Description: CEN 5035, Software Engineering, is a graduate-level introductory survey course on the fundamental concepts and principles that underlie current and emerging methods, tools, and techniques for the cost-effective engineering of high-quality software systems. Software engineering (SE) is concerned with all aspects of software development, from the early stages of system specification to maintaining the system after it has gone into use. This includes technical processes of software development as well as activities such as software project management and the development of tools, methods, and theories to support software development. CEN 5035 is NOT a "programming" course, but focuses instead on surveying the critical aspects of SE that may be less familiar to students of computer science, such as identifying a development process appropriate to the circumstances, eliciting and documenting requirements, indentifying appropriate design techniques, employing effective verification and validation strategies (including formal reviews and inspections) throughout the software development lifecycle, configuration management, software maintenance, and software project management.

Prerequisites: Familiarity with programming using a high-level language (C, C++, Java, etc.); basic knowledge of algorithms, data structures, and discrete math. (A few program/design examples in the text are given in Java, but no previous knowledge of this language is required.)

Instructor: Steve Thebaut, E314-A, Phone: (352) 392-1496, E-mail: smt AT cise DOT ufl DOT edu. Office Hours (on-campus students): Mon/Wed 9:30-10:30 or by appointment

On-Campus Class Meeting Times and Location: Tuesday: 5th and 6th (11:45-1:30), Thursday: 6th (12:50-1:40), Room: CSE 122

Course Web Site: Available via the E-Learning System at http://lss.at.ufl.edu. You will need your GatorLink account and password to access the website. Temporary Site (no password required): www.cise.ufl.edu/class/cen5035/sp08

Text: SOFTWARE ENGINEERING, 8th ed., by Ian Sommerville, Addison-Wesley.

Outline of Course Topics: The following topics will be covered in the order given. Chapter numbers refer to the SOMMERVILLE text; "LNO" = Lecture Notes Only.

1. Introduction (Ch 1)
2. Software Processes (Ch 4)
3. Project Management (Ch 5)
4. Software Requirements (Ch 6)
5. Reqmts. Eng. Process (Ch 7)
6. Prototyping/Rapid Development (Ch 16.4, 17)
7. Formal Specification (Ch 10)
8. Architectural Design (Ch 11)
9. Distrib & Service-Oriented Sys (Chs 12, 31)
10. Object- and Aspect-Oriented Design (Chs 14, 32)
11. Software Reuse (Ch 18)
12. Verification and Validation (Ch 22)
13. Software Testing (LNO)
14. Proofs of Correctness (LNO)
15. Software Evolution (Ch 21)
16. Process Improvement (Ch 28)

Note that you will only be responsible for assigned parts of Sommerville Chapters 18, 21, 22, and 28. Details will be provided under "Reading" at the course web site.

Lecture notes will be made available on the course web site.

Examinations and Grades: Course grades will be based SOLELY on two equally weighted 90-minute exams. A histogram of numeric scores will be provided with solution notes for each exam. Course letter grades will be determined at the end of the semester.

Exam schedule: Quiz 1: (covers topics 1-9) -- March 4 (tentative); Quiz 2: (covers topics 10-16) -- April 22
Exam Procedures for EDGE Students: Proctors will be instructed to schedule a single exam time during normal working hours convenient for all students at each site. If this is not possible, exams may be scheduled outside normal working hours (e.g., in the evening). Exams are usually made available to proctors the same day they are administered to on-campus students. Proctors should return ORIGINAL, completed exams directly to the instructor via overnight delivery or priority mail.

Make-Up Exam Policy: Students are expected to make every effort to be available at scheduled exam times. If missing an exam is unavoidable, please contact the instructor as far in advance as possible. An oral make-up exam may be administered in cases of unavoidable absence.

Homework: Exercises will be recommended and discussed in class as appropriate, but will not be graded.

Class Attendance Policy: On-campus students are strongly encouraged -- but not required -- to attend all lectures. You will, however, be responsible for all announcements and course materials discussed in class regardless of whether or not you attend.

Computer Facilities: Access to e-mail and the WWW is required.

Academic Integrity: All students admitted to the University of Florida have signed a statement of academic honesty committing themselves to be honest in all academic work and understanding that failure to comply with this commitment will result in disciplinary action. This statement is a reminder to uphold your obligation as a UF student and to be honest in all work submitted and exams taken in this course and all others.

You will be asked to sign the following statement on all exams in this course: On my honor, I have neither given nor received unauthorized aid on this examination.

Accommodation for Students with Disabilities: Students Requesting classroom accommodation must first register with the Dean of Students Office. That office will provide the student with documentation that he/she must provide to the course instructor when requesting accommodation.

UF Counseling Services: Resources are available on-campus for students having personal problems or lacking clear career and academic goals. The resources include:

- University Counseling Center, 301 Peabody Hall, 392-1575, personal and career counseling.
- SHCC Mental Health, Student Health Care Center, 392-1171, personal counseling.
- Center for Sexual Assault/Abuse Recovery and Education (CARE), Student Health Care Center, 392-1161, sexual assault counseling.
- Career Resource Center, Reitz Union, 392-1601, career development assistance and counseling.

Software Use: All faculty, staff and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

Instructor Biography: Steve Thebaut received the BA in Mathematics from Duke University in 1977, and the MS and PhD in Computer Science from Purdue University in 1979 and 1983, respectively. He is currently Associate Chair of the CISE Department. Dr. Thebaut's research interests include software requirements engineering, testing and verification, and software engineering technology transfer. He has received funding from the National Science Foundation, IBM, the Florida Department of Education, the Florida High Technology and Industry Council, the Sino-Software Research Center at HKUST, the Software Engineering Research Center at the University of Florida, and the Software Engineering Institute (SEI) at Carnegie Mellon University, where he was a lecturer in the SEI production of "Software Project Management," a nationally distributed video-based continuing education course. He has been a course developer and consultant for IBM’s IS&PG Technical Education program, and has served on the program committee of the Conference on Software Engineering Education. He was Associate Editor of the International Journal of Computer and Software Engineering from 1990-1996.