Course Outline

Faculty of Science

CSCI 4020U, Compilers
Winter 2019

1. Course Details & Important Dates*

Lectures	Tutorials & Laboratories
Monday 3:40-5PM, ERC 2056 Thursday 3:40-5PM, ERC 2056	Section 1: T 9:40-11, UA2140 Section 2: T 12:40-2PM, UA3230

* for other important dates go to: www.uoit.ca >Current Students >Important Dates

2. Instructor Contact Information

Instructor	Teaching Assistant
Ken Pu Office: UA4041 Extension: x3444 Email: ken.pu@uoit.net Office Hour: TBA	Michael Valdron michael.valdron@uoit.net

3. Course Description

This course provides a detailed study of the compilation process for a procedural language. Students will develop an understanding of compiler design and put these principles into practice through the construction of a fully functioning compiler for a small procedural language using widely available tools for compiler construction and a general-purpose programming language.
3 cr, 3 lec, 1.5 lab, Prerequisite(s): CSCI 3020U, Credit restriction(s): SOFE 3960U

4. Learning Outcome

1. Understand context free grammar
2. Be able to design and parse syntax for programming languages
3. Understanding of parsing algorithms and parser generating libraries
4. Understand code generation
5. Be able to implement a compiler of a simple language

5. Course Design

- Three hours lecture / week
- 1.5 hour lab / week

6. Outline of Topics in Course

1. Regular languages
2. Context free grammar and parse trees
3. Top-down parsing
4. Bottom-up parsing
5. Syntax directed programming
6. Code generation
7. Types
8. Code optimization

7. Required Text & Readings

Compilers Principles, Techniques, & Tools
Second Edition, Addison-Wesley, 2007
ISBN-10: 0321486811
ISBN-13: 978-0321486813

Additional readings may be assigned or recommended during the course.

8. Evaluation Method

- Weekly quizzes
- Four programming assignments
- Two term tests
- One final examination

9. Assignments & Tests

Quizzes (20%)
Assignments (30%)
Two term tests (20%)
Final Exam (30%)

Missed tests or assignments are to be handled by the policies outlined by the Faculty of Science:
http://uoit.ca/main/current-students/academics-and-programs/programs-and-resources/academic-integrity/process-forms/UOIT%20Regulations%20on%20Academic%20Conduct/index.php

10. Assessibility

Students with disabilities may request to be considered for formal academic accommodation in accordance with the Ontario Human Rights Code. Students seeking accommodation must make their requests through the disability services department in a timely manner, and provide relevant and recent documentation to verify the effect of their disability and to allow the University to determine appropriate accommodations.

Accommodation decisions will be made in accordance with the Ontario Human Rights Code. Accommodations will be consistent with and supportive of the essential requirements of courses and programs, and provided in a way that respects the dignity of students with disabilities and encourages integration and equality of opportunity. Reasonable academic accommodation may require instructors to exercise creativity and flexibility in responding to the needs of students with disabilities while maintaining academic integrity.

11. Professional Conduct (if applicable)

12. Academic Integrity

Students and faculty at UOIT share an important responsibility to maintain the integrity of the teaching and learning relationship. This relationship is characterized by honesty, fairness and mutual respect for the aim and principles of the pursuit of education. Academic misconduct impedes the activities of the university community and is punishable by appropriate disciplinary action.

Students are expected to be familiar with UOIT's regulations on Academic Conduct (Section 5.15 of the Academic Calendar) which sets out the kinds of actions that constitute academic misconduct, including plagiarism, copying or allowing one's own work to copied, use of unauthorized aids in examinations and tests, submitting work prepared in collaboration with another student when such collaboration has not been authorized, and other academic offences. The regulations also describe the procedures for dealing with allegations, and the sanctions for any finding of academic misconduct, which can range from a written reprimand to permanent expulsion from the university. A lack of familiarity with UOIT's regulations on academic conduct does not constitute a defense against its application.

Further information about academic misconduct can be found in the Academic Integrity link on your laptop.

13. Turnitin

UOIT and faculty members reserve the right to use electronic means to detect and help prevent plagiarism. Students agree that by taking this course all assignments are subject to submission for textual similarity review by Turnitin.com. Assignments submitted to Turnitin.com will be included as source documents in Turnitin.com's restricted access database solely for the purpose of detecting plagiarism in such documents for five academic years. The instructor may require students to submit their assignments electronically to Turnitin.com or the instructor may submit questionable text on behalf of a student. The terms that apply to UOIT's use of the Turnitin.com service are described on the Turnitin.com website.

Students who do not wish to have their work submitted to Turnitin.com must inform their instructor at the time the work is assigned and provide with their assignment a signed Turnitin.com Assignment Cover sheet: http://www.uoit.ca/assets/Academic~Integrity~Site/Forms/Assignment%20Cover%20sheet.pdf

Further information about Turnitin can be found on the Academic Integrity link on your laptop.

14. Final Examination

Final examinations are held during the final examination period at the end of the semester and may take place in a different room and on a different day from the regularly scheduled class. Check the published Examination Schedule for a complete list of days and times.

Students are advised to obtain their Student ID Card well in advance of the examination period as they will not be able to write their examinations without it. Student ID cards can be obtained at the Campus ID Services, in G1004 in the Campus Recreation and Wellness Centre.

Students who are unable to write a final examination when scheduled due to religious publications may make arrangements to write a deferred examination. These students are required to submit a Request for Accommodation for Religious Obligations to the Faculty concerned as soon as possible and no later than three week prior to the first day of the final examination period.

Further information on final examinations can be found in Section 5.24 of the Academic Calendar.

15. Course Evaluation

Student evaluation of teaching is a highly valued and helpful mechanism for monitoring the quality of UOIT's programs and instructional effectiveness. To that end, course evaluations are administered by an external company in an online, anonymous process during the last few weeks of classes. Students are encouraged to participate actively in this process and will be notified of the dates. Notifications about course evaluations will be sent via e-mail, and posted on Blackboard, Weekly News and signage around the campus.