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Winter 2021 -- Department of Computer Science, University of Western Ontario

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## CS3342 - Organization of Programming Languages

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### Course description ([course web site](#))

The course discusses fundamental concepts of programming languages, such as syntax, semantics, names, scopes, bindings, control flow, types, subroutines, control and data abstractions. While various languages can be very different in terms of syntax and semantics, they have many common design concepts. In addition to imperative programming, functional and logic programming are also discussed, together with the most widely used such languages, Scheme and Prolog.

A thorough study of these concepts makes it easier to learn new languages and helps choosing a suitable language for a given task or making better use of a language.

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### Prerequisites

- Computer Science 2211A/B or Software Engineering 3313A/B

Unless you have either the prerequisites for this course or written special permission from your Dean's Office to enrol in it, you will 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.

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### Instructor

- Prof. [Lucian Ilie](#), MC378
    - Office hours: Thursdays 11:30am - 12:30pm, Zoom; details will be announced by email.
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### Class time

- Wednesdays, 3:30 - 5:30pm
  - Thursdays, 10:30 - 11:30am
  - Lectures will be live on Zoom; details will be announced by email.
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### Textbook (required)

- Michael L. Scott, *Programming Language Pragmatics, 4th ed.*, Morgan Kaufmann (2015), ISBN: 978-0124104099.
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### Languages

- [Scheme](#) - functional programming
  - [Prolog](#) - logic programming
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## Evaluation -- Assignments will be available in OWL

- Assignments -- best 3 out of 4 will be considered; these due dates are tentative - the date on the assignment supersedes this:
  - Assignment 1 (10%) - due Feb. 10
  - Assignment 2 (10%) - due Feb. 24
  - Assignment 3 (10%) - due Mar. 24
  - Assignment 4 (10%) - due Apr. 7
- Exams
  - Midterm Exam (31%) - Wednesday, March 3, 3:30 - 5:30pm, OWL
  - Final Exam (39%) - TBA
  - The exams are open book and will be timed using OWL: 2h for midterm, 3h for final, with an additional 30 minutes for submitting your work in OWL.

### Evaluation rules -- read carefully

- **Exam passing rule**
  - In order to pass the course you must pass the exams, that is, your weighted average grade for the two exams should be at least 50/100.
- **Missed homework or exam**
  - In case of missed assignments or midterm, their weight is transferred as indicated below. This is done automatically for the assignments, whereas for the midterm you need an approved accommodation.
    - The weight of assignments 1 and 2 is moved to the midterm.
    - The weight of assignments 3 and 4 is moved to the final.
    - The weight of the midterm is moved to the final. There is no midterm makeup.
- **Self-reported absences**
  - Self-reported absences cannot be used for midterm or final exam (midterm weight is over 30% and they can never be used for final exams).
  - Self-reported absences can be used to extend the deadline of an assignment by two days as follows:
    - Submit the assignment by e-mail (only) to: [cs3342@uwo.ca](mailto:cs3342@uwo.ca) (DO NOT submit to OWL)
    - Clearly mark "SELF-REPORTED ABSENCE" at the beginning of the homework.
    - This is in addition to the usual procedure for self-reporting absences.
- **Mark inquiries**
  - The goal is to make grading as objective and consistent as possible. The assignments and exams will have detailed evaluation schemes. For consistency, the same question will be graded by the same grader for all students.
  - Inquiries for assignments marks will be addressed first to the TA who graded the question. In case of disagreement, the complaint will be resolved by the instructor.
  - Inquiries for exams marks will be addressed directly to the instructor. In case of multiple complaints from a student, the entire exam of that student will be regraded by the instructor.
  - Mark inquiries can be made only within one week from the day the marks are made available.

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## TAs and Office Hours

- TBA

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## Class email

- The class email is [cs3342@uwo.ca](mailto:cs3342@uwo.ca); all questions are to be sent to this email address.

- Due to the very large class, the class email can be used for short questions only, not as a replacement for the office hours. Clarification of course topics will be provided during the office hours. We will try to schedule office hours during each working day of the week.
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## Assignments

- The assignments will consist of a set of exercises related to the material covered in class. The solutions for the exercises should be neatly written or typed. See the assignments for details.
  - All assignments will be made available in OWL. The availability of assignments will be announced on class and/or via e-mail. Students are responsible for checking their e-mail on a regular basis.
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## Appeals of Assignment Marks

- Appeals must occur within 1 week from the first day that the marked assignments were made available to students. After that 1 week period has gone by, no more appeals will be considered.
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## Computing Facilities

Each student will be given an account on the Computer Science Department senior undergraduate computing facility, GAUL. In accepting the GAUL account, a student agrees to abide by the department's; Rules of Ethical Conduct.

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## Adherence to Deadlines

Work cannot be submitted in OWL past the deadline.

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## 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 Academic Accommodation for Students with Disabilities policy can be found at:

[https://www.uwo.ca/univsec/pdf/academic\\_policies/appeals/Academic\\_Accommodation\\_disabilities.pdf](https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic_Accommodation_disabilities.pdf).

### Academic Consideration for Student Absence

Students will have up to two (2) opportunities during the regular academic year to use an on-line portal to self-report an absence during the semester, provided the following conditions are met: the absence is no more than 48 hours in duration, and the assessment for which consideration is being sought is worth 30% or less of the student's final grade. Students are expected to contact their instructors within 24 hours of the end of the period of the self-reported absence, unless noted on the syllabus. Students are not able to use the self-reporting option in the following circumstances:

- for exams scheduled by the Office of the Registrar (e.g., December and April exams)
- absence of a duration greater than 48 hours,
- assessments worth more than 30% of the student's final grade,
- if a student has already used the self-reporting portal twice during the academic year

If the conditions for a Self-Reported Absence are not met, students will need to provide a Student Medical Certificate if the absence is medical or provide appropriate documentation if there are compassionate grounds for the absence in question. Students are encouraged to contact their Faculty academic counselling office to obtain more information about the relevant documentation.

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 policy on Academic Consideration for Student Absences - Undergraduate Students in First Entry Programs, see: [https://www.uwo.ca/univsec/pdf/academic\\_policies/appeals/Academic\\_Consideration\\_for\\_absences.pdf](https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic_Consideration_for_absences.pdf) and for the Student Medical Certificate (SMC), see:

[http://www.uwo.ca/univsec/pdf/academic\\_policies/appeals/medicalform.pdf](http://www.uwo.ca/univsec/pdf/academic_policies/appeals/medicalform.pdf).

### **Religious Accommodation**

Students should consult the University's list of recognized religious holidays, and should give reasonable notice in writing, prior to the holiday, to the Instructor and an Academic Counsellor if their course requirements will be affected by a religious observance. Additional information is given in the Western Multicultural Calendar:

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

You may also be eligible to write the Special Exam if you are in a "Multiple Exam Situation" (see

[http://www.registrar.uwo.ca/examinations/exam\\_schedule.html](http://www.registrar.uwo.ca/examinations/exam_schedule.html)).

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 Academic Calendar for details (under Special Examinations).

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## **Academic Policies**

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

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.

Participants in this course are not permitted to record the sessions, except where recording is an approved accommodation, or the participant has the prior written permission of the instructor.

**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](http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf).

All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com (<http://www.turnitin.com>).

Completion of this course will require you to have a reliable internet connection and a device that meets the system requirements for Zoom. Information about the system requirements are available at the following link:

<https://support.zoom.us/hc/en-us>

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## **Support Services**

Please visit the Science & Basic Medical Sciences Academic Counselling webpage for information on add/drop 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 Student Accessibility Services (SAS) 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/mental\\_health](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>".

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