EXPANDED COURSE DESCRIPTION
ELECTRICAL ENGINEERING AND COMPUTER SCIENCE
Lassonde School of Engineering
Electrical Engineering Computer Science
LE / EECS 1022 3.0 SECTION M
PROGRAMMING FOR MOBILE COMPUTING
FALL 2018 / WINTER 2019

Last Modified Date: 08/20/2018

COURSE CALENDAR DESCRIPTION

Provides a first exposure to object-oriented programming and enhances student understanding of key computing skills such as reasoning about algorithms, designing user interfaces, and working with software tools. It uses problem-based approach to expose the underlying concepts and an experiential laboratory to implement them. A mature mobile software infrastructure (such as Java and the Android programming environment) is used to expose and provide context to the underlying ideas. Laboratory exercises expose students to a range of real-world problems with a view of motivating computational thinking and grounding the material covered in lectures. Prerequisite: LE/EECS 1012 3.00. Course credit exclusions: LE/EECS 1021 3.00, LE/EECS 1020 3.00 (prior to Fall 2014), SC/CSE 1020 3.00 (prior to Summer 2013), AP/ITEC 1620 3.00.

INSTRUCTOR(S)

<table>
<thead>
<tr>
<th>Name</th>
<th>Section / Format / Term</th>
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<tr>
<td>Roumani, Hamzeh</td>
<td>Sec. M / LECT / W</td>
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ADDITIONAL INFORMATION

This course provides a first exposure to object-oriented programming and enhances student understanding of key computing skills such as reasoning about algorithms, designing user interfaces, and working with software tools. It uses a problem-based approach to expose the underlying concepts and an experiential laboratory to implement them. A mature mobile software infrastructure (the Java programming language and the Android platform) is used to provide context to the underlying ideas. Laboratory exercises expose a range of real-world problems with a view of motivating computational thinking and grounding the material covered in lecture.

COURSE TOPICS

A. Object-Oriented Programming
   1. Primitive types and Expressions
   2. Classes and objects
   3. Control structures
   4. Strings and Regular Expressions
   5. Collections

B. Mobile Computing
   1. User interface elements and XML
   2. The MVC Design Pattern
   3. The Development Process
   4. Layouts, Themes, Activities, and Intents
   5. Event Handlers

COURSE LEARNING OUTCOMES
1. Demonstrate an understanding of the software development process within an object-oriented framework using a modern programming language and tool
2. Use a set of computing skills such as reasoning about algorithms, tracing programs, test-driven development, and diagnosing
3. Explain and apply fundamental constructs in event-driven programs, including variables and expressions, control structures, and API
4. Write simple programs using a given software infrastructure, API, and tool
5. Gain exposure to a comprehensive mobile computing
6. Gain exposure to user interface

REQUIRED TEXTBOOK

GRADING SCHEME
- 20% - Labs 1-5
- 16% - Test #1
- 16% - Test #2
- 16% - Test #3
- 16% - Test #4
- 16% - Test #5

WEEKLY SCHEDULE
1. The Development Environment
2. The Development Process
3. Separation of Concerns & MVC
4. Types, Assignment, and Expressions
5. Review
6. Object-Oriented Programming & APIs
7. Control Structures & Exceptions
8. The String API
9. Patterns & Regular Expressions
10. Collections I
11. Collection II & The Array Bridge
12. Review

ACADEMIC INTEGRITY LINKS
- Senate Policy on Academic Honesty - http://secretariat-policies.info.yorku.ca/policies/academic-honesty-senate-policy-on/
- Academic Integrity - http://lassonde.yorku.ca/academic-integrity

STUDENT LINKS
- Student Rights and Responsibilities - http://oscr.students.uit.yorku.ca/student-conduct
- Religious Observance - https://w2prod.sis.yorku.ca/Apps/WebObjects/cdm.woa/wa/regobs
- Counselling and Disability Services - http://cds.info.yorku.ca/
- York University’s Policies on Gender/LGBTQ*/Positive Space - http://rights.info.yorku.ca/lgbtq/

LAND ACKNOWLEDGEMENT
- We acknowledge our presence on the traditional territory of many Indigenous Nations. The area known as Tkaronto has been care taken by the Anishinabek Nation, the Haudenosaunee Confederacy, the Huron-Wendat, and the Métis. It is now home to many Indigenous Peoples. We acknowledge the current treaty holders, the Mississaugas of the New Credit First Nation. This territory is subject of the Dish With One
Spoon Wampum Belt Covenant, an agreement to peaceably share and care for the Great Lakes region.

- The Indigenous Framework for York University: A Guide to Action can be found here: http://indigenous.info.yorku.ca/
- Meaning of a land acknowledgement: http://healthydebate.ca/opinions/indigenous-land-acknowledgements

Many courses utilize Moodle, York University’s course website system. If your course is using Moodle, click here to access it.

Moodle @ York University