CS 361 – Software Engineering I

Catalog Description: Introduction to the "front end" of the software engineering lifecycle; requirements analysis and specification; design techniques; project management. (Writing Intensive Course)

Credits: 4

Prerequisites:

Courses that require this as a prerequisite: CS 461

Structure: Three 50-minute lectures per week, or two 80-minute lectures per week

Instructors: Christopher Scaffidi

Course Content:
- Software lifecycle activities and models
- Requirements engineering, requirements elicitation, writing requirements documents, requirements reviews, UML notation
- Software architectures, distributed system architectures
- Object-oriented design, design patterns
- Project management, risk analysis

Learning Resources:
Software Engineering - Theory and Practice, 4th Edition by Pfleeger & Atlee (required)
Waltzing with Bears by Tom DeMarco & Timothy Lister (optional)

Course Learning Outcomes: (* indicates quantitative outcome—see Criterion 4)
At the completion of the course, students will be able to…
1. **Select** the most appropriate software process model to use in a particular situation (ABET Outcomes: A, B, C)
2. **Synthesize** requirements for a realistic software system and write a requirements specification document* (ABET Outcomes: B, C, F, I, J)
3. **Model** system requirements using one or more semi-formal notations such as UML, dataflow diagrams, entity-relationship diagrams, or state diagrams   (ABET Outcomes: A, B, C, I, J)
4. **Design** software systems at an architectural level and at lower levels, using one or more techniques, such as object-oriented design or agile methods, and express these designs in design specification documents (ABET Outcomes: A, B, C, I, K)
5. **Validate** designs and adjust the specification or design as necessary* (ABET Outcomes: A, B, C, J, K)
6. **Describe** several methods of estimating the cost and developing a schedule for a programming project (ABET Outcomes: A, B, F, I)
7. **Participate** effectively in a team environment* (ABET Outcomes: D, E, F, O)
8. **Produce** professional-quality software-related documents (ABET Outcomes: D, F, I)

Students with Disabilities:
Accommodations are collaborative efforts between students, faculty and Disability Access Services (DAS). Students with accommodations approved through DAS are responsible for contacting the faculty member in charge of the course prior to or during the first week of the term to discuss accommodations. Students who believe they are eligible for accommodations but who have not yet obtained approval through DAS should contact DAS immediately at 737-4098.

Link to Statement of Expectations for Student Conduct, i.e., cheating policies
http://oregonstate.edu/admin/stucon/achon.htm