

NDSU Computer Science

## CSci 718 Software Testing and Debugging

# Syllabus

### Instructor and Contact Information

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### Credits: 3

### Course Objectives:

This course is intended to acquaint the students with principles, techniques, and best practices of software testing and debugging.

### Prerequisite:

Programming experience

### Evaluation Procedures and Criteria:

Your grade will be based on the following components:

- **Exams** (50%): Midterm (20%) + Final (30%). The exams will be held in class.
- **Team Project** (30%):
- **Other assignments** (20%)

### Extra credits:

**Best team project:** up to 5%.

**Topic presentation:** up to 5%

**Research :** up to 10%. Define a software testing problem and propose a feasible solution to the problem. Present your idea to the instructor before submitting the final report.

Final grades will be assigned by the following rule: A for 90% or above of the total points, B for 80 to 89%, C for 70 to 79%, D for 60 to 69%, and F for less than 60%.

All assignments will be announced in class and posted on the course web page. If you miss class for any reason, it is *your* responsibility to find out what assignments you

missed. *No late assignments will be accepted and there are no make-up exams.* Discuss unusual circumstances *in advance* with the instructor.

Discussion of concepts with others is encouraged, but *all assignments must be done on your own*, unless otherwise instructed. All assignments in this course must be completed in a manner consistent with [NDSU University Senate Policy, Section 335: Code of Academic Responsibility and Conduct](#). *Cheating on an exam or plagiarizing others' work will result in a grade of Zero, and possibly further disciplinary action.*

### **Tentative Topics:**

Structural testing, functional testing, integration testing, test automation, regression testing, specification-based testing, model-based testing, syntax testing, testing object-oriented software, debugging

### **Textbook (Recommended):**

Robert V. Binder. *Testing Object-Oriented Systems: Models, Patterns, and Tools*. Addison-Wesley, 2000.

### **References (not required)**

1. Aditya P. Mathur. *Foundations of Software Testing*, Draft v2.1, Purdue University, 2005.
2. Brian Marick. *The Craft of Software Testing: Subsystem Testing*. Prentice Hall PTR, 1995.
3. Cem Kaner, Jack Falk, Hung Quoc Nguyen. *Testing Computer Software*. John Wiley & Sons, Inc., 1999.

### **Meeting Time:**

6:00-8:55pm Thursday IACC 102

### **Special Needs:**

Any students with disabilities or other special needs, who need special accommodations in this course, are invited to share these concerns or requests with the instructor as soon as possible.