



Course Details

Computable Functions

MATH/COMP4803, Fall 2021

School of Mathematics and Statistics, [Carleton University](#)

Instructor:

Prof. Brett Stevens,

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General Information

Textbook:

The course textbook is "Computability, Complexity, and Languages: Fundamentals of Theoretical Computer Science" by Martin Davis, Ron Sigal and Elaine J. Weyukerand, and is available electronically through the library. The following books are available on library reserve

- Computability, complexity, and languages : fundamentals of theoretical computer science by Martin D. Davis, Ron Sigal and Elaine J. Weyuker
- [Computability and logic by Daniel E. Cohen](#)
- [Computability, an introduction to recursive function theory by](#)

[Nigel Cutland](#)

- [Discrete structures, logic, and computability by James L. Hein](#)
- [Elements of computation theory by Arindama Singh](#)

Prerequisites:

[MATH 2100](#) or [MATH 3855](#) or permission of the School.

Classes:

Monday 08:35-09:55, Wednesday 08:35-09:55.

Room: NI4040

Office hours: Tuesday 09:00-10:00 or by appointment.

First class: Wednesday 2021-09-08 **Last class:** 2021-12-10

Term mark: There will be three assignments and a term project. The tentative schedule is:

Item	Due Date	value
Homework 1	2021-09-22	25%
Homework 2	2021-11-01	25%
Homework 3	2021-11-29	25%
Project	last week of classes	25%

The term project consists of an oral presentation to the class during last week(s) of classes and a short written essay due on 2021-12-10.

Emergencies recognized by the University Regulations with verifiable supporting documentation, will be the only excuses accepted for any missed term work. Students who miss writing a test or submitting an assignment should bring appropriate documentation and contact the instructor as soon as possible to make arrangements.

Graduate students from Univ. of Ottawa should complete [FGPA's](#)

[brightspace form](#) to obtain access to brightspace.

Plagiarism and Cheating:

Plagiarism is defined in the undergraduate calendar as an instructional offense that occurs when a student uses or passes off "as one's own idea or product, work of another without expressly giving credit". This includes plagiarism involving material lifted from the Internet. Plagiarism is a serious offense. The penalties for students who have been found to have plagiarized are a failed grade at the least sever and suspension, expulsion or notation on transcripts for serious or repeated cases. Plagiarism is just one form of **Cheating**. All forms of cheating are taken very seriously and will be dealt with swiftly and severely.

Withdrawal: The last day for withdrawal from the course is **2021-12-12**. Withdrawals before **2021-09-30** get 100% refund, there is **NO** refund after this date.

Academic Accommodation Academic accommodations are available for a variety of reasons including pregnancy, religious practice, disabilities and sexual violence. For more information on academic accommodations and requesting them see [Academic Accommodations webpage](#)

List of Topics Covered: Recursive functions and computability, universality, algorithms, Church's thesis, Turing machines, halting problem, grammars, computational logic, NP-completeness. These topics are subject to change