



# THE UNIVERSITY OF WINNIPEG

## APPLIED COMPUTER SCIENCE

Course Number: ACS-1904-051, 074L, 075L  
Course Name: Programming Fundamentals II  
Course Webpage: <https://nexus.uwinnipeg.ca/d2l/home/50938>

### Instructor Information

**Instructor:** Jesse Harder  
**E-mail:** [je.harder@uwinnipeg.ca](mailto:je.harder@uwinnipeg.ca)  
**Office Hours:** Mondays 5:00 pm - 6:00 pm 3C07  
**Class meeting time:** Mondays 6:00 pm - 9:00 pm 2M73  
**Lab time:** 074L Fridays 1:30 pm - 2:45 pm 3D03  
075L Fridays 2:45 pm - 4:00 pm 3D03

### Important Dates

1. First Class: Monday, January 09, 2023
2. First Lab: Friday, January 13, 2023
3. Reading Week (no classes): February 19 – 25, 2023
4. Midterm Test: Monday, February 27, 2023
5. Final Withdrawal Date w/o academic penalty\*: Tuesday, March 14, 2023
6. Last Class: Monday, April 03, 2023
7. Last Lab: Friday, March 31, 2023
8. Final Exam (Comprehensive): TBD
9. University Closures (no classes or labs):
  - a. Louis Riel Day: Monday, February 20, 2023
  - b. Good Friday: Friday, April 07, 2023

\*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.

### Course Objectives / Learning Outcomes

This course examines more advanced programming concepts using the Java object-oriented programming language. Topics to be covered include major concepts of object-oriented design, inheritance, polymorphism, string/text processing, wrapper classes, searching and sorting algorithms, recursive programming, exceptions, and advanced file I/O among others.

### **Evaluation Criteria**

1. Labs (10%)
  - Eleven weekly labs, worth 1% each
  - Each lab is due at midnight on the day of the lab
  - No late lab submissions will be accepted
  - Best ten lab grades out of eleven will be taken
2. Assignments (15%)
  - Three assignments, worth 5% each
  - Individual due dates will be posted on Nexus
  - No late assignment submissions will be accepted
3. Midterm Test (25%)
  - During the regular class time (see Important Dates)
4. Final Exam (50%)
  - Cumulative
  - Date and location to be announced

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

### **Course Delivery**

The lectures and the labs will be delivered in person on campus. All course material including lecture notes, slides and assignment/lab details will be available on Nexus.

All labs and assignments are to be submitted electronically via Nexus, no other submission methods will be accepted. Assignments and labs may include programming questions, as well as theory. All coding is to be submitted in \*.java format, and any written work in \*.pdf format. Further details and submission procedures will be stated in each lab/assignment. Students are responsible for backing up and protecting their lab and assignment work.

## **Test / Exam Requirements**

- Photo ID is required for the exam and midterm.
- 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 2019-20 Undergraduate Academic Calendar online at <http://uwinnipeg.ca/academics/calendar/docs/important-notes.pdf>

## **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+	75 – 79%	C	60 – 64%
A	85 – 89 %	B	70 – 74%	D	50 – 59%
A-	80 – 84%	C+	65 – 69%	F	below 50%

## **Required Text Book / Reading List**

- Java with BlueJ Part 2  
Ron McFadyen  
University of Winnipeg, March 2016  
- Available at [www.acs.uwinnipeg.ca/rmcfadyen/CreativeCommons](http://www.acs.uwinnipeg.ca/rmcfadyen/CreativeCommons)
- Class notes will be available on Nexus

## **Recommended Text Books**

- Building Java Programs  
Reges & Stepp  
Pearson, 4<sup>th</sup> Edition 2017  
ISBN 978-0-13-432276-6
- Starting out with Java – From Control Structures through Objects  
Tony Gaddis  
Pearson, 7<sup>th</sup> Edition 2018  
ISBN 978-0-13-480221-3
- Starting out with Java – From Control Structures through Data Structures  
Tony Gaddis, Godfrey Muganda  
Pearson, 4<sup>th</sup> Edition 2019  
ISBN 978-0-13-478796-1

## **Prerequisite Information**

- Requisite courses: ACS-1903 with a minimum grade of C
- ACS-1904L (lab) must be taken concurrently

## **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>.

## **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

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

When it is necessary to cancel a class due to exceptional circumstances, the course instructor will make every effort to inform students via uwinnipeg email and Nexus.

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.

## **Topics to be covered (tentative)**

1. Arrays
2. Text Processing
3. Enumeration
4. Inheritance
5. Classes and Object Orientation
6. Files and I/O
7. Exception Handling
8. Recursion
9. Sorting and Searching Algorithms

*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.*