



SIE 277 Fall 2017 Object-Oriented Modeling and Design
MWF 12:00 AM - 12:50 AM, AME Room 212

Course Description

Modeling and design of complex systems using all views of the Unified Modeling Language (UML). Most effort will be in the problem domain (defining the problem). Some effort will be in the solution domain (producing hardware or software)

Course Prerequisites or Co-requisites

ECE 175 or C SC 127A.

Instructor and Contact Information

Sherilyn Keaton, ENGR 256 A, (520) 621-9554, keatons@email.arizona.edu

Course Format and Teaching Methods

The course will include lectures, in-class individual and small group activities, projects, in-class discussion, web-delivered content, and intermittent assessment.

Course information and material including lecture slides, announcements, quizzes, grades, and FAQs will be posted on the course's D2L site. Students are expected to visit the D2L site frequently to stay up-to-date during the semester.

Course Objectives and Expected Learning Outcomes

By the end of this course, students should be able to do the following:

- Develop models of systems, which may contain software and non-software components,
- Represent these models using the Unified Modeling Language (UML),
- Design systems (software) starting from the business and requirements model (via use cases), to the analysis model, to the design model, to the implementation model and finally to the operational model.

Grading Scale and Distribution

Semester grades use Regular Grades:

- A 90% - 100%
- B 80% - 89%
- C 70% - 79%
- D 60% - 69%
- E 0% - 59%

Semester grades will be based on the following components:

- 10% Homework and Class Participation
- 10% In-class Quizzes
- 40% Two (2) Midterm Exams
- 20% Project (2 person teams)
- 20% Comprehensive Final Exam

Required Texts or Readings

Arlow, J., and Ila Neustadt, UML 2 and the Unified Process: Practical Object-Oriented Analysis and Design, Second Edition, Addison-Wesley (Pearson Education, Inc.), 2005.

Software

We will use Enterprise Architect (<http://www.sparxsystems.com.au>) this semester. All students will be required to do homework and projects using Enterprise Architect. We will provide software and installation instructions before you start using the software.

Reference

- Craig C. Larman, *Applying UML and Patterns: An Introduction to Object-Oriented Analysis and Design and Iterative Development*, 3rd Edition, Pearson Education, Inc. 2011 (ISBN: 0-13-148906-2)
- Rumbaugh, J., Jacobson, I. and Booch, G., *The Unified Modeling Language Users Guide*, Addison-Wesley, Second Edition, Addison-Wesley. 2005.
- Rumbaugh, J., Jacobson, I. and Booch, G., *The Unified Modeling Language Reference Manual*, Second Edition, 2005.
- Fowler, M. and Scott K., *UML Distilled: A Brief Guide To The Standard Object Modeling Language*, Addison-Wesley, 2000.
- Jacobson, I., Booch G. and Rumbaugh, J., *The Unified Software Development Process*, Addison-Wesley, 1999.
- Cockburn, A., *Writing Effective Use Cases*, Addison-Wesley, 2001.
- <http://www.uml.org/>

Project Due Date and Final Examination Date and Time

Project Deadline:	TBD		
Final Examination:	Thursday	12/14/2017	10:30 am - 12:30 pm