

# **Syllabus SE 333 Software Testing**

**College of Computing and Digital Media  
DePaul University**

Spring Quarter 2020 (March 31 – June 9, 20)  
On-Line Learning: <http://d2l.depaul.edu/>

Instructor: Dan Walker  
Tel: 773-706-3573

Office Hours: Mondays & Thursdays 6:00 – 6:45 pm (Zoom session or phone)  
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## **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, project and final

## Topics

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

- Introduction to software testing
- Inspection
- Static analysis
- Unit testing
- Integration and system testing
- Regression testing
- Functional 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. IntelliJ IDEA
4. Maven
5. Other open source libraries and tools as needed.

## Communication

We will use a mix of tools to communicate and keep in touch with each other:

- **Slack** – We can use this tool for general discussions and questions of general interest, for group communications using channels and for direct person to person messages.
- **Zoom** – For live presentations and real-time discussions
- **D2L** – Will contain assignment descriptions, submission folders and grades. It may also be used for brief quizzes or even perhaps the final.
- **Email** – Of course you can email me if you are more comfortable with that but please keep in mind that direct Slack messages are also private and will probably get answered faster. My email address is [dwalke30@depaul.edu](mailto:dwalke30@depaul.edu). Make sure your email listed under "demographic information" at <http://campusconnect.depaul.edu> is correct.

## Grading

- Assignments - 45%
- Weekly quiz - 10%
- Mid-term project - 20%
- Final exam -- 25%
- Late policy
  - Late assignments will be accepted with penalties
    - 1% penalty per day for up to 7 days

### Grading scale:

<b>A :</b>	total $\geq 93$	<b>C+:</b>	80 > total $\geq 77$
<b>A-:</b>	93 > total $\geq 90$	<b>C :</b>	77 > total $\geq 73$
<b>B+:</b>	90 > total $\geq 87$	<b>C-:</b>	73 > total $\geq 70$
<b>B :</b>	87 > total $\geq 83$	<b>D+:</b>	70 > total $\geq 67$
<b>B-:</b>	83 > total $\geq 80$	<b>D :</b>	67 > total $\geq 63$
		<b>D-:</b>	63 > total $\geq 60$
		<b>F :</b>	total < 60

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## 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>

## **Office hours**

Office hour appointments should be made through BlueStar. My normal hours are Mondays & Thursdays 6:00 – 6:45 pm. We can talk using Zoom or Slack voice or phone. If these times don't work for you, other times can be arranged.

## **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.