Davenport University
Department of Computer Information Science

1. CSCI260, Software Engineering

2. 3 credits

3. Course coordinator: Gabriela Ziegler

4. Textbook
   9780133943030
   Software Engineering
   Sommerville, Ian
   10th 16 / Pearson

5. Specific course information
   a. Catalog description: The key objective of this course is to learn modular design of software and documenting the design using symbolic representations, i.e., UML diagrams. The course will cover software life-cycle models and different phases of the software development process. Object-oriented techniques are key to the course. However, this is not a programming course.
   b. Prerequisites: CSCI231

   c. Required course

6. a. Course Learning Outcomes:

1. Apply modular design of software development and documentation.
2. Understand and apply each of the phases of software development processes.
3. Apply logical steps and practical problem-solving processes in software development.
4. Understand and Apply software engineering techniques when developing software
5. Create symbolic representations to document software design
6. Analyze and critique a demonstrable software package as a team using software engineering process.

b. Student Outcomes assessed by CSCI260

1. To analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.

2. Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.

3. Communicate effectively in a variety of professional contexts.

4. Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles

5. Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline

c. Mapping of Course Learning Outcomes to Student Outcomes

Course Learning Outcomes	2, 3,	→ ABET SO 1
Course Learning Outcomes	1, 2, 3	→ ABET SO 2
Course Learning Outcome	4	→ ABET SO 4
Course Learning Outcome	5	→ ABET SO 3
Course Learning Outcome	6	→ ABET SO 5

7 Course Content:

Topic or Subtopic (Number of hours devoted to a topic are shown in parenthesis)

1. Software system (3)
2. Development, Ethics, RUP, Agile, Waterfall (6)
3. Requirements, Models, Patterns (6
4. Architecture, UML, Open Source (3)
5. Testing, Maintenance (3)
6. Procurement, Dependability, Security (3)
7. Redundancy, Risk Management (3)
8. Static Analysis, Reliability (3)
9. Components, Distributed Systems (3)
10. Service-Oriented, Embedded (3)
11. Aspect-Oriented, PM (3)
12. Plan-driven vs Agile, Quality (3)
13. Configuration Management, Process Improvement (3)