

CS1026a – Computer Science Fundamentals I Course Outline – Fall 2020

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CS1026 Course Information

Course Description

Computer Science CS1026: Computer Science Fundamentals I provides an introduction to the basic concepts of computer programming and program design. It is intended for students who have interest in learning basic programming skills including those who intend to study Computer Science. *This course assumes no previous programming background.*

Programming skills will be developed using the Python programming language. Course topics Include: data types, variables, expressions, program constructs, strings (text), functions, basic data structures (lists, tuples, sets dictionaries), objects, object oriented design, classes, modularity, and problem solving techniques. Programming examples and assignments are taken from a variety of disciplines.

Course Prerequisites

There are no prerequisites to CS1026. However, programming experience may be an asset.

Course Instructors

Lecture Section	Instructor	Phone	Email	Office Hours
001	M. Bauer (coordinator) MC 28A-1	661-3562	bauer<at>uwo.ca	TBD
002	S. Beauchemin MC 28C	661-2073	sbeauchemin<at>uwo.ca	TBD
003	TBD	TBD	TBD	TBD

Course Schedule: Lectures and Labs

Lecture Sections

Because of the unique circumstances caused by the pandemic, ***CS1026 will be fully online for the Fall 2020-21 academic term.*** Course material (see [Course Materials](#)) includes Zybooks, which students must enroll in, lecture slides with commentary, along with programming examples and other material on the course web site. These are described in more detail in the Course Materials section.

There are no in-person lecture sections for CS1026. Lecture times will be used by instructors to review material, provide examples and answer questions; these will be held via Zoom. The allotted time may not always be used. Students enrolled in a particular section should attend the corresponding Zoom session. The sections of the course are as follows:

Lecture Section	Room	Times
001	Online (Zoom)	Tu. 9:30am -11:30pm Th. 9:30am -10:30pm
002	Online (Zoom)	Tu. 12:30pm-2:30pm Th. 12:30pm-1:30pm
003	Online (Zoom)	Tu. 3:30pm-5:30pm Th. 3:30pm-4:30pm

Labs

Every student should have registered for one of the CS1026 Lab sections. Because of social distancing, there are no hands-on labs. **Lab times will be used as small group tutorials done via Zoom.**

There are Labs in the Zybooks interactive course; there are a number of Labs associated with most chapters in the Zybooks course. Students are expected to do the Zybook labs – students are expected to complete 80% of the Zybook labs; this represents 8% of an individual student assessment (see [Student Evaluation](#)).

The purpose of the weekly tutorials is to give students opportunities to work in smaller groups with a Teaching Assistant, ask questions, review material, see programming examples, etc. For each tutorial, there is a small set of exercises that should be done by the student *before* the tutorial. These exercises and other examples will be covered in the tutorials. The tutorial material will be available on the CS1026 course website in advance.

Key notes about CS1026 Tutorials for the fall of 2020-21:

- **Tutorials begin the week of September 14, 2020.**
- There are 11 tutorials.
- Monday October 12th is Thanksgiving; **there are no tutorials labs on Monday October 12th; students can attend another tutorial that week.**
- **There are NO tutorials the week of November 2nd;** that week has been designated as Fall Reading Week.

Attendance at tutorials is not mandatory.

For lab/tutorial times, see the online timetable at <https://studentservices.uwo.ca/secure/Timetables/mastertt/ttindex.cfm> .

For other information about programs, courses, etc., see the Registrar's web site: <http://www.registrar.uwo.ca>.

Course Materials

Zybooks Interactive Online Course: Required

CS1026 is delivered through an online, interactive Python course developed by zyBooks (<https://www.zybooks.com/>); *each student will be required to purchase the zyBook as the course is done via the interactive course.* The cost of the course is \$77USD. You will need to create a zyBooks account; you must use your UWO email. The instructions are as follows:

1. Sign in or create an account at <https://learn.zybooks.com/>
2. Enter zyBook code: UWOCOMPSCI1026ABFall2020
3. Subscribe

Textbooks

Recommended: For those that prefer a traditional textbook (either hard copy or digital), the textbook used for this course is available for purchase from the University Bookstore on campus. The textbook is:

Python for Everyone, (2nd Edition) by Cay S. Horstmann and Rance D. Necaise, Wiley, 2016.

There are two versions available:

- Paperback: ISBN : 978-1-119-05655-3
- e-Text: ISBN : 978-1-118-73522-0

The first edition of this textbook can also be used.

Lecture Notes

Annotated course lecture notes are available through the OWL course website. These can be found under the Lessons tab. Lecture notes are organized into Chapters and into subsections. Each button in the Lessons tab is a link to a YouTube video of slides with annotation. These are also available for download from OneDrive at: [CS1026 Annotated Lectures](#).

Lecture notes without annotations will be made available in PDF format on the course website.

The lecture notes (both annotated and non-annotated) do follow the text **Python for Everyone** and also follow the Zybooks chapters.

Programming Tools

The course makes use of the Python programming language (<https://www.python.org/>). **We will be using Python 3.8** and versions for Windows and Macs can be found at: <https://www.python.org/downloads/>. **Please download Python first.**

When you download and install Python, you will get a simple editor/development environment called **IDLE**; you may use this for editing and creating your Python programs.

We will also make use of PyCharm – a richer development environment. We will make use of PyCharm Educational Version 2020.2 (PyCharm Edu) which can be downloaded from: <https://www.jetbrains.com/pycharm-edu/>. Please make sure that you download **PyCharm Edu**.

Course Website

The CS1026a website is accessible through OWL: <https://owl.uwo.ca/portal> . Announcements, assignments, labs, lecture notes, and other course-related information will be posted on this website. It is the responsibility of the student to check this website often. **ALL students in ALL THREE lecture sections, namely section 001, section 002 and section 003, will be using the same OWL section: 001. The OWL site is COMPSCI 1026A 001 FW20.**

Other Course Material

Additional course material including laboratory exercises, examples, etc. will also be available on the course website (OWL) on a regular basis.

Summary of Required Course Material and Resources

The following table provides a summary of the resources needed for CS1026.

Resource	Description
zyBooks interactive Python course	<i>The zyBooks course is an online interactive course that covers Python. It also provides question-answers and programming exercises. The material in the course parallels the material covered in the in-class lectures and includes programming exercises (labs).</i> https://learn.zybooks.com/
Zoom	<i>Zoom is available to UWO students at no cost and is used for the tutorials. This provides an interactive session for asking questions and seeing programming demonstrations. You can get Zoom through Western Technology services: https://wts.uwo.ca/zoom/index.html .</i>
Python 3.8	<i>Python 3.8 can be downloaded and provides the version of Python that is used for the course.</i> https://www.python.org/downloads/ .
PyCharm Edu 2020.2	<i>PyCharm is the Interactive Development Environment that is used within the course for developing Python programs. :</i> https://www.jetbrains.com/pycharm-edu/

TA Consulting Schedule

Teaching Assistants and their consulting hours for CS1026 will be posted on the course website and announced during the second or third week of the term once information is available to the instructors. TA consulting will be done online via Zoom.

Email Contact

- In accordance with policy, <http://www.uwo.ca/its/identity/activatenonstudent.html> 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.
- We may need to send email messages to the whole class or to students individually. ***Email will be sent to the UWO email address assigned to students by Western Technology Services (WTS) (user_name@uwo.ca).*** It is the responsibility of the student to read this email on a regular basis. You may wish to have mail forwarded to an alternative email address. See the [WTS website](#) for instructions on forwarding email.
- Note that UWO and most other email providers establish quotas or limits on the amount of space available to you. If you let your email accumulate there, your mailbox may fill up and you may lose important email from your instructors. Losing email is not an acceptable excuse for not knowing about the information that was sent.
- Students are encouraged to contact their course instructor via email with *brief, email appropriate questions* regarding lecture materials or clarification of assignments. However, before sending email to an instructor, the student should check the course website to see if the requested information is already there. Students must send email from their UWO ITS account and include CS1026 in the subject line of the email.

Methods of Evaluation

Assignments

Assignment submission:

- Instructions for the submission of assignments will be posted on the course website or as part of each assignment description. It is each student's responsibility to read and follow the instructions. Failure to follow the submission instructions may result in the assignment losing marks or receiving a mark of zero.
- You will be required to submit each programming assignment electronically through OWL. Details will be given in the assignment descriptions. We reserve the right to use similarity detection software to detect possible cheating cases.

- ***It is each student's responsibility to keep up-to-date backups of assignment disk files in case of system crashes or inadvertently erased files.***

Assignment due dates:

- The date and exact time assignments are due will be given in the assignment specifications.
- The late penalty for assignments is 10% per day late, for a maximum of 2 days, after which assignments will not be marked. Weekends count as one day of lateness.
- No extensions will be given for assignments; however, if a student has serious medical or compassionate grounds, they should take supporting documentation to the Office of the Dean of their faculty and their instructor will be contacted.
- Students using Self-Reported Absences can choose to have an assignment submitted late (up to two days) without penalty or have the weight of the assignment reallocated; see [Using Self-Reported Absences](#).

Assignment marking:

- Assignments are marked in two steps:
 1. Assignments are tested by automated testing software and the software provides a score. ***It is imperative that when submitting assignments that students adhere to the requirements for naming files and components of programs. Failure to do so will cause the automated testing software to assign 0; such assignments will be marked by the Teaching Assistants, and the assignments will be penalized by 10%-20%.***
 2. Assignments are reviewed by the Teaching Assistants who evaluate the program design, structure, use of required programming constructs, and adherence to good programming practices and assign marks for good programming practices and adherence to assignment requirements.
- A request for adjustment in an assignment mark must be made within 2 weeks of the date on which it was first available after marking; beyond that date, regrading will not be considered. Such a request must be submitted to the course instructor in writing or via email, and must include specific reasons why you believe you deserve more marks. The request must be accompanied by all materials that were originally handed in, as well as the original marker's grade summary sheet. The instructor will inform you by email when the reevaluation process is complete.
- ***It is each student's responsibility to keep up-to-date backups of assignment disk files in case of system crashes or inadvertently erased files.*** Students must keep disk copies of all material submitted, as well as the actual graded assignment, to guard against the possibility of errors in recording marks. It is not safe to discard these materials until you are satisfied that your final mark for the course has been computed properly.

Exams and Tests

- **There is a midterm exam and a final exam; both will be given online via OWL and make use of Proctortrack**; note that Proctortrack does screen captures as well as video.
- The midterm test and final exam are closed book. No reference materials, calculators or other electronic devices are allowed.
- There will be no makeup midterm exam, except for students requesting a special midterm exam for University recognized reasons. These students must have notified the course instructor and filed documentation with their Dean's Office at least 2 weeks prior to the midterm exam. If there are other serious medical or compassionate grounds for missing the midterm exam, please take supporting documentation to the office of the Dean of your faculty, who will contact the instructor. In such cases, the weight of your midterm exam will be shifted to the final exam, which would then be worth 55% of your final overall grade.
- The final exam is scheduled by the Office of the Registrar during the final exam period. Students are advised not to make travel plans until they have consulted the final exam schedule.
- Computer-marked multiple-choice exams may be screened for similarity by software that checks for unusual coincidences in answer patterns that may indicate cheating.

Student Evaluation

Assessments

Assessments in CS1026 consist of Assignments, Lab Exercises (from Zybooks), a midterm and a final exam. Weights and due dates (tentative dates) are as follows.

Element	Weight	Due
Lab Exercises	8%	Done in Zybooks (80% must be completed to get the full 8%; less than 80% will see mark adjusted.
Assignment 1	5%	October 7 (9pm)
Assignment 2	8%	October 21 (9pm)
Assignment 3	12%	November 18 (9pm)
Assignment 4	12%	December 9 (9pm)
Mid-Term (2 hours)	20%	Date: TBD Time: TBD Location: TBD
Final (3 hours)	35%	3 hours; TBD

If for any reason the assignment schedule given cannot be adhered to, the assignment marks will be prorated. (The assignments are worth 37% of the overall mark for the course. If an assignment has to be cancelled for any reason, the remaining assignment weights will be prorated to add up to 37%.)

Performance Requirements (Important)

IMPORTANT NOTE: Please be aware of the following performance constraints:

- 1. To be eligible to receive a passing grade in the course, your mark on the final exam must be at least 40%, and your weighted average on the assignments must be at least 40%. Otherwise, the maximum overall mark you can receive is 45%.*
- 2. To be eligible to receive a grade of 60% or higher, your mark on the final exam must be at least 50%, and your weighted average on the assignments must be at least 50%. Otherwise, the maximum overall mark you can receive is 58%.*

Using Self-Reported Absences

Students using self-reported absences should adhere to the University policies (see [Using Self-Reported Absences](#)). For CS1026, self-reported absences are handled as follows:

- Self-reported absence for an assignment:
 - The student may choose to submit the assignment after the due date, but only up to the 2 day maximum. The assignment would be marked as usual, but without a late penalty.
 - The student may choose not to submit the assignment, in which case the marks for that assignment will be distributed proportionately among the remaining assignments. If it is the last assignment (Assignment #4), then the marks will be distributed proportionately among assignments completed.
- Self-reported absence for the midterm:
 - The marks will be allocated to the final exam.
- Self-report absence for Lab Exercises in Zybooks: not applicable since the Lab Exercises in Zybooks are done on the student's own availability.

Academic Policies

The website for the Registrar's Services is <http://www.registrar.uwo.ca> .

Course, Department, University Policies on Ethical Conduct

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/handbook/appeals/scholoff.pdf>.

- Plagiarism: Students must write their assignments (or essays) in their own words. Whenever students take an idea or a passage from another author, they must acknowledge their debt both by using quotation marks where appropriate and by proper referencing such as footnotes or citations. Plagiarism is a major academic offence (see the *Scholastic Offence Policy* in the *Western Academic Calendar*).
- Your assignments must be your own individual work, not the products of group effort. You may discuss approaches to problems with other students, but the work you submit (programming code, answers to concept questions, etc) must be an individual effort.
- With each assignment, you are required to confirm that you did the material you have submitted is exclusively your own work and that you understand the course policies concerning plagiarism and individual effort. You are responsible for reading and respecting the departmental policies on [Scholastic Offences](#) and [Rules of Ethical Conduct](#). The University of Western Ontario uses software for plagiarism checking.
- The standard departmental policy for assignments that are judged to be the product of academic dishonesty is, for the student's first offence, a mark of zero for the assignment, with an additional penalty equal to the weight of the assignment also being applied to the overall grade.
- The role of tutoring is to help students understand course material. Tutors should not write assignments or take-home tests for the students who hire them. Submitting an assignment that contains material written by a tutor is an academic offence. Having employed the same tutor as another student is not a legitimate defense against an accusation of collusion, should two students hand in assignments judged similar beyond the possibility of coincidence.

Academic Accommodation and Accessibility

Accommodation

If you are unable to meet a course requirement due to illness or other serious circumstances, you must seek approval for the absence as soon as possible. Approval can be granted either through a self-reporting of absence or via the Dean's Office/Academic Counselling unit of your Home Faculty. If you are a Science student, the Academic Counselling Office of the Faculty of Science is located in NCB 280, and can be contacted at scibmsac@uwo.ca.

For further information, please consult the university's policy on academic consideration for student absences:

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

Missed mid-terms with valid excuses will result in reweighted grading whereby the missed mid-term is excused. Students unable to submit assignments as per course requirements with valid excuses will be able to submit the assignment within two days of the designated due date without penalty. If the student is unable to submit within the two day time period, marks for the assignment will be redistributed.

Accommodations less than 10% in weight will be managed by the professor. If you miss the Final Exam, please contact your faculty's Academic Counselling Office as soon as you are able to do so. They will assess your eligibility to write the Special Exam (the name given by the university to a makeup Final Exam).

You may also be eligible to write the Special Exam if you are in a "Multiple Exam Situation" (see https://registrar.uwo.ca/academics/examinations/exam_conflicts.html)

Academic Consideration for a Medical Absence

Students seeking academic consideration for a medical absence not covered by existing Student Accessibility Services (SAS) accommodation, will be required to provide documentation in person in the form of a completed, signed Student Medical Certificate (SMC) where the conditions for a Self-Reported Absence have not been met, including where the student has exceeded the maximum number of permissible Self-Reported Absences. The following conditions are in place for students seeking academic consideration for a medical absence:

- Students must submit their documentation along with a request for academic consideration specifying the nature of the relief being requested. This documentation, in the form of a Student Medical Certificate (SMC), shall be submitted to the Academic Counselling or Undergraduate Office of the student's Faculty of registration indicating the period of illness, severity, and when the student should be able to resume academic responsibilities. Forms must be submitted no later than two business days after the date specified for resuming responsibilities.

- Students who require academic consideration must, where possible, seek medical attention in advance of due dates, examinations, etc.
- If the Academic Counselling/Dean's Office determines that academic consideration is warranted, the period of academic consideration will normally be that specified on the medical documentation. Once the request for academic consideration and supporting documents have been received and approved, the student's instructors will be notified of this by the Academic Counselling or Undergraduate Office in the student's home faculty.
- Academic consideration shall be granted only where the documentation indicates that the onset, duration and severity of the illness are such that the student could not reasonably be expected to complete their academic responsibilities, and only when the licensed practitioner providing the documentation is able to make a reasonable assessment of the student's physical or mental state during the period for which relief is sought. The expectation is that the practitioner's assessment of the student's condition will be made in person.
- The duration of the excused absence will terminate prior to the end of the period indicated on the SMC should the student undertake significant academic responsibilities (write a test, submit a paper) during that time.
- Students must communicate with their instructors no later than 24 hours after the end of the period covered by the SMC, to clarify how they will be expected to fulfil the academic expectations they may have missed during the absence.
- In cases where a student may be experiencing long-term or recurring absences, students should consult their Academic Counsellors for advice about which of the options available to them (academic consideration, pursuing Academic Accommodation, withdrawal from the course) are most appropriate.

Using the Self-Reported Absence Form

Students who experience an unexpected illness or injury or an extenuating circumstance (48 hours or less) that is sufficiently severe to temporarily render them unable to meet academic requirements (e.g., attending lectures or labs, writing tests or midterm exams, completing and submitting assignments, participating in presentations) should self-declare using the online Self-Reported Absence portal. This option should be used in situations where the student expects to resume academic responsibilities within 48 hours or less. The following conditions are in place for self-reporting of medical or extenuating circumstances:

- students will be allowed a maximum of two self-reported absences between September and April and one self-reported absence between May and August;
- any absences in excess of the number designated in clause a above, regardless of duration, will require students to present a Student Medical Certificate (SMC), signed by a licensed medical or mental health practitioner, detailing the duration and severity of illness, or appropriate documentation supporting extenuating circumstances to the Academic Counselling unit in their Faculty of registration no later than two business days

after the date specified for resuming responsibilities. Please see section 4 below for more details.

- The duration of the excused absence will be for a maximum of 48 hours from the time the Self-Reported Absence form is completed through the online portal, or from 8:30 am the following morning if the form is submitted after 4:30 pm;
- The duration of the excused absence will terminate prior to the end of the 48 hour period should the student undertake significant academic responsibilities (write a test, submit a paper) during that time;
- The duration of an excused absence will terminate at 8:30 am on the day following the last day of classes each semester regardless of how many days of absence have elapsed;
- Self-reported absences will not be allowed for scheduled final examinations; for midterm examinations scheduled during the December examination period; or for final lab examinations scheduled during the final week of term;
- Self-reporting may not be used for assessments (e.g. midterm exams, tests, reports, presentations, or essays) worth more than 30% of any given course. Students must be in touch with their instructors no later than 24 hours after the end of the period covered by the Self-Reported Absence form, to clarify how they will be expected to fulfil the academic expectations they may have missed during the absence.

Support Services

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 Student Accessibility Services (SAS) at 661-2147 if you have any questions regarding accommodations.

The policy on Accommodation for Students with Disabilities can be found here:

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

The policy on Accommodation for Religious Holidays can be found here:

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

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/mental_health) 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> .

This course is supported by the Science Student Donation Fund. If you are a BSc or BMSc student registered in the Faculty of Science or Schulich School of Medicine and Dentistry, you pay the Science Student Donation Fee. This fee contributes to the Science Student Donation Fund, which is administered by the Science Students' Council (SSC). One or more grants from the Fund have allowed for the purchase of equipment integral to teaching this course. You may opt out of the Fee by the end of September of each academic year by completing the online form linked from the Faculty of Science's Academic Counselling site. For further information on the process of awarding grants from the Fund or how these grants have benefitted undergraduate education in this course, consult the chair of the department or email the Science Students' Council at ssc@uwo.ca.