

## SE 565 – Software Systems Requirements

Fall 2007

Location: HH 524

Tuesday, 1:00 - 3:45 PM

### Instructor

Jiacun Wang, [jwang@monmouth.edu](mailto:jwang@monmouth.edu)

Office location: Howard Hall B-12

Office telephone: (732) 571 – 4449

Office hours: Tuesday 10:00 -12:00. Other times by appointment only.

### Course Objectives:

The course introduces students to the process, methods and tools related to the software requirements engineering area. Topics related to requirements elicitation, analysis, specification, validation and management will be discussed, and related case studies will be analyzed. Students will practice in the lab the concepts learned in class using a variety of software engineering tools, such as RequisitePro, Rational Rose and Visio. At the end of the course, students will be able to write the requirements documents, to demonstrate skills necessary to perform a successful requirements elicitation, analysis, specification and validation. They will be able to competently apply the existing requirements processes, notations, methods and tools.

### Required text book:

- Gerald Kotonya and Ian Sommerville, *Requirements Engineering: Processes and Techniques*, John Wiley & Sons, 1998.
- Geri Schneider and Jason Winters, *Applying Use Cases: A Practical Guide*, Second Edition, Addison-Wesley, 2006

### Course Work

There will be four assignments, a midterm test, a final exam, and a group project.

### Course Policies:

#### Evaluation:

Assignments: 40%

Project: 20%

Midterm: 20%

Final exam: 20%

#### Attendance:

Attendance at classes is required. Students are responsible for all material covered and announcements made in class.

#### Academic Honesty:

Everything turned in for grading in this course must be your own work.

By the Monmouth University policy, students found to be in violation of this rule will, at the very least, receive a failing grade in the course and may be subject to stiffer penalties. Students who contribute to violations by sharing their work with others are subject to the same penalty.

**Special Accommodations:**

Students with disabilities who need special accommodations for this class are encouraged to meet with me or the appropriate disability service provider on campus as soon as possible. In order to receive accommodations, students must be registered with the appropriate disability service provider on campus as set forth in the student handbook and must follow the university procedure for self-disclosure, which is stated in the Guide to Services and Accommodations for Students with Disabilities. Students will not be afforded any special accommodations for academic work completed prior to the completion of the documentation process with the appropriate disability service office.

**Withdrawal:**

Last day to withdraw with automatic assignment of “W” grade: November 6, 2007.

**Topics covered (tentative):**

- Introduction to requirements engineering
- Requirements engineering process
  - Process model
  - Actors in requirements engineering processes
  - Process support
  - Process improvement
- Requirements elicitation
  - Elicitation and analysis processes
  - Elicitation techniques
  - Use cases
  - Activity diagrams
- Requirements specification
  - IEEE recommendation
  - SRS documentation
- Requirement engineering methods
  - Data flow modeling
  - Object-oriented approaches
  - Formal methods
- Requirements validation and management
  - Validation techniques
  - Change management
  - Traceability
- Non-functional requirements
  - Classification
  - Deriving non-functional requirements
  - Requirements for safety critical systems