THE UNIVERSITY OF WINNIPEG

APPLIED COMPUTER SCIENCE

Course Number: ACS-1805-760; ACS-1805L-090; ACS-1805L-091
Course Name: **Introduction to Programming**

Instructor Information

Instructor: Leo H. Li
Office hour: Wednesday 12:00 – 13:00 (Zoom ID and Passcode will be posted on Nexus) or by appointment
E-mail: l.li@uwinnipeg.ca

Office Hours: by email appointment only
Class Time: Weekly on-demand
Room No.: Nexus online
Lab Time: Lab 090: Monday 17:00 – 18:30 (online Zoom live section)
Lab 091: Wednesday 17:00 – 18:30 (online Zoom live section)
Course Web Page: https://nexus.uwinnipeg.ca/d2l/login

Important Dates

1. **First Class**: May 04, 2020
2. **Last Class**: June 30, 2020
3. **First Lab**: 090 – May 04, 2020; 091 – May 06, 2020
4. **Last Lab**: 090 – June 29, 2020; 091 – June 24, 2020
5. **Term Test**: Test 1 - May 23, 2020 09:00 – 10:30 (online)
   Test 2 - June 13, 2020 09:00 – 10:30 (online)
6. **Final Withdrawal Date w/o academic penalty**: June 16, 2020 (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 3, 2020 18:00 – 21:00 (online)
8. **No Class:** May 18, 2020 (Victoria 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 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 the University of Winnipeg Nexus.

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 the University of Winnipeg Nexus. 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 submitted.

3. Term Test (40%)

Two close book online term tests are scheduled on May 22 and June 12. No make-up test scheduled.

4. Final Exam (35%)

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

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 holidays 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 2019-20 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

A photo ID at the exam is required. No electronic devices (e.g. cell/smartphone, 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 https://nexus.uwinnipeg.ca/d2l/login.

Prerequisite Information

(This information can be found in the UW Undergraduate Academic Calendar)
ACS-1805L (lab) must be taken concurrently.

Misuse of Computer Facilities, Plagiarism, and Cheating

Academic dishonesty is a very serious offense and will be dealt in accordance with the University's policies.

Avoiding Academic Misconduct and Non-academic Misconduct. Students are encouraged to familiarize themselves with the Academic Regulations and Policies found in the University Academic Calendar at: https://uwinnipeg.ca/academics/calendar/docs/regulationsandpolicies.pdf Particular attention should be given to subsections 8 (Student Discipline), 9 (Senate Appeals) and 10 (Grade Appeals). Please note, in particular, the subsection of Student Discipline pertaining to plagiarism and other forms of cheating.

Detailed information can be found at the following:

- Academic Misconduct Policy and Procedures: https://www.uwinnipeg.ca/institutional-analysis/docs/policies/academic-misconduct-policy.pdf and https://www.uwinnipeg.ca/institutional-analysis/docs/policies/academic-misconduct-procedures.pdf
- Non-Academic Misconduct Policy and Procedures: https://www.uwinnipeg.ca/institutional-analysis/docs/student-non-academic-misconduct-policy.pdf and https://www.uwinnipeg.ca/institutional-analysis/docs/student-non-academic-misconduct-procedures.pdf

Misuse of Filesharing Sites. 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 filesharing 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 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 the 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 18, 2020 (Victoria 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