

CSC373H1 S

Algorithm Design, Analysis & Complexity

Winter 2024 Syllabus

Course Meetings

CSC373H1 S

Section	Day & Time	Delivery Mode & Location
LEC0101	Monday, 11:00 AM - 12:00 PM	In Person: WI 1016
	Wednesday, 11:00 AM - 1:00 PM	In Person: BA 1180
LEC0201	Monday, 1:00 PM - 2:00 PM	In Person: MP 102
	Wednesday, 1:00 PM - 3:00 PM	In Person: AH 400
LEC0301	Monday, 3:00 PM - 4:00 PM	In Person: SF 1105
	Wednesday, 3:00 PM - 5:00 PM	In Person: SF 1105
TUT0101	Friday, 11:00 AM - 12:00 PM	In Person: BA 1210
TUT0102	Friday, 11:00 AM - 12:00 PM	In Person: BA 2165
TUT0103	Friday, 11:00 AM - 12:00 PM	In Person: BA 2135
TUT0201	Friday, 1:00 PM - 2:00 PM	In Person: GB 303
TUT0202	Friday, 1:00 PM - 2:00 PM	In Person: BA 2145
TUT0203	Friday, 1:00 PM - 2:00 PM	In Person: AB 107
TUT0301	Friday, 3:00 PM - 4:00 PM	In Person: BA 2145
TUT0302	Friday, 3:00 PM - 4:00 PM	In Person: BA 2175
TUT0303	Friday, 3:00 PM - 4:00 PM	In Person: BA 2195

Refer to ACORN for the most up-to-date information about the location of the course meetings.

Course Contacts

Course Website: <https://q.utoronto.ca/courses/337418>

Instructor: Dr Nathan Wiebe

Email: nathan.wiebe@utoronto.ca

Office Hours and Location: Monday 12:00

Course Overview

Standard algorithm design techniques: divide-and-conquer, greedy strategies, dynamic programming, linear programming, randomization, network flows, approximation algorithms. Brief introduction to NP-completeness: polynomial time reductions, examples of various NP-complete problems, self-reducibility. Additional topics may include approximation and randomized algorithms. Students will be expected to show good design principles and adequate skills at reasoning about the correctness and complexity of algorithms.

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Course Learning Outcomes

Prerequisites: CSC263H1/ CSC265H1 / CSC263H5/ CSCB63H3

Corequisites: None

Exclusions: CSC375H1, CSC373H5, CSCC73H3. NOTE: Students not enrolled in the Computer Science Major or Specialist program at A&S, UTM, or UTSC, or the Data Science Specialist at A&S, are limited to a maximum of 1.5 credits in 300-/400-level CSC/ECE courses.

Recommended Preparation: None

Credit Value: 0.5

Course Materials

Author	Thomas H. Cormen Charles E. Leiserson Ronald L. Rivest Clifford Stein
Country	United States
Language	English
Subject	Computer algorithms
Publisher	MIT Press
Publication date	1990 (first edition)
Pages	1312

Marking Scheme

Assessment	Percent	Details	Due Date
Midterm 1	15%		2024-02-09
Midterm 2	15%		2024-03-08
Assignment 1-4	40%	Best 3/4	2024-02-02,2024-02-23,2024-03-15,2024-03-29
In-Person Final Exam	30%		Final Exam Period

Late Assessment Submissions Policy

1 day grace then 5% per day without contacting us for accommodations

Policies & Statements

Late/Missed Assignments

This item is listed here to remind you to include your late/missed assignment policy; if you have late penalties, you are required to publish them in your syllabus. Please see the [A&S Academic Handbook \(https://www.artsci.utoronto.ca/faculty-staff/teaching/academic-handbook\)](https://www.artsci.utoronto.ca/faculty-staff/teaching/academic-handbook) sections on missed term work (Section 4.7), late term work and extensions (section 4.8), and missed term tests (Section 5.3) for more information.

Students with Disabilities or Accommodation Requirements

Students with diverse learning styles and needs are welcome in this course. If you have an acute or ongoing disability issue or accommodation need, you should register with Accessibility Services (AS) at the beginning of the academic year by visiting <https://studentlife.utoronto.ca/department/accessibility-services/>. Without registration, you will not be able to verify your situation with your instructors, and instructors will not be advised about your accommodation needs. AS will assess your situation, develop an accommodation plan with you, and support you in requesting accommodation for your course work. Remember that the process of accommodation is private: AS will not share details of your needs or condition with any instructor, and your instructors will not reveal that you are registered with AS.

Academic Integrity

All suspected cases of academic dishonesty will be investigated following procedures outlined in the [Code of Behaviour on Academic Matters \(https://governingcouncil.utoronto.ca/secretariat/policies/code-behaviour-academic-matters-july-](https://governingcouncil.utoronto.ca/secretariat/policies/code-behaviour-academic-matters-july-)

[1-2019](#)). If you have questions or concerns about what constitutes appropriate academic behaviour or appropriate research and citation methods, please reach out to me. Note that you are expected to seek out additional information on academic integrity from me or from other institutional resources. For example, to learn more about how to cite and use source material appropriately and for other writing support, see the U of T writing support website at <http://www.writing.utoronto.ca>. Consult the Code of Behaviour on Academic Matters for a complete outline of the University's policy and expectations. For more information, please see [A&S Student Academic Integrity \(https://www.artsci.utoronto.ca/current/academic-advising-and-support/student-academic-integrity\)](https://www.artsci.utoronto.ca/current/academic-advising-and-support/student-academic-integrity) and the [University of Toronto Website on Academic Integrity \(https://www.academicintegrity.utoronto.ca\)](https://www.academicintegrity.utoronto.ca).

Specific Medical Circumstances

If you become ill and it affects your ability to do your academic work, consult me right away. Normally, I will ask you for documentation in support of your specific medical circumstances. This documentation can be an Absence Declaration (via ACORN) or the University's Verification of Student Illness or Injury (VOI) form. The VOI indicates the impact and severity of the illness, while protecting your privacy about the details of the nature of the illness. If you cannot submit a VOI due to limits on terms of use, you can submit a different form (like a letter from a doctor), as long as it is an original document, and it contains the same information as the VOI (including dates, academic impact, practitioner's signature, phone and registration number). For more information on the VOI, please see <http://www.illnessverification.utoronto.ca>. For information on Absence Declaration Tool for A&S students, please see <https://www.artsci.utoronto.ca/absence>. If you get a concussion, break your hand, or suffer some other acute injury, you should register with Accessibility Services as soon as possible.

Accommodation for Personal Reasons

There may be times when you are unable to complete course work on time due to non-medical reasons. If you have concerns, speak to me or to an advisor in your College Registrar's office; they can help you to decide if you want to request an extension or other forms of academic consideration. They may be able to email your instructors directly to provide a College Registrar's letter of support and connect you with other helpful resources on campus.

Quercus Info (if using)

This Course uses the University's learning management system, Quercus, to post information about the course. This includes posting readings and other materials required to complete class activities and course assignments, as well as sharing important announcements and updates. New information and resources will be posted regularly as we move through the term. To access the course website, go to the U of T Quercus log-in page at <https://q.utoronto.ca>. SPECIAL NOTE ABOUT GRADES POSTED ONLINE: Please also note that any grades posted are for your information only, so you can view and track your progress through the course. No grades are considered official, including any posted in Quercus at any point in the term, until they have been formally approved and posted on ACORN at the end of the course. Please contact me as soon as possible if you think there is an error in any grade posted on Quercus.

Late/Missed Assignments

5% per day after 1 day grace, unless contacting us for accomodation.