

Syllabus

SE 333/433 Software Testing and Quality Assurance

College of Computing and Digital Media
DePaul University

Winter Quarter 2019 (January 5 – March 22, 2019)

First day of class: Wednesday January 9, 2019

Classroom section: Wednesdays 5:45 -- 9:00 pm, 14 E Jackson, room 801

On-Line Learning: <http://d2l.depaul.edu/>

Instructor: Dan Walker

Office: 200-B

Tel: (312) 362-1306

Office Hours: Wednesdays 4:00 – 5:30pm (Loop campus)

E-mail: dwalke30@mail.depaul.edu

Course Description

You can't 'test quality into' a software product, but neither can you build a quality software product without testing and analysis. Software testing and analysis is a core challenge in developing high quality software systems. This course will focus on the processes, principles, and techniques of software testing and analysis. It covers a full spectrum of topics from basic principles and underlying theory of testing to organizational and process issues in real-world applications. The emphasis is on selecting practical techniques to achieve an acceptable level of quality at an acceptable cost. This course will provide software engineering professionals with realistic strategies for reliable and cost-effective software testing.

Prerequisites

Data Structures II (CSC301 or CSC403 or CSC383 or CSC393) or
Object-Oriented Modeling (SE430)

(Implies proficiency in object-oriented programming in Java or C++)

Reading Material

Primary Text

Each week I will post links to readings for the given week. The primary reading material will all be available online.

References

- [*Software Testing and Analysis: Process, Principles and Techniques*](#), by Mauro Pezze and Michal Young, John Wiley & Sons
- [*The Art of Software Testing, Second Edition*](#) by Glenford J. Myers *et. al.* Digital copy available in DePaul library.
- [*Software Engineering: A Practitioner's Approach*](#), Roger S Pressman, McGraw-Hill. Chapters 13 and 14.
- Lecture notes and supplementary materials provided by the instructor.

Available in D2L.

Type of Instruction

Lecture with assignments, mid-term and final

Topics

The specific topics covered by the course will include (tentative and subject to changes)

- Introduction to software testing
- Inspection
- Program analysis
- Unit testing
- Integration and system testing
- Regression testing
- Fundamental testing
- Structural testing
- Test case selection
- Testing of object-oriented software
- Performance testing
- Security testing
- Web application testing
- Graphical user interface (GUI) testing
- Usability testing
- Fault-based testing
- Test automation and tools
- Planning and monitoring the software quality process

Required Software

Successful participation in this course requires the following software:

1. Office compatible tools to read PowerPoint, Word and Excel documents
2. Java JDK
3. Eclipse

Communication

D2L forums will be our primary means of electronic communication. If you have a question, please post it to the appropriate forum. It is probable that you are not the only one who has that question. I will respond to these within 24 hours

Grading

- Attendance -- 10%
- Assignments and projects -- 50% for SE333, 40% for SE433
- Mid-term exam -- 20%, Week 6, February 13, 2019, Wednesday
Written exam. On-line students may take the exam in class (the same time and location as the in-class students) or arrange for an alternate location.

- Final exam -- 20%, Week 11, March 20, 2019, Wednesday
Written exam. On-line students may take the exam in class (the same time and location as the in-class students) or arrange for an alternate location.
- Final paper -- 10%, SE433 only, due on Week 11, March 20, 2019, Wednesday.
Note: Same due date for both on-line and in-class sections.
- Late policy
 - Late assignments will be accepted with penalties
 - 10% penalty for up to 7 days
 - An additional 10% penalty for each week thereafter
 - The last day to submit programming assignments for partial credit is March 13, 2019 (week 10)
 - No late submission will be accepted for the final paper.

Grading scale:

A :	total ≥ 93	C+:	80 > total ≥ 77
A-:	93 > total ≥ 90	C :	77 > total ≥ 73
B+:	90 > total ≥ 87	C-:	73 > total ≥ 70
B :	87 > total ≥ 83	D+:	70 > total ≥ 67
B-:	83 > total ≥ 80	D :	67 > total ≥ 63
		D-:	63 > total ≥ 60
		F :	total < 60

Email

Email is secondary means of communications for this course. Unless the topic is personal or sensitive in some way, please use D2L instead. If you do need to contact me via email, use dwalke30@depaul.edu. I will respond to email within 24 hours. Students should be sure their email listed under "demographic information" at <http://campusconnect.depaul.edu> is correct.

Academic Integrity Policy

This course will be subject to the academic integrity policy passed by faculty. More information can be found at <http://academicintegrity.depaul.edu/>

Plagiarism

The university and school policy on plagiarism can be summarized as follows: Students in this course should be aware of the strong sanctions that can be imposed against someone guilty of plagiarism. If proven, a charge of plagiarism could result in an automatic F in the course and possible expulsion. The strongest of sanctions will be imposed on anyone who submits as his/her own work any assignment which has been prepared by someone else. If you have any questions or doubts about what plagiarism entails or how to properly acknowledge source materials be sure to consult the instructor.

Incomplete

An incomplete grade is given only for an exceptional reason such as a death in the family, a serious illness, etc. Any such reason must be documented. Any incomplete request must be made at least two weeks before the final, and approved by the Dean of the College of Computing and Digital Media. Any consequences resulting from a poor grade for the course will not be considered as valid reasons for such a request.

Resources for Students with Disabilities

Students who feel they may need an accommodation based on the impact of a disability should contact the instructor privately to discuss their specific needs. All discussions will remain confidential. To ensure that you receive the most appropriate accommodation based on your needs, contact the instructor as early as possible in the quarter (preferably within the first week of class), and make sure that you have contacted the Center for Students with Disabilities (CSD) at: Student Center, LPC, Suite #370, Phone number: (773)325.1677 Fax: (773)325.3720 TTY: (773)325.7296

Drop dates

See <https://academics.depaul.edu/calendar/Pages/default.aspx>

Proctored exams for OL courses

If you are an online learning student living in the Chicagoland area (within 30 miles of Chicago), you will need to come to one of DePaul's campuses to take an exam. Online learning students outside of the Chicagoland area are required to locate a proctor at a local library, college or university. You will need to take the exam within the window your instructor gives. Students should examine the course syllabus to find exam dates and the instructor's policy on make-up exams. Detailed information on proctored exams for online learning students can be found at <http://www.cdm.depaul.edu/onlinelearning/Pages/Exams.aspx>

Online office hours for OL courses

If you are an OL student and need to make an office hours appointment, please contact me to make arrangement. We can talk on the phone, Skype, etc.

Online Course Evaluations

Evaluations are a way for students to provide valuable feedback regarding their instructor and the course. Detailed feedback will enable the instructor to continuously tailor teaching methods and course content to meet the learning goals of the course and the academic needs of the students. They are a requirement of the course and are key to continue to provide you with the highest quality of teaching. The evaluations are anonymous; the instructor and administration do not track who entered what responses. A program is used to check if the

student completed the evaluations, but the evaluation is completely separate from the student's identity. Since 100% participation is our goal, students are sent periodic reminders over three weeks. Students do not receive reminders once they complete the evaluation.