CEN 5076 - Software Testing

Catalog Description:
Introduce tools and techniques used to validate artifacts developed during the software development process. Included topics are: model validation, software metrics, implementation-based testing, specification-based testing, integration testing and systems testing. (3 credits)

Prerequisite:
CEN 4010 – Software Engineering I or CEN 5011 – Advanced Software Engineering.

Type
Can be an Elective for MSCS, MSIT, MSTN, and Ph.D. students

Course Objectives:
Graduate students in Computer Science and Information Technology will learn how to validate software artifacts using both specification-based and implementation-based testing techniques, as well as, use testing tool to automate the testing process.

Topics
Review the phases of the software process (1 week)
Techniques and tools to validate the following models (3 weeks):
  Requirements (Use Case)
  Analysis
  Design
  Deployment
Planning and documenting the testing process (1 week):
  Test plans
  Test cases
Validation of the software implementation (Sequential, Concurrent and Distributed systems) (5 weeks):
  Software metrics
  Implementation-based testing
  Specification-based testing
  Integration testing
  Systems testing
  Regression testing
Current research (4 weeks)
  Testing theory
  Testing concurrent systems
  Testing distributed systems


Other reading material: Relevant papers from conference proceeding and journals.

Last Update
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