THE UNIVERSITY OF WINNIPEG

APPLIED COMPUTER SCIENCE

Course Number: ACS-1805-050; ACS-1805L-070
Course Name: **Introduction to Programming**

Instructor Information

Instructor: Leo H. Li
Office: 3C07
E-mail: l.li@uwinnipeg.ca
Office Hours: Wednesday 18:10 – 19:10 or by email appointment
Class Time: Monday, Wednesday 19:15 – 21:15
Room No.: 3D04
Lab Time: Lab 070: Tuesday 17:00 – 18:30 3D03
Course Web Page: http://courses.acs.uwinnipeg.ca/1805-050spring/

Important Dates

1. **First Class**: May 06, 2019
2. **Last Class**: July 03, 2019
3. **First Lab**: May 07, 2019
4. **Last Lab**: July 02, 2019
5. **Midterm Test**: June 5, 2019, in class
6. **Final Withdrawal Date w/o academic penalty**: June 18, 2019 (A minimum of 20% of the work on which the final grade is based will be evaluated and available to the student before the voluntary withdrawal date.)
7. **Final Exam**: July 4, 2019, 18:00 – 21:00 in room 3D04
   http://www.uwinnipeg.ca/exam-schedules/index.html
8. **No Class:** May 20, 2019 (Victoria Day); July 1, 2019 (Canada Day)

Course Objectives/Learning Outcomes

This course introduces fundamental programming concepts using App Inventor. Students learn to develop and test programs that can run on Android phones and tablets. The framework we use for this is the App Inventor visual programming environment. The App Inventor framework runs on Windows, Macintosh, and Linux computers and includes an emulator for an Android phone (and so an actual Android phone or tablet is not needed). Topics include Android app architecture, software engineering principles, variables, functions, decision structures, iteration, lists, procedures, databases, user interface, events, and sensors.

Evaluation Criteria

1. Labs (15%)

Eight labs will be given to the students. Lab 1 is 1%; lab 2 through lab 8 is 2% for each lab. Labs are expected to be completed during the Tuesday lab periods. Labs will involve App Inventor programming. The details of the submission procedure will be stated in each lab. Late submission will not be accepted. Lab work is submitted via email (to a lab demonstrator account given out at the first lab).

2. Assignments (10%)

Two assignments will be given to the students. Assignments are equally weighted. Late assignments will not be accepted. All assignments will be submitted through emails. The details of the submission procedure will be stated in each assignment. Problem-solving and programming assignments could be very time-consuming. So please start early. Students are responsible for maintaining backups of their work.

Should illness prevent you from participating in a lab or submitting an assignment on time, a medical certificate from a practicing physician may be required before any adjustments are considered. Students are responsible to review their assignments before submission to make sure the correct files are attached to the email.

3. Midterm Test (30%)

The midterm test is on Wednesday, June 5, 2019, during class time. No make-up test scheduled.

4. Final Exam (45%)

The final exam covers all material discussed in the course. Photo ID at the exam is required. No electronic devices (e.g. cell/smartphone, laptop, scientific calculators, translators, etc.) are permitted. Midterm and final exams are closed-book. Unless a medical certificate is provided, no accommodation is made for missed tests or final exam.

Final Letter Grade Assignment

Historically, numerical percentages have been converted to letter grades using the following scale. However, instructors can deviate from these values based on pedagogical nuances of a particular class, and final grades are subject to approval by the Department Review Committee.

A+	90+ - 100%	B	70 - 74%	F	below 50%
A	85 - 90%	C+	65 - 69%		
A-	80 - 84%	C	60 - 64%		
B+	75 - 79%	D	50 - 59%		

Email Communication

Emails from accounts at uwinnipeg.ca are usually not filtered by the U of W email filter. Thereby it is recommended electronic communication used for the course utilize a U of W email account to minimize the risk of filtering.

Services for Students

Students with documented disabilities, temporary or chronic medical conditions, requiring academic accommodations for tests/exams (e.g., private space) or during lectures/laboratories (e.g., note-takers) are encouraged to contact Accessibility Services (AS) at 786-9771 or accessibilityservices@uwinnipeg.ca to discuss appropriate options. All information about a

student's disability or medical condition remains confidential
http://www.uwinnipeg.ca/accessibility.

Students may choose not to attend classes or write examinations on holy days of their religion, but they must notify their instructors at least two weeks in advance. Instructors will then provide an opportunity for students to make up work examinations without penalty. A list of religious holidays can be found in the 2018-19 Undergraduate Academic Calendar.

All students, faculty, and staff have the right to participate, learn, and work in an environment that is free of harassment and discrimination. The UW Respectful Working and Learning Environment Policy may be found online at www.uwinnipeg.ca/respect.

Exam Requirements

Photo ID at exam is required. No electronic devices (e.g. cell/smart phone, laptop, scientific calculators, translators, etc.) are permitted.

Required Text

App Inventor: Create your own Android Apps, David Wolber, Hal Abelson, Ellen Spertus, Liz Looney, ISBN 13: 978-1491906842.

Students are also responsible for the contents covered during the class that is out of the textbook.

The course web page is http://www.acs.uwinnipeg.ca/1805-050/.

Prerequisite Information

(This information can be found in the UW Undergraduate Academic Calendar)
None.

Misuse of Computer Facilities, Plagiarism, and Cheating

Academic dishonesty is a very serious offense and will be dealt with in accordance with the University's policies. Be sure that you have read and understood Regulations & Policies #8, in the 2018-2019 UW Undergraduate Academic Calendar available at http://uwinnipeg.ca/academics/calendar/docs/regulationsandpolicies.pdf and the UW academic misconduct policy available at http://pace.uwinnipegcourses.ca/sites/default/files/pdfs/publications/Academic%20Misconduct%20Policy.pdf

Avoiding Academic Misconduct. Uploading essays and other assignments to essay vendor or trader sites (filesharing sites that are known providers of essays for use by others who submit them to instructors as their own work) involves "aiding and abetting" plagiarism. Students who do this can be charged with Academic Misconduct.

Avoiding Copyright Violation. Course materials are owned by the instructor who developed them. Examples of such materials are course outlines, assignment descriptions, lecture notes, test questions, and presentation slides. Students who upload these materials to file sharing sites, or in any other way share these materials with others outside the class without prior permission of the instructor/presenter, are in violation of copyright law and University policy. Students must also seek prior permission of the instructor /presenter before photographing or recording slides, presentations, lectures, and notes on the board.

Additional information is available at the University of Winnipeg library video tutorial "Avoiding Plagiarism" https://www.youtube.com/watch?v=UvFdxRU9a8g

Additional Course Related Information

1. When it is necessary to cancel a class due to exceptional circumstances, instructors will make every effort to inform you via uwinnipeg email, as well as the departmental assistant and Chair/Dean so that class cancellation forms can be posted outside classrooms.

2. Your uwinnipeg email address will normally be used for course-related correspondence.

3. Please note that withdrawing before the VW date does not necessarily result in a fee refund.

4. No make-up classes scheduled.

5. No Class: May 20, 2019 (Victoria Day); July 1, 2019 (Canada Day)

Topics to be covered (tentative)

Chapters 1 through 13 are tutorials for programming. Chapters 14 through 24 cover more general topics including app architecture and programming concepts.

- Chapter 01 Hello Purr
- Chapter 02 Paint Pot
- Chapter 03 Mole Mash
- Chapter 04 No Texting While Driving
- Chapter 05 Ladybug Chase
- Chapter 06 Paris Map Tour
- Chapter 08 Presidents Quiz
- Chapter 09 Xylophone
- Chapter 10 MakeQuiz and TakeQuiz
- Chapter 11 Broadcast Hub
- Chapter 12 Robot Remote
- Chapter 13 Amazon at the Bookstore
- Chapter 14 Understanding an App's Architecture
- Chapter 15 Engineering and Debugging an App
- Chapter 16 Programming your app's memory
- Chapter 17 Creating animated apps
- Chapter 18 Programming Your App to Make Decisions: Conditional Blocks
- Chapter 19 Programming Lists of Data
- Chapter 20 Repeating Blocks
- Chapter 21 Defining Procedures and Reusing Blocks
- Chapter 22 Working with Database
- Chapter 23 Reading and Responding to Sensors
- Chapter 24 Communicating with the Web