

CS1026b - Computer Science Fundamentals I
Course Outline – Winter 2020

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Course Information

Course Description

This course provides an introduction to the basic concepts of computer programming and program design. It is intended for students who have an 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

Instructor	Phone	Email	Office Hours
Charles Ling	661-3341	charles.ling@uwo.ca	Tu 10:15-11:15, Thur 11:15-12:15. MC374

Course Schedule

Lectures

Room	Time
WSC-55	Tuesday 9:30am - 10:30am
WSC-55	Thursday 9:30am - 11:30am

For location and room information, please see below link

https://wts.uwo.ca/ctg/classrooms/western_science_centre/wsc_55.html

Labs

Lab times below are tentative; see updates online at

<https://studentservices.uwo.ca/secure/Timetables/mastertt/tindex.cfm>

Room	Time	TA
HSB-13	Monday 12:30pm - 2:30pm	TBD
SSC-1032	Monday 2:30pm - 4:30pm	TBD
MC-235	Tuesday 11:30am - 1:30pm	TBD
MC-235	Tuesday 3:30am - 5:30pm	TBD
MC-235	Thursday 3:30pm - 5:30pm	TBD
MC-235	Friday 10:30am - 12:30pm	TBD
MC-235	Friday 12:30pm - 2:30pm	TBD

Please note:

**NO Lectures or labs during Spring Reading Week:
February 15 - February 23, 2020**

For other information about programs, courses, etc., see the Registrar's web site:

<http://www.registrar.uwo.ca>

Course Materials

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. Nicaise, 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

Course lecture notes will be made available in PDF format on the course website (OWL) on a regular basis. They are provided as a courtesy by the course instructor. Possessing (and even reading) these notes is not a suitable substitute for attending lectures. The notes do follow the text and make use of examples in the text.

Programming Tools

The course makes use of the Python programming language (<https://www.python.org/>). We will be using Python 3.6 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 2019.3 (PyCharm Edu) which can be downloaded from:

<https://www.jetbrains.com/pycharm-edu/>. Please make sure that you download **PyCharm Edu**:

- This version is also used to **run all the labs in the course**. More details on this will be covered in the initial labs.
- It also contains an interactive Python course that you may use at your own pace to review material.

Course Website

The CS1026b 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.

Other Course Material

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

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.

Computing Facilities

Each student enrolled in CS1026 will be given an account on the Computer Science Department First Year Network. By using your CS1026 account, you agree to abide by the [Rules of Ethical Conduct](#) established by the Department of Computer Science.

Labs

The purpose of the weekly labs is to give students guided, hands-on experience with Python programming. It is expected that students will come prepared to the labs by reading the lab instructions. Lab instructions will be available on the CS1026 course website in advance.

- **Labs begin the week of January 13, 2020.**
- Labs are mandatory. Each completed lab is worth 1% of your final grade (to a maximum of 8%).
- There will be 11 labs; your lab mark will be based on **your best 8 lab performances**.
- You must attend the lab session for which you are registered.
- There are NO labs during reading week;
- There are no make-up labs, and students who are absent for a lab do not have the option of attending another lab; however, students who encounter serious health or other personal difficulties are encouraged to contact their Dean's office.
- Students must bring their UWO identification to all labs.

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 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 20% per day late, for a maximum of 4 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 use Self-Reported Absence Form, or take supporting documentation to the Office of the Dean of their faculty and their instructor will be contacted.

Assignment marking:

- Assignments are marked by the Teaching Assistants, who follow marking schemes provided by instructors.
- 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

- There is a midterm exam and a final exam. Both exams are closed book. No reference materials, calculators or other electronic devices are allowed.
- Students must bring their UWO identification to the exams.
- 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 66% 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 (TBD, tentative dates)

Element	Weight	Due
Labs	8%	Weekly throughout the term; Labs start week of January 13
Assignment 1	5%	January 29
Assignment 2	6%	February 12
Mid-Term	31%	Thursday, February 27 Time: 9:30am - 11:30am (2 hours, in-class) Another room will be available - TBD.
Assignment 3	7%	March 17
Assignment 4	8%	April 3

Final	35%	TBD; (see announcement in OWL)
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If for any reason the assignment schedule given cannot be adhered to, the assignment marks will be prorated.

IMPORTANT NOTE: To be eligible to receive a passing grade in the course, your mark on the midterm and 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%.

To be eligible to receive a grade of 60% or higher, your mark on the midterm and 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%.

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: https://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.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 for Medical Illness or Distress

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. It is the student's responsibility to make alternative arrangements with their instructor once the accommodation has been approved and the instructor has been informed.

A student requiring academic accommodation due to illness should use the Student Medical Certificate when visiting an off-campus medical facility or request a Record's Release Form (located in the Dean's Office) for visits to Student Health Services. Policy on Accommodation for Illness http://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_illness.pdf .

Missed midterms with valid excuses will result in reweighted grading whereby the missed midterm 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.