

CEN 6027 Software Maintenance & Evolution

Credits: 3 credits

Text book, title, author, and year: N/A

Reference materials: Supplementary reading material will be made available online

Specific course information

Catalog description: This course covers fundamental aspects of software maintenance and evolution, including concepts and techniques, process models for system evolution, and software maintenance case studies.

Prerequisites: CEN 4010 Principles of Software Engineering, or permission of instructor

Specific goals for the course: The objective of this course is to expose students to:

- Have a solid understanding of fundamental concepts of software maintenance & evolution
- Understand some of the state-of-the-art techniques used in maintaining and evolving legacy systems
- Learn the processes involved in software evolution
- Learn legacy system management
- Understand how legacy systems can be assessed to decide whether they should be scrapped, maintained, reengineered, or replaced
- Learn reverse engineering and reengineering for program comprehension techniques
- Understand software reuse

Note to Distance Learning students: This course may require Distance Learning students to come to Boca campus a couple of times during the semester to present their work.

Brief list of topics to be covered:

Course topical outline (subject to change depending on the course progress):

1. Overview of software maintenance (what, why, who)
2. Different types of software maintenance
3. Software maintenance metrics and case studies
4. Maintenance prediction (number of changes, cost, impact analysis)
5. Evolution process models
6. Legacy system reengineering and reuse
7. Reverse engineering and program understanding
8. Software and Information Visualization
9. Software system redocumentation
10. Service Oriented Architecture (SOA)
11. Agile software development
12. Requirements Engineering