CS 1027B: Computer Science Fundamentals II
Winter 2022
Course Outline

1. Course Information

Lecture Schedule

Section 001 (LEC) *Prof. Sarlo*	Tuesdays 9:30am to 11:30am Thursdays 9:30am to 10:30am	NCB-113
Section 002 (LEC) *Prof. Morey*	Tuesdays 12:30pm to 2:30pm Thursdays 12:30pm to 1:30pm	SEB-2200
Section 003 (LEC) *Prof. Solis-Oba*	Tuesdays 3:30pm to 5:30pm Thursdays 3:30pm to 4:30pm	WSC-55

Lab Schedule
This term there are 33 lab sections. Check Western's Academic Time Table 2021/2022 to see times and locations for these sections.

List of Prerequisites
CS 1025A/B or CS 1026A/B (ES 1036A/B engineering students), with a mark of at least 65% in either. You cannot do either course concurrently with this course.

Unless you have either the requisites for this course or written special permission from your Dean to enroll in it, you may be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites.

2. Instructor Information

Instructors	Email	Office	Office Hours*
Bryan Sarlo (Course Coordinator)	bsarlo@uwo.ca	MC 361	TBD
Jim Morey	jmorey2@uwo.ca	MC 362	TBD
Roberto Solis-Oba	rsolisob@uwo.ca	MC417	TBD

Students must use their Western (@uwo.ca) email addresses when contacting their instructors or TAs. Include the course code (CS1027) in the subject line of emails you send regarding this course.

*Office hours will be held on Zoom unless announced otherwise.

3. Course Syllabus, Schedule, Delivery Mode

Course Description
A continuation for both Computer Science 1025A/B and Computer Science 1026A/B. We will study data organization and manipulation, object-oriented principles, abstract data types and their implementations in Java, lists, stacks, queues, trees, recursion, file and memory organization.

Course Learning Outcomes
- Program in an object-oriented language, namely Java
- Create classes and use inheritance for creating sub-classes
- Identify and implement arrays and linked data structures
- Implement and use abstract data types, i.e. stacks, queues, lists, and trees
- Debug code and use exceptions to handle bugs gracefully
- Identify the different parts of memory during the execution of a Java program
- Program algorithms from pseudo-code

Lecture Topics
- Object-Oriented Programming
- Encapsulation, inheritance, abstraction, polymorphism
- Exceptions and Debugging
- I/O and Memory Allocation
- Collections and Generics
- Arrays
- Linked Data Structures
- Stacks
- Queues
- Lists
- Recursion
- Memory Management
- Trees
- Sorting

Key Sessional Dates:
    Classes begin: January 10, 2022
    Reading Week: February 19–27, 2022
    Classes end: April 8, 2022

Lab Schedule

Lab #	Week
Lab 1	Jan. 17 – 21
Lab 2	Jan. 24 – 28
Lab 3	Jan. 31 – Feb. 4
Lab 4	Feb. 7 – 11
Lab 5	Feb. 14 – 18
Lab 6	Feb. 28 – Mar. 4
Lab 7	Mar. 7 – 11
Lab 8	Mar. 14 – 18
Lab 9	Mar. 21 – 25
Lab 10	Mar. 28 – Apr. 1

Delivery Mode

Currently it has been planed that classes will be asynchronous online until January 31. Course material will be posted in OWL and you are encouraged to review it weekly, so that you do not fall behind. After January 31 classes will move to in-person. In the event of a COVID-19 resurgence during the course that necessitates the course delivery moving again away from face-to-face interaction, all remaining course content will be delivered entirely online asynchronously (e.g., posted on OWL for students to view at their convenience). The grading scheme will **not** change. Any remaining assessments will also be conducted online as determined by the course instructor.

Classroom Mask Policy

Students will be expected to wear triple layer non-medical masks at all times in the classroom as per Western policy and public health directives. Students who are unable to wear a mask for medical or religious reasons must seek formal accommodation through Accessible Education at aew@uwo.ca.

Students are expected not to eat or drink while in class to ensure masks stay in place. Students will be able to eat and drink outside of the classroom during scheduled breaks.

Students unwilling to wear a mask as stipulated by Western policy and public health directives will be referred to the Department, and such actions will be considered a violation of the student Code of Conduct.

4. Course Materials

There is a required online textbook (ZyBooks) which includes interactive diagrams, examples, and quiz questions along with written text. 5% of your overall course grade will come from the completion of the activities in the ZyBooks.

Note that if you took this course previously and subscribed to the ZyBooks at that time, you do not have to pay again! You have to email support@zybooks.com and let them know that you previously paid and want to subscribe to the new textbook that has the code: UWOCOMPSCI1027ABWinter2022.

For everyone else who hasn't previously subscribed to the ZyBooks for CS1027, please follow these steps:
1. Sign in or create an account at http://learn.zybooks.com
2. Enter zyBook code: UWOCOMPSCI1027ABWinter2022
3. Subscribe

Students are responsible for checking the course OWL site (http://owl.uwo.ca) on a regular basis for news and updates. This is the primary method by which information will be disseminated to all students in the class. The OWL site for this course is labelled "COMPSCI 1027B 001 FW21" regardless of which section you are in. The three sections share the same OWL site.

If students need assistance with the course OWL site, they can seek support on the OWL Help page. Alternatively, they can contact the Western Technology Services Helpdesk. They can be contacted by phone at 519-661-3800 or ext. 83800.

Technical Requirements

You are required to have a modern laptop or desktop computer that can run an up-to-date version of Java and an IDE such as Eclipse. You must also have a reliable internet connection.

Office Hours are going to be held on Zoom, so it is recommended that you have a working microphone and webcam to join the office hours when you have a question.

5. Methods of Evaluation

The overall course grade will be calculated as listed below:

Assignments (4 at 8% each)	32%
Labs (10 at 1% each)	10%
Midterm Test	16%
Final Exam	37%
ZyBooks Work	5%

Assignments

There are four assignments that require you to apply the topics you learned from the lectures and/or labs and to implement Java programs.

All assignments are due via Gradescope at 11:55pm on the due date unless stated otherwise. If an assignment has to be cancelled by the instructors for any reason, the remaining assignments will be re-weighted to add up to 32%.

Late Policy on Assignments

10% penalty per day up to 2 days late. Assignments will not be accepted more than 2 days after the due date and will be graded as 0. If you are ill or have another valid reason to not be able to complete an assignment by the due date, you must obtain accommodations from your academic counsellor or you must submit a self-reported absence (SRA). A self-reported absence will give you an extension of 48 hours to complete the assignment.

Re-submissions are allowed but note that re-submissions after the deadline will be penalized for being late, regardless of when the initial submission was made.

Assignments will be submitted through Gradescope (not OWL) unless otherwise stated. You have free access to Gradescope as a Western student. Steps to submit on Gradescope will be explained in more detail closer to the deadline of the first assignment.

A portion of each assignment's grade will come from auto-graded tests and the rest will come from programming style, formatting, logic, comments, etc. Some of the tests will be provided, but note that the TA's will perform additional tests of your code to make sure it works as required. It is your responsibility to ensure the tests run and pass on Gradescope in order to get full marks (if the tests pass on Eclipse but not on Gradescope, you will not get full marks).

Assignments are to be done individually, not in groups. The submitted code will be run through a similarity-checking software to look for cheating. **Do not copy or share code in any way**.

Tentative Assignment Due Dates:

Assignment 1	Monday, February 7
Assignment 2	Monday, February 28
Assignment 3	Tuesday, March 22
Assignment 4	Wednesday, April 6

Labs

Lab instructions will be available on the course website in advance. It is expected that students will come prepared to the labs by reading the instructions and performing any preparatory work in advance.

- There are 10 weekly labs which should each take 1 hour or less to complete.
- The labs begin the week of January 17-21.
- When classes resume in-person, **you must attend the lab section in which you are registered**. You **cannot** attend a different lab section even if you have a valid reason to miss your scheduled lab. You will receive a mark of 0 if you try to attend a different lab section.

- Each completed lab is worth 1% of your final grade.
- To receive credit for a lab, you must complete the lab work during the schedule slot and submit the completed .java files on OWL by the end of the day in which you had your scheduled lab.
- Coming to your scheduled lab section with the work already complete **is not permitted**. You will receive a mark of 0 if you try to do this.
- The labs are generally pass/fail, however you could get a mark of 0.5 if you completed about half of the required work, or if you forget to upload the files on OWL after attending your lab.
- If you are ill or have another valid reason to not be able to complete a lab, you must obtain accommodations from your academic counsellor or you must submit a self-reported absence. The weight of accommodated missed labs will be shifted to the final exam. Labs that are missed without accommodations will be given a grade of 0 and will not be re-weighted.
- When classes resume to in-person, it is your responsibility to sign the TA's attendance sheet and to show your completed lab work to them before leaving the lab room.

Midterm Exam

More information will be given later and announced in class and/or on OWL.

There is NO MAKEUP exam for this course, except for students who receive an accommodation for religious reasons. These students must have notified the course instructor and filed documentation with their Dean's office at least 2 weeks prior to the date of the Midterm Exam. Please consult University's list of recognized religious holidays (updated annually) at

https://multiculturalcalendar.com/ecal/index.php?s=c-univwo.

Final Exam

The final exam will be scheduled by the University. The exam period is from April 10 to 30 and the exact date, time, and location for our exam will likely be announced in March.

The final exam is cumulative, meaning it covers topics from the entire semester. However, the post-midterm topics, are typically more prevalent than pre-midterm topics on the final exam.

Grade Requirements
To be eligible to receive a grade of 50% or higher (i.e. to pass the course), you must achieve:

- at least 45% average between the midterm and final exams, and
- at least 45% average between the four assignments

If you fail to meet **either** of these conditions, your final mark will be either 45% or your calculated grade, whichever is lower.

To be eligible to receive a grade of 65% or higher (i.e. to be eligible to go on in a Computer Science module), you must achieve:

- at least 50% average between the midterm and final exams, and
- at least 50% average between the four assignments

If you fail to meet **either** of these conditions, your final mark will be either 60% or your calculated grade, whichever is lower.

Accommodated Evaluations
Accommodations are handled differently depending on the assessment type, as outlined below. Note that for any of these accommodations, you must submit a self-reported absence (SRA) or receive approval from academic counselling. You must follow up with the instructor of your section of the course within two days of obtaining the accommodation to confirm that it has been received. Failure to follow up within two days may result in the accommodation being void.

Labs – accommodations for a missed lab results in the lab weight being shifted to the final exam

Assignments – accommodations for an assignment results in a 48-hour extension (or longer if academic counselling recommends a longer extension).

Midterm – accommodations for missing the midterm results in the weight of the midterm being shifted to the final exam.

Final Exam – accommodations for missing the final exam results in the opportunity to write the make-up final exam. Note that SRAs **cannot** be used for the final exam.

6. Student Absences

Academic Consideration for Student Absences
Students who experience an extenuating circumstance (illness, injury or other extenuating circumstance) sufficiently significant to temporarily render them unable to meet academic requirements may submit a request for academic consideration through the following routes:

(i) Submitting a Self-Reported Absence (SRA) form provided that the following conditions are met:

- an absence must be no more than 48 hours
- the assessments must be worth no more than 30% of the student's final grade
- no more than two SRAs may be submitted during the Fall/Winter term

(ii) For medical absences, submitting a Student Medical Certificate (SMC) signed by a licensed medical or mental health practitioner to the Academic Counselling office of their Faculty of Registration.

(iii) Submitting appropriate documentation for non-medical absences to the Academic Counselling office in their Faculty of Registration.

Students should also note that individual instructors are not permitted to receive documentation directly from a student, whether in support of an application for consideration on medical grounds, or for other reasons. **All documentation required for absences that are not covered by the Self-Reported Absence Policy must be submitted to the Academic Counselling office of a student's Home Faculty.**

For the policy on Academic Consideration for Student Absences – Undergraduate Students in First Entry Programs, see:

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_illness.pdf

and for the Student Medical Certificate (SMC), see:

http://www.uwo.ca/univsec/pdf/academic_policies/appeals/medicalform.pdf.

Absences from Final Examinations

If you miss the Final Exam, please contact the Academic Counselling office of your Faculty of Registration as soon as you are able to do so. They will assess your eligibility to write the Special Examination (the name given by the University to a makeup Final Exam).

If a student fails to write a scheduled Special Examination, the date of the next Special Examination (if granted) normally will be the scheduled date for the final exam the next time this course is offered. The maximum course load for that term will be reduced by the credit of the course(s) for which the final examination has been deferred. See the Academic Calendar for details (under Special Examinations).

6. Accommodation and Accessibility

Accommodation Policies

Students with disabilities work with Accessible Education (formerly SSD), which provides recommendations for accommodation based on medical documentation or psychological and cognitive testing. The policy on Academic Accommodation for Students with Disabilities can be found at:

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic Accommodation_disabilities.pdf,

7. Academic Policies

The website for Registrarial Services is http://www.registrar.uwo.ca.

In accordance with policy,

https://www.uwo.ca/univsec/pdf/policies_procedures/section1/mapp113.pdf,

the centrally administered e-mail account provided to students will be considered the individual's official university e-mail address. It is the responsibility of the account holder to ensure that e-mail received from the University at his/her official university address is attended to in a timely manner.

No electronic devices (including phones, calculators, etc.) are permitted on the midterm or final exam.

Scholastic Offences

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Web site:

http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf.

Computer-marked multiple-choice tests and exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating.

Code submitted for labs, assignments, and/or exams may be run through comparison-checking software such as MOSS to look for cases of cheating.

Online Exams

In the event of a lock-down or an unexpected mandate to hold tests online rather than in person, they would be conducted using a remote proctoring service such as Proctorio. By taking this course, you are consenting to the use of this software and acknowledge that you will be required to provide **personal information** (including some biometric data) and the session will be **recorded**. Completion of this course will require you to have a reliable internet connection and a device that meets the technical requirements for this service. More information about this remote proctoring service, including technical requirements, is available on Western's Remote Proctoring website at:

https://remoteproctoring.uwo.ca.

8. Support Services

Please visit the Science & Basic Medical Sciences Academic Counselling webpage for information on adding/dropping courses, academic considerations for absences, appeals, exam conflicts, and many other academic related matters: https://www.uwo.ca/sci/counselling/.

Please contact the course instructor if you require lecture or printed material in an alternate format or if any other arrangements can make this course more accessible to you. You may also wish to contact Accessible Education at (519) 661-2147 if you have any questions regarding accommodations.

Western University is committed to a thriving campus as we deliver our courses in the mixed model of both virtual and face-to-face formats. We encourage you to check out the Digital Student Experience website to manage your academics and well-being: https://www.uwo.ca/se/digital/.

Learning-skills counsellors at the Student Development Centre (http://www.sdc.uwo.ca) are ready to help you improve your learning skills. They offer presentations on strategies for improving time management, multiple-choice exam preparation/writing, textbook reading, and more. Individual support is offered throughout the Fall/Winter terms in the drop-in Learning Help Centre, and year-round through individual counselling.

Students who are in emotional/mental distress should refer to Mental Health@Western (http://www.health.uwo.ca/mentalhealth) for a complete list of options about how to obtain help. Additional student-run support services are offered by the USC, http://westernusc.ca/services.