MAD-5234 Software Quality Assurance Testing

Computer Studies

Course Number:	Co-Requisites:	Pre-Requisites:
MAD-5234	N/A	N/A
Prepared by:	Albert Danison, Outline Creator	
Approved by:	Chris Slade, Dean Computer Studies and International Education	
Approval Date:	Friday, June 8, 2018	
Approved for Academic Year:	2018-2019	
Normative Hours:	60.00	

Course Description

This course is an introduction to the principles of software quality assurance. The course addresses the concepts and practices of a software quality assurance function, as well as those aspects of project management, software design, and testing and configuration management, as applicable to the development of quality software products.

Course Learning Outcomes/Course Objectives

1. **Evaluate software testing and quality assurance techniques as part of an integrated discipline of software quality verification and validation.**
   - 1.1 Discuss the discipline of software engineering.
   - 1.2 Discuss the importance of software quality attributes.
   - 1.3 Analyze the software testing lifecycle.

2. **Assess software foundations, program correctness and verification and various failures, errors and faults and methods of software testing taxonomy.**
   - 2.1 Discuss the foundations of proper software properties, specifications and reliability versus safety.
   - 2.2 Analyze and compare examples of program verification and correctness.
   - 2.3 Evaluate and determine courses of action taken from examples of failures, errors and faults.
   - 2.4 Analyze methods related to software testing taxonomy.

3. **Evaluate test generation concepts using functional and structural criteria.**
   - 3.1 Discuss test generation concepts.
   - 3.2 Analyze examples of functional criteria.

3.3 Analyze examples of structural criteria.

4. **Evaluate specifications of drivers and industry standards such as Oracle.**
   - 4.1 Test oracle design specifications.
   - 4.2 Test driver design specifications.
   - 4.3 Test outcome analysis.

5. **Discuss and evaluate the management of software testing.**
   - 5.1 Discuss and anlayze examples of metrics for software testing.
   - 5.2 Use software testing tools.
   - 5.3 Analyze and test product lines.

Learning Resources

Required:
Mili, A., & Tchier, F. (2015). Software Testing: Concepts and Operations.
ISBN: 978-1-118-66287-8

Supplemental:
Personal Computer.

Student Evaluation

Tests 40% -2 Equally Weighted
Assignments 30%- 2 Equally Weighted
5 In-class activities 30%- Equally Weighted

Grade Scheme

The round off mathematical principle will be used. Percentages are converted to letter grades and grade points as follows:

Mark (%)	Grade	Grade Point	Mark (%)	Grade	Grade Point
94-100	A+	4.0	67-69	C+	2.3
87-93	A	3.7	63-66	C	2.0
80-86	A-	3.5	60-62	C-	1.7
77-79	B+	3.2	50-59	D	1.0
73-76	B	3.0	0-49	F	0.0
70-72	B-	2.7			

Prior Learning Assessment and Recognition

Students who wish to apply for prior learning assessment and recognition (PLAR) need to demonstrate

competency at a post-secondary level in all of the course learning requirements outlined above. Evidence of learning achievement for PLAR candidates includes:

- Not Applicable: Post graduate course.

Course Related Information

Instructors will evaluate the students with tests, activities and assignments, or any combination of these elements. Tests may be of any form including: fill in the blank, essay style, or multiple choice. Activities and assignments can be homework or in class exercises to be completed individually or in a team setting as per the instructors requirements. All couse work is to be completed according to the syllabus. Students should take careful notes as not all the material can be found in the textbook or handout material. Attendance is necessary to be successful.

College Related Information

Academic Integrity

Lambton College is committed to high ethical standards in all academic activities within the College, including research, reporting and learning assessment (e.g. tests, lab reports, essays).
The cornerstone of academic integrity and professional reputation is principled conduct. All scholastic and academic activity must be free of all forms of academic dishonesty, including copying, plagiarism and cheating.

Lambton College will not tolerate any academic dishonesty, a position reflected in Lambton College policy. Students should be familiar with the Students Rights and Responsibilities Policy, located on the MyLambton website. The policy states details concerning academic dishonesty and the penalties for dishonesty and unethical conduct.

Questions regarding this policy, or requests for additional clarification, should be directed to the Lambton College Centre for Academic Integrity

Students with Disabilities

If you are a student with a disability please identify your needs to the professor and/or the Accessibility Centre so that support services can be arranged for you. You can do this by making an appointment at the Accessibility Centre or by arranging a personal interview with the professor to discuss your needs.

Student Rights and Responsibility Policy

Acceptable behaviour in class is established by the instructor and is expected of all students. Any form of misbehaviour, harassment or violence will not be tolerated. Action will be taken as outlined in Lambton College policy.

Date of Withdrawal without Academic Penalty

Please consult the Academic Regulations and Registrar's published dates.

Waiver of Responsibility

Every attempt has been made to ensure the accuracy of this information as of the date of publication. The content may be modified, without notice, as deemed appropriate by the College.

Students should note policies may differ depending on the location of course offering. Please refer to campus location specific policies:

- Lambton College - Sarnia Campus: https://www.mylambton.ca/Policies/
- Lambton College - Non-Sarnia Study Locations: https://www.mylambton.ca/Lambton_in_GTA/Student_Policies/

Note: It is the student’s responsibility to retain course outlines for possible future use to support applications for transfer of credit to other educational institutions.