

## CEN 6076 Software Testing

**Credits:** 3 credits

**Text book, title, author, and year:** (1) Foundations of Software Testing, by Aditya P. Mathur, (2) Selected articles and papers are posted on the course website

**Reference materials:** N/A

### **Specific course information**

**Catalog description:** Introduction to the basic principles of software testing. Included topics are quality assessment, proof of correctness, testing and limitations of these methods

**Prerequisites:** Some knowledge of Software Engineering or permission of instructor. CEN 6076 can be used as a technical elective in all CS and CE graduate programs.

**Specific goals for the course:** Introduction to the basic principles of software testing. Included topics are quality assessment, proof of correctness, testing and limitations of these methods.

### **Brief list of topics to be covered:**

1. Preliminaries
2. The Taxonomy of Bugs
3. Flow-graph and Path Testing
4. Transaction-Flow Testing
5. Data-Flow Testing
6. Domain Testing
7. Metrics and Complexity
8. Logic-Based Testing
9. Testing Web Services and Service Oriented Architecture (SOA)
10. Software Fault Injection
11. Software Reliability-Engineered Testing
12. Case Studies