THE UNIVERSITY OF WINNIPEG

APPLIED COMPUTER SCIENCE

Course Number - ACS-1904-001
Course Name – Programming Fundamentals II

Instructor Information
Instructor: **Prof. Sergio G. Camorlinga**   **Office:** 3D29
E-mail: **s.camorlinga@uwinnipeg.ca**   **Office Hours**: Weds 4:00 pm - 5:00 p.m.
                                                                                                           or by email appointment

Class Meeting Time: Mon, Wed @ 2:30 pm – 3:45 pm   **Room No:** 3D01
Lab Meeting Time (with lab assistant): Fridays 9:45 am – 11:00 am @ room 3C13 or
                                                                           12:15 pm - 1:30 pm @ room 3D03
Course Web Page: https://courses.acs.uwinnipeg.ca/1904-001
Instructor's Home Page: https://www.acs.uwinnipeg.ca/scamorlinga

Important Dates
First Class: Sep 5th, 2018
First Lab: Sept 14th, 2018
Reading Week (no classes)   Oct 7th – Oct 13th, 2018
Midterm Exam: Oct 22nd, 2018
Final Withdrawal Date w/o academic penalty: Nov 12th, 2018
(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 Lab: Nov 30th, 2018
Last Class: Dec 3rd, 2018
Final Exam: Dec 19th,2018 @ 9 am – noon

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

- Labs: 10%
  - There are 11 labs
  - The best 10 of 11 labs are taken into account
  - Each selected lab is worth 1%
  - Labs are completed during the Friday lab period.
  - Lab work and assignments are submitted via email to the lab assistant email according to your lab registration, either at
    - 1904L-070@acs.uwinnipeg.ca (9:45 am – 11:00 am), or
    - 1904L-071@acs.uwinnipeg.ca (12:15 pm - 1:30 pm)
  - Lab report + code due date is the same date of the lab @ 11:59:59 pm. <u>No late labs will be accepted after this time</u>.
  - Lab reports are only submitted as pdf files and code as *.java files

- Assignments: 10%
  - All assignments are to be completed <u>individually</u>
  - There will be 4 assignments worth 2.5% each
    - May include theory, programming and/or analysis exercises
  - Due at 11:59:59 pm on due dates
  - No late assignment will be accepted, or under special circumstances accepted with 20% off for each late day
  - Assignments reports are only submitted by email as PDF (Portable Document Format) files and code as *.java files. The details of submission procedure will be stated in each assignment. See emails to submit in Labs section above.
  - Multiple submissions are not permitted. Students may submit a partially completed assignment, and will receive credit for those attempted problems
  - Combination of functionality, quality of design, programming style and documentations are considered for programming assignments
  - Problem solving and programming assignments are time consuming. <u>Start early.</u> Students are <u>responsible for maintaining backups of their work</u>
  - Students are responsible to review their assignments before submission to make sure the correct files are attached to the email

- Midterm Exam: 25%
  - The midterm test is during class time

- Final Exam: 50%
  - The final exam covers all material discussed in the course

- Class attendance: 5%
  - Criteria for points per class:
    - one class attendance = 1 point
    - no attendance = 0 point
  - 22 points or more gives the 5% maximum for this item. Less points are prorated e.g. 14 points achieved = 3.18% (14 / 22 * 5%)

Exam Requirements
- Photo ID at exam is required.
- You are expected to write the test/exam on its given day.
- No electronic devices (e.g. cell/smart phone, 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 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+	75 - 79%	C	60 - 64%
A	85 - 90%	B	70 - 74%	D	50 - 59%
A-	80 - 84%	C+	65 - 69%	F	below 50%

Prerequisite and Restriction Information[*]
(This information can be found in the UW Undergraduate Academic Calendar)

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

Email Communication
Emails from accounts at uwinnipeg.ca are usually not filtered by the UofW email filter. Thereby it is recommended electronic communication used for the course utilize a UofW 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 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 .

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

Text Book(s) / Reading List / Tools

We will use the following books as guide, supplemented with readings throughout the course:

- Java with BlueJ Part 2
  Ron McFadyen
  University of Winnipeg, March 2016
  Available at www.acs.uwinnipeg.ca/rmcfadyen/CreativeCommons

- Building Java Programs
  Reges & Stepp
  Pearson, 4th Edition 2017
  ISBN 978-0-13-432276-6

- Starting out with Java – From Control Structures through Objects
  Tony Gaddis
  Pearson, 6th Edition 2016
  ISBN 978-0-13-395705-1

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

There are different IDEs you can use to program and test Java. We are going to use the following Java IDE software for our class:

- Eclipse IDE for Java Developers, Photon R Package
  Available at http://www.eclipse.org/downloads/packages/release/photon/r

Java Development Kit to use for programming tasks
- Java Standard Edition Development Kit 8 or later (current version is JDK v8u181) at
  http://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html

- Java SE Development Kit 10 or later (current version is JDK 10.0.2) at
  http://www.oracle.com/technetwork/java/javase/downloads/jdk10-downloads-4416644.html

Topics to be covered (Tentative)

1. Arrays (1 and 2 Dimensions)
2. Objects and classes (more advanced topics)
3. Text processor and Wrapper classes
4. Inheritance
5. Exception and advanced file I/O
6. Recursion
7. Sorting, searching and algorithm analysis
8. Advanced topics (databases, GUI apps)

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

Book chapters per topic table

	Gaddis' book	Ron's book	Reges' book
1.Arrays (1 & 2 Dimensions)	Ch 7	Ch 1,2	Ch 7
2.Objects and classes (more advanced topics)	Ch 8	Ch 4	Ch 8
3.Text processor and Wrapper classes	Ch 9	Ch 3	Ch 10,11
4. Inheritance	Ch 10	Ch 5,6	Ch 9
5. Exception and advanced file I/O	Ch 11	Ch 7,8	Ch 6
6. Recursion	Ch 16	Ch 9	Ch 12
7.Sorting, searching and algorithm analysis		Ch 10	Ch 13
8. GUI apps with JavaFX and Scene builder	Ch 15		
9. Databases	Ch 17		

Additional Course Related Information

1. When it is necessary to cancel a class due to exceptional circumstances, instructors will make every effort to inform students via uwinnipeg email (and/or using the preferred form of communication, as designated in this outline), as well as the Departmental Assistant and Chair/Dean so that class cancellation forms can be posted outside classrooms

2. Students are reminded that they have a responsibility to regularly check their uwinnipeg e-mail addresses (and/or using the preferred form of communication, as designated in this outline) to ensure timely receipt of correspondence from the university and/or their course instructors

3. Please note that withdrawing before the VW date does not necessarily result in a fee refund (November 12 is VW date for classes that begin in September and end in December).

4. No make-up classes scheduled

5. No classes:
    October 8, 2018 Thanksgiving
    October 7-13, 2018 Mid-term reading week
    November 11, 2018 Remembrance Day
    Dec 22/18-Jan 2/19 University closed