

SYLABUS

SEN302 –SOFTWARE TESTING AND QUALITY ASSURANCE (Credit Unit : 2)

Department of Software
Engineering Faculty of Computing
University of Delta, Agbor, Nigeria

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Office Hours: Monday, Tuesday, Wednesday, Thursday & Friday 8:00 am - 4:00 pm. I work beyond 4pm when the need arises

Accessing me shouldn't pose any threat to students. You can come to the office to see me within or (sometimes) after the office hours depending on the nature of academic work and service to be rendered to the concerned students of our dear institution 'unidel'. You can also reach me via my e-mail if you deem it necessary. Nevertheless, There is no substitute for face-to-face communication which often leads to more focused questions resulting in your improved understanding. I strongly encourage you to take advantage of my office periods.

Meeting Time and Place: Monday to Friday 8am-4pm office of the HOD, SEN.

Attendance

Attendance to class is compulsory as it forms part of your continuous assessment (C.A). There is no room for absenteeism to class as non attainment of 75% of class attendance can deny you from writing the particular semester's examination. However for reasons very cogent absenteeism can only be allowed with my permission as a course lecturer. You are expected to attend every class. If you must miss a class, it is your responsibility to make up for the work that you missed.

Methods of Instruction

This syllabus contains an overview of what will be covered in class; for specific information, students are referred to the class web page maintained on the University website. Assignments will be posted on University of Delta LMS or given in the class and should be submitted through University of Delta LMS. Class attendance, doing all your practical and homework will help the borderline cases.

OVERVIEW OF SOFTWARE TESTING AND QUALITY ASSURANCE

Software Testing and QA (quality assurance) is the process of evaluating the functionality of a software application to find any bugs or issues. It analyses whether the developed software has met the specified requirements and identifies any defects in the software, so that a high-quality product can be made. Software Testing and QA executes a system to identify any possible gaps, errors or missing requirements in contradiction to the current requirements. Finally, it has to do with how to assure and verify the overall quality of a Software. It also addresses verification and validation techniques, product and process assurance, problem analysis and reporting, and statistical approaches to Quality Control (QC).

Objectives

The objective of this course is to enable the students : (i) have the knowledge of software fundamentals (ii) identify defects in a Software products (iii) have an idea of how to use a statistical approaches to Control Quality (iv) have the knowledge to develop a high quality Software (v) have the knowledge of how to maintain the standard a Software product.

Learning outcomes

At the end of this course students should be able to (i) know how to test a Software reliability (ii) know the qualities of a good Software. (iii) rate the standard of a given Software product (iv) know the parameters for measuring a good Software (v) Differentiate Software product assurance and process assurance. (vi) know how to improve on an existing Software product to meet present users requirements.

Course Contents

How to assure and verify a Software, a need for culture of quality. Avoidance of errors and other quality problems. Inspections and reviews, Testing, verification and validation techniques, Process assurance vs product assurance. Quality process standard. Product and process assurance. Problem analysis and reporting. Statistical approaches to quality control.

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Lecture Schedules

Week	Content	Lecture notes/slides
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1.	what is a Software?how do we assure and verify Software Quality	
2.	The need for culture quality	
3.	Avoidance of errors and other quality problems	
4.	Inspections and reviews	
5.	Testing	
6.	Verification and validation techniques	
7.	Process assurance vs product assurance	
8.	Quality process standards	
9.	Product and process assurance	
10.	Problem analysis and reporting	
11.	Statistical approaches to quality control	
12.	Revisions	
13.	Final Exam	

Examination schedule

Attendance

Homework

Class Test

Practical exercises

End of Semester Exam

Practical Exercises

Grading

Attendance: 10%

Homework: 10% of grade

Midterm Exam/Test: 10% of grade

Final Exam: 70% of grade

Text & References

A.J.R Voss : The need for quality culture for software development :published in managing complexity in software engineering 13-13April 2015

Jim Weaver 2024: Software Testing Quality Assurance 'the big picture'

Browserstack, 2024 Quality Assurance vs Testing

Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behaviour conducive to a positive learning environment. The code of student conduct is described in detail in the student handbook or University website.

Academic Honesty

"All students enrolled at the University shall follow the tenets of common decency and acceptable behaviour conducive to a positive learning environment." It is the policy of the University, that no form of plagiarism or cheating will be tolerated. Plagiarism is defined as the deliberate use of another's work and claiming it as one's own. This means ideas as well as text or code, whether paraphrased or presented verbatim (word-for-word). Cheating is defined as obtaining unauthorised assistance on any assignment. Proper citation of sources must always be utilised thoroughly and accurately. If you are caught sharing or using other people's work in this class, you will receive a 0 grade and a warning on the first instance. A

COURSES UNIDEL CMS Courses

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Course Code Course Title

200 Level FOC

Course Objective

Course Synopsis

Course Lecturer Exam Mark Test Mark Assignment Mark

Lecture Hour Tutorial Hours Practical Hours Course Unit

subsequent instance will result in receiving an F grade for the course, and possible disciplinary proceedings. If you are unclear about what constitutes academic dishonesty, ask.