CEN 5011: Advanced Software Engineering

Fall 2015

Instructor: Peter J. Clarke   **Location:** Parking Garage 6 114   **Times:** MW 1825 – 1940

Office: ECS 212A	Phone: (305) 348 2440

Office Hours: Mon. 4:00 – 6:00 PM and 9:05 – 10:05PM
            Wed. 5:00 – 6:00 PM and 9:05 – 10:05PM
            or by appointment
	Email: clarkep@cis.fiu.edu

URL: https://moodle.cis.fiu.edu/v2.8/login/index.php	

Catalog Description: This course deals with the design of large scale computer programs. Included are topics dealing with planning, design, implementation, validation, metrics, and the management of such software projects.

Prerequisite: CEN 4010

Course Outcomes:
- Be familiar with planning and managing large scale software systems.
- Demonstrate mastery of techniques of analyzing and designing large scale software systems.
- Demonstrate mastery of software systems implementation.
- Be familiar with techniques used to test large scale software systems.
- Be familiar with the documents generate during the software development process.
- Demonstrate the ability to work effectively in a software development team.

Required Text: Bernd Bruegge, Allen H Dutoit, "Object-Oriented Software Engineering: Using UML, Patterns, and Java", 3rd Edition, Prentice Hall, ISBN   9780136061250. Text is available in the university bookstore.

Recommended Text: Bertrand Meyer, "Agile!: The Good, the Hype and the Ugly", Springer International Publishing, ISBN   9783319051543. Text is available in the university bookstore.

Other reading material: Class notes, papers from conference proceedings and journals.

Grading Policy:

Exam 1	25%
Exam 2	25%
Group Project I	25%
Attendance and class participation	5%
Final Exam	20%

Tentative Dates:

Exam 1	**Sept. 30**
Project Deliverable 1	Oct. 5
Exam 2	**Nov. 9**
Project Deliverable 2	Nov. 4
Final Project Deliverable	Nov. 30
Final Exam	**Wed Dec. 9, 5:00 – 7:00PM PG 6, 114**

Grading Standard: The grading scale is: A: 90 | A-:87 | B+:84 | B: 80 | B-:77 | C+:74 | C: 70 | C-:65 | D+:60 | D: 55 | D-:50. Note a C- is **not** a C. I will **not** offer extra credit: please do your best on assignments, exams and attendance.

Attendance: Attendance will be taken during each class meeting.

Tentative Course Schedule:

Wk 1 – Aug. 24, 26	Course introduction, Class Project organization. Overview of the software process. Review of software process models.
Wk 2 – Aug. 31 – Sept. 2	Review of UML.
Wk 3 – Sept. 7, 9	*Labor Day Holiday*. Managing a large scale software project.
Wk 4 – Sept. 14, 16	Requirements elicitation and analysis.
Wk 5 – Sept. 21, 23	Software Requirements Document (SRD). System Design.
Wk 6 – Sept. 28, 30	*No formal class*. **Exam 1.**
Wk 7 – Oct. 5, 7	**Presentation 1.**
Wk 8 – Oct. 12, 14	Software Architecture models and Patterns. Subsystem Design.
Wk 9 – Oct. 19, 21	Object design. Design Document.
Wk 10 – Oct. 26, 28	Implementation and Unit Testing.
Wk 11 – Nov. 2, 4	Subsystem Testing.
Wk 12 – Nov. 9, 11	**Exam 2. *Veterans Day Holiday*.**
Wk 13 – Nov. 16, 18	Systems testing. Software Documentation.
Wk 14 – Nov. 23, 25	Other Software Development Paradigms. Review. Current Research Topics.
Wk 15 – Nov. 30 – Dec. 2	**Presentation 3**

University Drop Date: November 2.

Policy on make-up examinations and assignments: There will be **no** make-up exams. All project deliverables and assignments should be submitted at the **beginning of class on the due date**. There will be a penalty of 10% each day for submitting project deliverables late. The only excuse for missing an exam is **verifiable** cases of illness and emergencies and religious holy days. Please check the dates of the exams and **inform me of any conflicts** with religious holy days as soon as possible.

Code of Academic Integrity: Florida International University is a community dedicated to generating and imparting knowledge through excellent teaching and research, the rigorous and respectful exchange of ideas, and community service. All students should respect the right of others to have an equitable opportunity to learn and honestly to demonstrate the quality of their learning. Therefore, all students are expected to adhere to a standard of academic conduct, which demonstrates respect for themselves, their fellow students, and the educational mission of Florida International University.

Pledge

As a student of this university:
- I will be honest in my academic endeavors.
- I will not represent someone else's work as my own.
- I will not cheat, nor will I aid in another's cheating.

All students are deemed by the University to understand that if they are found responsible for academic misconduct, they will be subject to the Academic Misconduct procedures and sanctions, as outlined in the Student Handbook

http://academic.fiu.edu/AcademicBudget/misconductweb/Code_of_Academic_Integrity.pdf

University Policies: academic misconduct (P. 36), sexual harassment (P. 50), religious holydays (P. 56), and information on services for students with disabilities (P. 46). All pages referenced are in the FIU Student Handbook 2013-14.

http://campuslife.fiu.edu/index.php/student-handbook-20132014/

Note: (a) A student who fails the project will receive **no more than a D** as the final letter grade, (b) Cheating will not be tolerated. **Anyone caught cheating on an exam or project will receive and F for the course.**