CS 1027B: Computer Science Fundamentals II
Winter 2025
Course Outline

1. Course Information

Lecture Schedule

Section Number / Instructor	Lecture Days and Times	Location
Section 001 (LEC) *Gad Gad*	Wednesdays 10:30am to 11:30am Fridays 10:30am to 12:30pm	▮▮▮▮▮
Section 002 (LEC) *Bryan Sarlo*	Tuesdays 12:30pm to 2:30pm Thursdays 12:30pm to 1:30pm	▮▮▮▮▮
Section 003 (LEC) *Iqra Batool*	Tuesdays 3:30pm to 5:30pm Thursdays 4:30pm to 5:30pm	▮▮▮

Lab Schedule
This term there are about 30 lab sections. Check Western's Academic Time Table 2024/2025 to see times and locations for these sections. This information is also posted on Brightspace.

List of Prerequisites
Computer Science 1025A/B, Computer Science 1026A/B, Data Science 1200A/B, or Engineering Science 1036A/B, (in each case with a mark of at least 65%). 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	▮▮▮▮	TBD
Gad Gad	ggad@uwo.ca	▮▮▮▮	TBD
Iqra Batool	ibatool2@uwo.ca	▮▮▮▮	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.

General questions should be posted in the OWL forums. You should never show your code in the forum though as that can lead to academic dishonesty.

Email and forum posts will be responded to as soon as possible, but in general, responses are not guaranteed on evenings and weekends.

3. Course Syllabus, Schedule, Delivery Mode

Course Description
A continuation for 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 Principles
- Linked Data Structures
- Inheritance
- Exceptions and Debugging
- Collections and Generics
- Stacks, Queues, and Lists
- Memory Management
- Recursion
- Trees
- Sorting

Key Sessional Dates
Classes begin: January 6, 2025
Winter Reading Week: February 15 – 23, 2025
Classes end: April 4, 2025
Exam period: April 7 – 30, 2025

Contingency plan
Although the intent is for this course to be delivered in person, should any university-declared emergency require some or all of the course to be delivered online, either synchronously or asynchronously, the course will adapt accordingly. The grading scheme will **not** change. Any assessments affected will be conducted online as determined by the course instructor.

Lab Schedule

Lab #	Week
Lab 1	Jan. 13 – 17
Lab 2	Jan. 20 – 24
Lab 3	Jan. 27 – 31
Lab 4	Feb. 3 – 7
Lab 5	Feb. 10 – 14
Lab 6	Feb. 24 – 28
Lab 7	Mar. 3 – 7
Lab 8	Mar. 10 – 14
Lab 9	Mar. 17 – 21
Lab 10	Mar. 24 – 28

4. Course Materials

All course material will be posted to OWL: https://westernu.brightspace.com/. The Brightspace site is labelled "COMPSCI 1027B 001: COMPUTER SCIENCE FUNDAMENTALS II" and all 3 sections are in the same Brightspace site. The "001" in the site label does not mean you are registered in section 001. Students are responsible for checking the course site regularly for news and updates. This is the primary method by which information will be disseminated to all students in the class.

If students need assistance with the course OWL site, they can seek support on the OWL Brightspace 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
Stable internet connection; computer that can run Java and an IDE for Java (i.e. Eclipse).

There is a recommended digital textbook, ZyBooks, for this course. If you have taken CS 1027A/B before and subscribed to the ZyBook then, you can contact support@zybooks.com to ask them for the new book for free since you have previously paid for the book (mention the new course code shown below in blue highlighting).

Anyone who has not subscribed to the ZyBook for this course previously can subscribe to it by following these steps:

1. Sign in or create an account at learn.zybooks.com
2. Enter zyBook code: **UWOCOMPSCI1027ABWinter2025**
3. Subscribe and pay with a credit card

5. Methods of Evaluation

The overall course grade will be calculated as listed below:

Assignments (4)   28%   (7% each)
Labs (10)   8%   (1% each; lowest 2 are dropped)
iClicker Participation   9%
Midterm Test   20%
Final Exam   35%

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 28%.

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. We will not accept assignments submitted via email or any other format.

A large portion of each assignment's grade will come from auto-graded tests and the rest will come from programming style, formatting, comments, etc. Some of the tests will be provided, but note that additional tests may be run that are hidden from you, so you should create your own additional tests to ensure your code works properly in all cases. It is your responsibility to ensure the tests run and pass on Gradescope in order to get full marks (if the tests pass on your computer but not on Gradescope, you will **not** get those 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**.

Inappropriate Collaboration includes:
- Showing your code to another student
- Sending your code to someone (including in a group chat)
- Uploading your code to Github or another online repository where others can access it
- Writing code for someone else
- Looking at someone else's code
- Using code you find online
- Using ChatGPT, replit Ghostwriter, or another AI system to do all or a portion of the assignment (including generating comments for you)
- Paying someone else to do the assignment for you

Tentative Assignment Due Dates:

Assignment 1	Tuesday, February 4
Assignment 2	Monday, February 24
Assignment 3	Wednesday, March 19
Assignment 4	Friday, April 4

Late Policy for Assignments

Assignments submitted late are subject to a penalty of 10% per day late and assignments cannot be submitted more than three (3) days later than the given deadline.

Students are expected to plan ahead and work hard to meet the provided assignment deadlines. However, we understand that sometimes you have unexpected situations that impact your ability to complete an assignment by the given deadline. To provide some flexibility with this, we are using late coupons to allow you to submit late without receiving late penalties. This is how it works:
- You will be given four (4) late coupons in total for this course this semester.
- Each late coupon allows you to submit an assignment one day late without receiving a late penalty (i.e. if you submit an assignment 2 days late, then 2 late coupons will be needed).
- Late coupons will be applied automatically when you submit an assignment late, until you run out of late coupons.
- Assignments cannot be submitted more than three (3) days late regardless of the number of late coupons you used.
- Following the last point, you can use at most three (3) late coupons per assignment.
- Late coupons will not be replenished so if you use up all four (4) coupons in the first two or three assignments, you will have no late coupons left for the remaining assignment(s).
- If you submit an assignment late and do not have sufficient late coupons remaining to cover all the late days, you will receive late penalties of 10% per late day (where late day refers to days beyond the deadline in which late coupons are not available to cover the day).
- Academic considerations will not be considered to give extensions except in the case in which all late coupons have already been used and academic advising supports an extension on the assignment. If you have late coupons remaining, they must be used before we can consider any academic considerations.
- Late coupons are only used for assignments for this course; they cannot be used for any other assessment type.

Students may re-submit code on Gradescope as much as needed, but note that re-submissions after the deadline will be considered late and subject to late penalties and/or late coupons, regardless of when the initial submission was made. We base the marking off the active submission which by default is the latest submission made on there. If you wish to use a different submission, i.e. not the latest one, it is your responsibility to ensure you activate the submission you wish to use.

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 13-17

- **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, and we will drop the lowest 2 labs at the end of the term.
- To receive credit for a lab, you must attend and work on the lab during your scheduled session **AND** submit the completed specified files on OWL within 24 hours of your lab session.
- 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 partial mark if you missed a significant portion of the required work, or if you forget to upload the files on OWL after attending your lab. It is up to the discretion of the TAs to determine the grade for each lab.
- Since we are dropping the lowest 2 labs, you can miss up to 2 labs without affecting your mark. If you must miss more than 2 labs, you should contact your home faculty's academic advising office to request academic consideration for the missed labs. If they approve your absence for any additional labs (after the first 2), those missed labs will be re-weighted to your final exam.
- Labs that are missed (after the first 2) without academic consideration will be given a grade of 0 and will not be re-weighted.
- 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. It is also your responsibility to submit the specified files from the lab on OWL within 24 hours of the time of your lab session. Forgetting to do either of these is not a valid excuse to get the lab mark.

iClicker Participation

Your participation grade will be determined by both your attendance and active participation in class via iClicker questions.

To obtain a passing grade for a lecture, you must:
1. Attend the lecture in-person with a device capable of using iClicker (it is your responsibility to ensure your device is functional and charged before each lecture).
2. Actively participate in any activities, iClicker quizzes, or iClicker polls conducted during the lecture.
3. Answer at least 50% of the iClicker questions given during the lecture (the correctness of the answer does not matter).

To obtain the full participation grade, you must obtain a passing grade (as described above) for at least nine (9) lectures. We will use iClicker in at least 11 and at most 22 classes so there will be ample opportunities to receive the attendance for this. If you have to miss some classes, it will not affect your mark since you only need at least 9 passed classes to receive the full participation grade.

Any attempt to circumvent the participation system or earn a passing participation grade without attending class is an academic offence and will result in an overall participation grade of zero and the offence being reported to the Dean's Office. This includes but is not limited to taking any iClicker quizzes outside of the classroom, completing an iClicker quiz for another student, or having another person complete the quiz for you.

Midterm Test

The midterm is tentatively scheduled for **Saturday, March 1 from 6-8pm**. The locations will be announced on OWL closer to that time.

The midterm is 2 hours in length and is a combination of Multiple Choice, Written/Drawn Answers, and Algorithm Design. All portions of the exam are written on paper, not with computers. No electronic devices are allowed.

There will **not** be a make-up midterm. If you cannot write the midterm for a valid reason (i.e. exam conflict, medical, or religious reasons), you will have to contact your home faculty's academic advising office to request an academic consideration for your absence. If you receive their approval, the weight of the midterm will be shifted to the final exam, making it worth 55%.

Without such an academic consideration, missing the midterm will result in a mark of zero on the midterm and it cannot be made up.

Final Exam

The final exam will be scheduled by the University. The exam period is from April 7 to 30 and the exact date, time, and location for our exam will likely be announced in March.

The final exam is 3 hours in length and is a combination of Multiple Choice, Written/Drawn Answers, and Algorithm Design. All portions of the exam are written on paper, not with computers. No electronic devices are allowed.

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% weighted average between the midterm and final exams, an
- 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% weighted 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.

General information about missed coursework

Students must familiarize themselves with the *University Policy on Academic Consideration – Undergraduate Students in First Entry Programs* posted on the Academic Calendar: https://www.uwo.ca/univsec/pdf/academic_policies/appeals/academic_consideration_Sep24.pdf

This policy does not apply to requests for Academic Consideration submitted for **attempted or completed work**, whether online or in person.

The policy also does not apply to students experiencing longer-term impacts on their academic responsibilities. These students should consult Accessible Education.

For procedures on how to submit Academic Consideration requests, please see the information posted on the Office of the Registrar's webpage: https://registrar.uwo.ca/academics/academic_considerations/
All requests for Academic Consideration must be made within 48 hours after the assessment date or submission deadline.

All Academic Consideration requests must include supporting documentation; however, recognizing that formal documentation may not be available in some extenuating circumstances, the policy allows students to make one academic consideration request without supporting documentation. However, in this course, we provide built-in flexibility for all course components so we will deny such academic considerations for the following reasons:
- Assignments (since we provide flexibility via late coupons)
- Labs (since we provide flexibility via dropping the lowest two labs)
- iClicker Participation (since we provide flexibility via only counting 9 classes)
- Midterm (we have deemed this as the one assessment for which undocumented absences cannot be submitted – all midterm absences MUST be submitted with supporting documentation)
- Final exam (documentation is always required to miss a final exam)

Evaluation Scheme for Missed Assessments

Assignments   We provide late coupons allowing you to submit assignments late without late penalties.

Labs   The lowest two labs are dropped automatically. Subsequently missed labs can be re-weighted to the final exam if supported by academic consideration with documentation.

iClicker   You only need to participate in at least 9 classes to receive the full mark for the iClicker participation. You can miss several classes without impacting your mark.

Midterm   If you submit an academic consideration (with documentation) for missing the midterm, the weight of the midterm will be shifted to the final exam. Missing the midterm without an academic consideration will result in a mark of 0.

Final Exam   When a student misses the Final Exam and their Academic Consideration has been granted, they will be allowed to write the Special Examination (the name

given by the University to a makeup Final Exam). See the Academic Calendar for details (under Special Examinations), especially for those who miss multiple final exams within one examination period.

6. Additional Statements

Religious Accommodation
When conflicts with a religious holiday that requires an absence from the University or prohibits certain activities, students should request an accommodation for their absence in writing to the course instructor and/or the Academic Advising office of their Faculty of Registration. This notice should be made as early as possible but not later than two weeks prior to the writing or the examination (or one week prior to the writing of the test).

Please visit the Diversity Calendars posted on our university's EDID website for the recognized religious holidays:

https://www.edi.uwo.ca.

Accommodation Policies
Students with disabilities are encouraged to contact Accessible Education, 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

Academic Policies
The website for Registrar Services is https://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 their official university address is attended to in a timely manner.

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:

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

Assignments, labs, and exams may be analyzed using similarity checking software. Do not write or submit work that is not entirely your own.

In the event of a health lock-down, tests and examinations in this course may be conducted using a remote proctoring service. 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

Support Services

Please visit the Science & Basic Medical Sciences Academic Advising 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/.

Students who are in emotional/mental distress should refer to Mental Health@Western (https://uwo.ca/health/) for a complete list of options about how to obtain help.

Western is committed to reducing incidents of gender-based and sexual violence and providing compassionate support to anyone who has gone through these traumatic events. If you have experienced sexual or gender-based violence (either recently or in the past), you will find information about support services for survivors, including emergency contacts at

https://www.uwo.ca/health/student_support/survivor_support/get-help.html

To connect with a case manager or set up an appointment, please contact support@uwo.ca.

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

http://academicsupport.uwo.ca/accessible_education/index.html

if you have any questions regarding accommodations.

Learning-skills counsellors at Learning Development and Success (https://learning.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.

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/.

Additional student-run support services are offered by the USC: https://westernusc.ca/services/.