



# THE UNIVERSITY OF WINNIPEG

## APPLIED COMPUTER SCIENCE

**Course Number:** ACS-1805-050, ACS-1805-070L, ACS-1805-071L

**Course Name:** Introduction to Programming

**Course Web Page:** <https://nexus.uwinnipeg.ca/d2l/home/47382>

### Instructor Information

**Instructor:** Philemon Pak

**E-mail:** [p.pak@uwinnipeg.ca](mailto:p.pak@uwinnipeg.ca)

**Office Hours:** Thursday: 10:00 – 11:00 Via Zoom (Zoom meeting link will be posted on Nexus)

**Classroom:** 3D01

**Class Meeting Time:** Monday: 18:00 – 21:00

**Lab Meeting Time:** Friday: 8:30 – 9:45 070L – 3D03

Friday: 9:45 – 11:00 071L – 3D03

**Note:** All class time, labs time and office hours will be posted in the Nexus course calendar.

### Important Dates

First Class: September 12, 2022

First Lab: September 16, 2022

Reading Break: October 9 – October 16, 2022 (No Classes)

Midterm Test: October 17, 2022

Final Withdrawal Date w/o academic penalty: November 16, 2022

(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)

Last Class: December 5, 2022

Last Lab: December 2, 2022

Final Exam: **TBD**

University closures: Truth and Reconciliation Day September 30, 2022

Thanksgiving Day October 10, 2022

Remembrance Day November 11, 2022

## **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 For ACS-1805 Students**

### ***Assignments: 15%***

- There will be 3 assignments. Each assignment will be worth 5% making the total to be 15% of the overall course final grade.
- Due at 11:59:59 pm on the assignment indicated due date.
- No late or handwritten assignment will be accepted. Only under special circumstances e.g., medical, death in a family, etc., and subject to approval before late assignment will be accepted with a 20% penalty off for each late day.
- Assignments and labs are to be submitted through Nexus. All coding is to be submitted in \*.aia format, and any written work in pdf format. Further details and submission procedures will be stated in each lab/assignment.
- When submitting your assignment files, please name the file with your name, student ID and the assignment number, e.g., *John Doe – 12345 – Assignment 1*. So, for PDF file it should be *John Doe – 12345 – Assignment 1.pdf* or a Zip file it should be *John Doe – 12345 – Assignment 1.zip*.
- Assignments that do not meet all the requirements, including those for the submissions, may not be accepted or a portion of the marks will be deducted. Marks will be deducted for not following the file submission format, file naming format and instruction in the assignment.
- **Problem solving assignments could be very time consuming.** So please start early. Students are responsible for maintaining backups of their work. Students are responsible to review their assignments before submission to make sure the correct files are submitted. All assignments are to be completed individually.
- Multiple submissions are permitted but will only be accepting the last submission as official final and be marked. Students may submit a partially completed assignment and will receive credit for those attempted problems. Students are responsible for backing up and protecting their assignment work.

**Labs: 10%** (ACS-1805L (lab) must be taken concurrently)

- Nine (9) labs, with eight of them worth 1% each and one of them worth 2%
- Labs are to be completed during the lab period and submitted to Nexus no later than 11:59:59 pm on that day.
- No late lab submissions will be accepted

**Midterm Exam: 25%**

- During regular class time.

**Final Exam: 50%**

- The final exam covers all material discussed in the course.

**Note:** Students should contact the instructor as soon as possible if extenuating circumstances require missing an assignment, test, or examination. A medical certificate from a practicing physician may be required before any adjustments are considered.

**Required Textbook(s)/Reading List**

**App Inventor 2: Create your own Android Apps**

Second Edition

David Wolber, Hal Abelson, Ellen Spertus, Liz Looney

ISBN 13: 978-1491906842.

There may be additional reading materials that will be provided in class.

Class notes and notices will be posted on the course website. Students are responsible for material covered in class and announcements made in class.

**Course Material 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

Note that all topics listed may not be covered and may be offered in a slightly different time order.

*A permitted or necessary change in mode of delivery may require adjustments to important aspects of course outlines, like class schedule and the number, nature, and weighting of assignments and/or exams.*

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

### **Test/Exam Requirements**

- Photo ID is required for the midterm test and final exam.
- The use of computers, calculators, phones, or other electronic devices is not permitted during exams.
- Midterm and final exams are closed book.

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 204-786-9771 or [accessibilityservices@uwinnipeg.ca](mailto:accessibilityservices@uwinnipeg.ca) to discuss appropriate options. All information about a student’s disability or medical condition remains confidential.

<https://www.uwinnipeg.ca/accessibility-services>.

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 opportunity for students to make up work examinations without penalty. A list of religious holidays can be found in the 2020-21 Undergraduate Academic Calendar online at <http://uwinnipeg.ca/academics/calendar/docs/important-notes.pdf>

### **Prerequisite and Restriction Information\***

(This information can be found in the UW General calendar)

None.

### **Course Requisite**

ACS-1805L (lab) must be taken concurrently.

Students are expected to be capable of perform basic computer operations (understand and manipulate folders, copy/paste files/contents, etc.) and using the Internet (especially using web browser).

### **Student Wellness**

The University of Winnipeg affirms the importance of student mental health and our commitment to providing accessible, culturally appropriate, and effective services for students. Students who are seeking mental health supports are encouraged to reach out to the Wellness Centre at [studentwellness@uwinnipeg.ca](mailto:studentwellness@uwinnipeg.ca) or 204.988.7611. For community-based mental health resources and supports, students are encouraged to dial 2-1-1. This program of United Way is available 24/7 in 150 languages.

### **Regulations, Policies, and Academic Integrity**

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

*Avoiding 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>
- UW Library video tutorial “Avoiding Plagiarism” <https://www.youtube.com/watch?v=UvFdxRU9a8g>

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.

*Non-academic misconduct.* Students are expected to conduct themselves in a respectful manner on campus and in the learning environment irrespective of platform being used. Behaviour, communication, or acts that are inconsistent with a number of UW policies could be considered “non-academic” misconduct. More detailed information can be found here:

- Respectful Working and Learning Environment Policy <https://www.uwinnipeg.ca/respect/respect-policy.html>,
- Acceptable Use of Information Technology Policy <https://www.uwinnipeg.ca/institutional-analysis/docs/policies/acceptable-use-of-information-technology-policy.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>.

*Copyright and Intellectual Property.* Course materials are the property of the instructor who developed them. Examples of such materials are course outlines, assignment descriptions, lecture notes, test questions, and presentation slides—irrespective of format. 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, for example, photographing, recording, or taking screenshots of slides, presentations, lectures, and notes on the board. Students found to be in violation of an instructor’s intellectual property rights could face serious consequences pursuant to the Academic Misconduct or Non-Academic Misconduct Policy; such consequences could possibly involve legal sanction under the Copyright Policy [https://copyright.uwinnipeg.ca/docs/copyright\\_policy\\_2017.pdf](https://copyright.uwinnipeg.ca/docs/copyright_policy_2017.pdf)

## **Privacy**

Students have rights in relation of the collecting of personal data the University of Winnipeg: <https://www.uwinnipeg.ca/privacy/admissions-privacy-notice.html>.

More information:

- Zoom and Privacy: <https://www.uwinnipeg.ca/privacy/zoom-privacy-notice.html>
- Testing/Proctoring: <https://www.uwinnipeg.ca/privacy/zoom-test-and-exam-proctoring.html>.

## **Email Communication Requirements, Class Cancellation, Correspondence from and with Students and Withdrawing from Course**

Emails from accounts at uwinnipeg.ca are usually not filtered by the UofW email filter. Thereby it is strongly recommended electronic communication used for the course utilize a UofW email account to minimize the risk of filtering. The use of an external email address maybe blocked and filtered by the anti-spam system, e.g., Gmail.

When emailing the instructor, you are to use the **UofW Webmail system**, i.e., *webmail.uwinnipeg.ca* to communicate with the instructor. **Do not** use the Nexus email system, i.e., *mail.nexus.uwinnipeg.ca*, Nexus mailbox are not monitored on a regular basis.

The email sent to the instructor must include your full name, your student #, and the COURSE # and SECTION # (like ACS-1809-001) in the subject line of your email. A respectful manner is also expected in the email communications.

When it is necessary to cancel a class due to exceptional circumstances, the course instructor will make every effort to inform students via UofWinnipeg Webmail system.

Students are reminded that they have a responsibility to regularly check their uwinnipeg e-mail addresses to ensure timely receipt of correspondence from the University and/or the course instructor.

Please let course instructor know if you plan on withdrawing from the course. Note that withdrawing before the VW date does not necessarily result in a fee refund.