

Course Syllabus



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Basic Course Information: CSC336H1 S, LEC0101

Pre-Requisites:	CSC148H1/CSC111H1; MAT133Y1(70%)/(MAT135H1, MAT136H1)/MAT135Y1/MAT137Y1/MAT157Y1, MAT221H1/MAT223H1/MAT240H1
Co-requisites:	None
Exclusions:	CSC338H5, CCCC37H3. 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.
Breadth Requirement:	The Physical and Mathematical Universes (5)
Credits:	0.5

Welcome to CSC336: Numerical Methods! In this course, you will gain an appreciation for the core concepts behind the numerical methods used in much of modern scientific computing.

This term we will be using Python 3 for the programming parts of the course. You will become familiar with the packages [SciPy](https://scipy.org/)  (<https://scipy.org/>) and [NumPy](https://numpy.org/)  (<https://numpy.org/>).

The course is a blend of mathematics and computer science. As such, you are expected to demonstrate sufficient understanding of both aspects of the course by completing all parts of the assigned term work. If you find you are struggling to keep up with some part of the course, please reach out for help rather than not completing the work.

All material posted on Quercus is required reading. **You are responsible for reading all announcements made through Quercus throughout the term.**

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Contact Information:

To contact the course instructor (Tom Fairgrieve, office: BA 4230) regarding personal issues related to CSC336, please use this email address: csc336-2025-01@cs.toronto.edu (<mailto:csc336-2025-01@cs.toronto.edu>). Please include your UTORid when your issue is related to MarkUs and plan on up to 2 business days for response.

For general course-related questions, please use Piazza.




Lectures and Office Hours:



- Mondays, 11:10am - 12:00pm, lecture in KP 108
 - Mondays, 4:10pm - 5:00pm, office hour in BA 4230
 - Wednesdays, 11:10am - 12:00pm, lecture in UC 140
 - Fridays, 11:10am - 12:00pm, lecture in MC 252
 - additional office hours by appointment
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Textbook

- The textbook for this course is Michael T. Heath's, *Scientific Computing: an introductory survey*, SIAM 2018.

The SIAM edition is a slightly modified version of the 2nd Edition of a text that was published by McGraw-Hill Inc. In the past, this course used a custom-made version of the 2nd Edition that was a subset of the book. If you find any old prints of that version, you can consider them equivalent (enough) to the current edition.

- The university library acquired a licence allowing us to post the 4 chapters we will be covering:
 - [heath-chapter1.pdf](https://q.utoronto.ca/courses/380078/files/35492199?wrap=1) (<https://q.utoronto.ca/courses/380078/files/35492199?wrap=1>)  (https://q.utoronto.ca/courses/380078/files/35492199/download?download_frd=1) (SIAM version)
 - [heath-chapter2.pdf](https://q.utoronto.ca/courses/380078/files/35492197?wrap=1) (<https://q.utoronto.ca/courses/380078/files/35492197?wrap=1>)  (https://q.utoronto.ca/courses/380078/files/35492197/download?download_frd=1) (McGraw-Hill version)
 - [heath-chapter5.pdf](https://q.utoronto.ca/courses/380078/files/35492196?wrap=1) (<https://q.utoronto.ca/courses/380078/files/35492196?wrap=1>)  (https://q.utoronto.ca/courses/380078/files/35492196/download?download_frd=1) (McGraw-Hill version)

- [heath-chapter7.pdf \(https://q.utoronto.ca/courses/380078/files/35492195?wrap=1\)](https://q.utoronto.ca/courses/380078/files/35492195?wrap=1) 
 (https://q.utoronto.ca/courses/380078/files/35492195/download?download_frd=1) (SIAM version)
- Prof. Heath has made some interactive educational modules available on his [textbook web page](http://heath.cs.illinois.edu/scicomp/)  (<http://heath.cs.illinois.edu/scicomp/>). You will need to download the jar file to run them.
- The [full book](#)
 (https://librarysearch.library.utoronto.ca/permalink/01UTORONTO_INST/14bjeso/alma99110628353000619) is available via the UofT library.

Marking Scheme

All assessments must be completed alone (no partners or groups).

Assessment	Total Weight	More information
Assignments	24%	Four assignments, each worth 6%.
Term Test	16%	In class, Friday February 28th.
Final Examination	60%	To be scheduled in the final exam period. To pass the course, students must earn at least 30% on the final exam.


Assignments

All assignments must be completed alone (no partners). **Collaboration to better understand the course material is always encouraged.** Instructions for submitting work are given below. Assignment handouts will be posted on Quercus.

The due dates for assignments are:

- Assignment 1: Friday January 31st before 10:00 pm
- Assignment 2: Friday February 14th before 10:00 pm
- Assignment 3: Friday March 14th before 10:00 pm
- Assignment 4: Friday March 28th before 10:00 pm

Submission

Course work will be submitted electronically, using [MarkUs](#) 
 (<https://markus.teach.cs.toronto.edu/markus>). You will log in using your UTORid and password.

To submit your work, navigate to the MarkUs page for the particular assignment, then click on the "Submissions" tab near the top. Click "Add New File" and use the "Choose Files" button to choose a file. Then click "Submit". You can submit a new version of a file later (before the deadline, of course).

Please double check your submission before the due date.

Late Penalty

All assigned work is essential to the course and should be completed. All assignments will be due on a Friday, before 10:00pm (Toronto time), and are to be submitted on MarkUs. Late assignments will be penalized as follows: 1% of the total grade available per hour period (or part thereof), but assignments received after 10:00pm on the first Monday following the due date will receive a grade of 0.

Academic Integrity

All of the work you submit must be done by you, and your work must not be submitted by someone else. Plagiarism is academic fraud and is taken very seriously. Please read the Rules and Regulations from the U of T Governing Council (especially the Code of Behaviour on Academic Matters):

<https://governingcouncil.utoronto.ca/secretariat/policies/code-behaviour-academic-matters-july-1-2019> (<https://governingcouncil.utoronto.ca/secretariat/policies/code-behaviour-academic-matters-july-1-2019>)

Please also see the information for students from the office of 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>)

Please don't copy. We want you to succeed and are here to help.

On the use of Generative AI Tools

The use of generative artificial intelligence (AI) tools is strictly prohibited in all course assessments unless explicitly stated otherwise by the instructor. This includes, but is not limited to, ChatGPT, GitHub Microsoft Copilot, AI Tutor and Teacher's Assistant Pro, and open-source models that you have trained and/or deployed yourself. You may not interact with, nor copy, paraphrase, or adapt any content from any generative AI for the purpose of completing assignments in this course. Use of generative AI will be considered use of an unauthorized aid, which is a form of academic misconduct under the [Code of Behaviour on Academic Matters](https://governingcouncil.utoronto.ca/secretariat/policies/code-behaviour-academic-matters-july-1-2019) (<https://governingcouncil.utoronto.ca/secretariat/policies/code-behaviour-academic-matters-july-1-2019>).


This course policy is designed to promote your learning and intellectual development and to ensure that our evaluations are a fair and accurate assessment of your learning. Though it may be tempting to use generative AI to assist you when completing your assignments, this could simply inhibit your learning. You should aim to understand course content at a level that far exceeds what an automated tool can achieve. Our course—and in particular, each assignment—is designed to help you attain true mastery of the course content. If you have questions or are stuck, please come to office hours, where we'll be happy to help!

Accessibility Needs

The University of Toronto is committed to accessibility. If you require accommodations or have any accessibility concerns, please visit <http://www.accessibility.utoronto.ca> (<http://www.accessibility.utoronto.ca>) as soon as possible.


Students who require accommodations need to register with Test & Exam Services.

Teaching Lab Accounts and Computer Labs

The CS department's [Teaching Labs](http://www.teach.cs.toronto.edu/)  (<http://www.teach.cs.toronto.edu/>) provide computing support for courses in Computer Science. A Teaching Labs account will be created for you before the start of term, and you will be sent an email notification. You will use this account when you log into one of the computers in the DCS Teaching Labs in the Bahen Centre.

There won't be any part of the course that requires logging into the computer labs, but it is an option available to you.

Your Teaching Labs account and password

There is an [Introduction For New Computer Science Students On Teaching Labs](https://www.teach.cs.toronto.edu/resources/introduction-for-new-students-using-the-teach-cs-labs/)  (<https://www.teach.cs.toronto.edu/resources/introduction-for-new-students-using-the-teach-cs-labs/>). We recommend that you at least skim it.

If you ever forget your password, visit the [Teaching Labs account info](https://www.teach.cs.toronto.edu/resources/account-management/) (<https://www.teach.cs.toronto.edu/resources/account-management/>) page and reset it.

Accessing Teaching Labs remotely

To access Teaching Labs remotely using your own computer, install X2Go client software on your computer. The Teaching Labs website provides [detailed instructions](#)

<https://www.teach.cs.toronto.edu/using-labs/remote-labs-x2go/>). When using X2Go, you will need to enter your Teaching Labs account name and password.

Course Summary:

Date	Details	Due
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