of concepts from software engineering, spanning all aspects the software engineering process.
2. Be able to recognize, define, and make correct use of generally accepted software engineering techniques and terminology.
3. Have experienced working as a member of a team on a software engineering project.
4. Have experienced applying a representative cross section of software engineering techniques.
5. Be familiar with best practices of software engineering.

**b. Explicitly indicate which of the student outcomes listed in Criterion 3 or any other outcomes are addressed by the course: e, i, g, j, n**

E. An ability to function effectively as a member or leader on a technical team.

I. An understanding of a commitment to address professional and ethical responsibilities including diversity

G. An ability to apply written, oral, and graphical communication in both technical and non-technical environments; and an ability to identify and use appropriate technical literature.

J. A knowledge of the impact of engineering technology solutions in a societal and global context.

N. The ability to analyze, design, and implement hardware and software computer systems.

**7. Brief list of topics to be covered:**

1. Software design
2. Using APIs
3. Software tools and environments
4. Software processes
5. Software requirements and specifications
6. Software validation
7. Software evolution
8. Software project management
9. Risks and liabilities of computer-based systems
10. Intellectual property
11. Object Oriented Programming