



# THE UNIVERSITY OF WINNIPEG

## APPLIED COMPUTER SCIENCE

Course Number: ACS-1904-518, 517, 076L, 077L  
Course Name: Programming Fundamentals II  
Course Webpage: <https://nexus.uwinnipeg.ca/d2l/home/49988>

### Instructor Information

**Instructor:** Rob Sveinson  
**E-mail:** r.sveinson@uwinnipeg.ca  
**Office Hours:** Fridays 11:30 am-12:30 pm 1W10

**Class meeting time:** Mondays/Wednesdays 1:00-2:15 pm 1W07

**Lab time:** L-076 Fridays 1:00-2:15 pm 1W07  
L-077 Fridays 1:00-2:15 pm 1W07

### Important Dates

1. First Class: Wednesday, January 4, 2023
2. First Lab: Friday, January 13, 2023
3. Midterm Exam: Wednesday, February 15, 2023
4. Reading Week (no classes): February 19-25, 2023
5. Final Withdrawal Date w/o academic penalty\*: Tuesday, March 14, 2023
6. Last Class: Monday, April 3, 2023
7. Last Lab: Friday, March 31, 2023
8. Final Exam (Comprehensive): *TBD*
9. University closures: Louis Riel Day Monday, February 20, 2023  
Good Friday Friday, April 7, 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, enumerated classes, searching and sorting algorithms, recursive programming, exceptions, and advanced file I/O among others.

## **Evaluation Criteria**

1. Labs (10%)
  - Highest 10 marks, worth 1% each
  - Labs are to be completed during the Friday lab period
  - No late lab submissions will be accepted
  
2. Assignments (15%)
  - 3 assignments, evenly weighted
  - All assignments are to be completed individually.
  - Individual due dates will be posted on Nexus
  - Assignments will be accepted up to 1 day late with a 20% penalty

### Course IDE:

BlueJ will be used during classes, and it is the IDE used in the course textbook. BlueJ is free to download to your own computing environments (see <http://www.bluej.org>). Other IDEs are available (Netbeans, IntelliJ, Eclipse) and may be used with the instructor's permission.

### Lab/assignment submissions:

All work is to be submitted electronically via Nexus. All coding is to be submitted in .java format, and any written work is in PDF format. Further details and submission procedure will be stated in each assignment.

Students are responsible for backing up and protecting their lab and assignment work.

3. Midterm Exam (25%)
  - During the regular class time (see Important Dates)
  
4. Final Exam (50%)
  - Cumulative

*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**

- Exams will be delivered in person.
- A photo ID is required for the 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 an opportunity for students to make up work or 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 the 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 Textbook / Reading List**

- Ron McFadyen, *Java with BlueJ Part 2*, University of Winnipeg, 2016.
  - Available at [www.acs.uwinnipeg.ca/rmcfadyen/CreativeCommons](http://www.acs.uwinnipeg.ca/rmcfadyen/CreativeCommons)
  - Be sure to download the sample programs, and sample solutions to exercises along with the textbook
- Class Notes will be available on Nexus

### **Prerequisite Information**

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

### **Email Communication**

When contacting the instructor use only the instructor's uwinnipeg.ca email account. Do not use the Nexus email system to communicate.

### **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 support 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 support, 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 offence and will be dealt with 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 the 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>.

## **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 the 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
  - a) 1 and 2 dimensions
- 2) Text manipulation
- 3) Enumeration Classes (Enums)
- 4) Inheritance
- 5) Interfaces
- 6) Advanced file I/O
- 7) Exception handling
- 8) Recursion
- 9) Sorting and Searching

Extra topics as time permits.

*Note: A permitted or necessary change in the 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.*