Syllabus for *Software Testing*

CIS 613 (Section 1) Winter 2026

Generated January 11, 2026

Discussion of the major techniques of software testing: software technical reviews, software testing techniques, proofs of correctness, and simulation/prototyping. Concludes with guidelines on organizational implications of software verification and validation activities.

Contact Information:

Instructor: Dr. Byron DeVries

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Office Hours:

- Monday, Wednesday from 10:50pm - 12:00pm in C-2-209 MAK
- After CIS 613 (Wednesday) in 303 DCIH until after the last person leaves or 9:30pm, whichever occurs first
- Online by appointment

Course Page: Blackboard (`https://lms.gvsu.edu`)

Course Objectives:

After successful completion of the course, students will be able to:

- Describe the terminology, principles, levels, and types of software testing.
- Apply both specification-based and code-based techniques to test a given program.
- Perform static testing techniques using reviews and static analysis tools.
- Understand the advantages and limitations of mainline software testing techniques.
- Apply software tools to automate unit, functional, and acceptance testing, and measure code coverage.

Course Materials:

Instruction: Instructor's Lecture Notes and Handouts (via Blackboard)
Book:

- Recommended: *Software Testing: A Craftsman's Approach, 5th Ed.* (Jorgensen, DeVries)

Grading Proportions:

The last day to drop a course with a grade of "**W**" is **March 27 by 5:00 pm**.

Your grade is based on participation (not *only* attendance), your performance on response writing/homework, a project, a midterm assessment, and a final assessment. Participation is graded such that:

- *Above average* participation *improves* your overall grade,
- *Below average* participation *lowers* your overall grade, and
- *Average* participation has *no* impact on your overall grade.

This is an in-person course, and the material and activities are planned as such, therefore a *significant* number of unexcused absences may impact your grade outside of the participation points.

Graded Item	**Weight**
Participation:	10%
Coursework:	25%
Project:	25%
Midterm Assessment:	20%
Final Assessment:	20%
Total	**100%**

A	>=93%	**B-**	>=80%	**D+**	>=67%
A-	>=90%	**C+**	>=77%	**D**	>=60%
B+	>=87%	**C**	>=73%	**F**	<60%
B	>=83%	**C-**	>=70%		

Late Policy: Work submitted after the due date will incur 10% late penalty per school day, with a minimum penalty of 10%. No assignment will be accepted more than 3 school days late. *No assignment will be accepted late after the last day of class (April 22nd) regardless of the number of days late.* No extensions will be provided past the last day of class (April 22nd).

Course Policies and General Information:

(1) A request for early review may be submitted via e-mail for any coursework turned in before the due date. An early review identifies the most apparent issues that should be addressed. Coursework may be submitted early as often as desired, however responses to e-mail requests will still follow items (6) and (7) in the course policies. **Note:** A review is not early grading nor will it be guaranteed, or even expected, to identify *all* outstanding issues.

(2) The Fred Meijer Center for Writing, with locations at the Allendale and Pew/Downtown Grand Rapids campuses, is available to assist you with writing for any of your classes. Writing consultants, who are fellow GVSU students, are trained to help you with all

stages of your writing process, from brainstorming to organizing to editing your papers. Simply bring a draft of your paper, the assignment sheet, and your questions/concerns to any of the Center's locations. Also, through your Gmail account, you have access to online consultations through GoogleDocs. The Center's services are free and you can drop in and work with a consultant or make an appointment, either through our website or by calling the Center (331-2922). For more information about our services and locations, please visit our website: `http://www.gvsu.edu/wc/`

(3) Be aware of the College of Computing policy on academic honesty. Visit the College website (`https://www.gvsu.edu/computing/academic-honesty-93`) for the full statement on academic honesty. Academic dishonesty will not be tolerated. Violations will result in *at least* failure of the assignment. However, violations may also include failure of the entire course and require a referral to the university resulting in additional consequences, including possible expulsion.

(4) Work completed for this course must be performed specifically for this course by you. Using work submitted to another class concurrently or previously without prior documented permission from the course instructor counts as academic dishonesty. Using work completed for an employer concurrently or previously without prior documented permission from the course instructor counts as academic dishonesty. Using work completed independently or for any other reason prior to this course without prior documented permission from the course instructor counts as academic dishonesty. Any source used must be cited, including generative artificial intelligence. When in doubt, check with the course instructor.

(5) Participation is *not* equivalent to attendance. The participation grade is based on *positive* **and** *negative* participation in class, including the quality of responses to individually directed questions, and assignments.

(6) E-mails will *typically* be responded to by the end of the next Monday, Wednesday, or Friday that is a school day, unless I have limited access to e-mail (e.g., on conference travel).

(7) E-mails will be responded to at the same quality as they are written. The better the question you ask, the better the response you will get. For example, if you e-mail "How do I solve problem 3?" I will respond "What have you tried?" The easier you make it for me to answer your question, the better the answer you are likely to get.

(8) Blackboard Messages will not be checked nor replied to. Only e-mail communication will be responded to.

(9) You are expected to check your e-mail regularly. Important information may be conveyed in a time-sensitive fashion via e-mail. It is the responsibility of the student to check their e-mail consistently.

(10) Based on the "Under no circumstances does GVSU ask students, faculty or staff to assume undue risk in traveling to the University in inclement weather" (`https://www.gvsu.edu/policies/policy.htm?policyId=B650E7B5-F840-E2E6-99F87B5FB025B1D7`), inclement weather is a valid excuse to miss class with notification to the instructor. Similarly, modality may be moved to synchronous online or asynchronous online in increment

weather based on an e-mail from the instructor, even if the university has not changed its operating status.

(11) Special Needs: If there is any student in this class who has special needs, please contact Student Accessibility Resources at `http://www.gvsu.edu/dsr/` (SAR) at 616-331-2490.

(12) This course is subject to the GVSU policies listed at `http://www.gvsu.edu/coursepolicies/`.

(13) This syllabus is deprecated in favor of any syllabus uploaded to the course Blackboard page with a *more recent* "generated" date. This version of the syllabus was generated on January 11, 2026.

Course Schedule:

A course schedule of topics project deadlines are included in the table below. Note, the week that topics are covered or even the order they are covered is tentative and may be adjusted throughout the semester.

Dates	**Lecture/Discussion Topic**
01/14	Class Introduction Software Testing Introduction Software Testing Overview
01/21	Discrete Math for Testing Graph Theory for Testing Boundary Value Testing
01/28	Equivalence Class Testing Symbolic Execution
02/04	Path & Coverage Testing Unit Testing Tools
02/11	Decision Table-Based Testing MCDC Testing Dataflow Testing
02/18	Unit Testing Retrospective Paper or Project Review Testing Ethics Midterm Review
02/25	**Midterm Assessment**
03/04	Testing Ethics Lifecycle-Based Testing Model-Based Testing Mutation Testing
03/11	**Spring Break**
03/18	Lifecycle Testing Model-Based Testing
03/25	Mutation Testing
04/01	Integration Testing System Testing Metamorphic Testing
04/08	Model Checking Technical Reviews Genetic Algorithms & Testing
04/15	Exploratory Testing Testing Excellence Final Review
04/22	**Final Assessment**
04/29	**Mandatory Project Presentations**