

Dynamic Schedule: Visit [Minerva Class Schedule](#)https://horizon.mcgill.ca/pban1/bwckschd.p_disp_dyn_sched for course dates & times.McGill.ca (<https://www.mcgill.ca>) / Overview (/study/2022-2023/) / All Courses (/study/2022-2023/courses/search)

COMP 251 Algorithms and Data Structures (3 credits)

Offered by: Computer Science ([Faculty of Science \(/study/2022-2023/faculties/science\)](#))

Overview

Computer Science (Sci) : Introduction to algorithm design and analysis. Graph algorithms, greedy algorithms, data structures, dynamic programming, maximum flows.

Terms: Fall 2022, Winter 2023

Instructors: Waldispohl, Jérôme; Alberini, Giulia (Fall) Becerra, David (Winter)

- 3 hours
- Prerequisites: [COMP 250 \(/study/2022-2023/courses/comp-250\)](#); [MATH 235 \(/study/2022-2023/courses/math-235\)](#) or [MATH 240 \(/study/2022-2023/courses/math-240\)](#)
- [COMP 251 \(/study/2022-2023/courses/comp-251\)](#) uses mathematical proof techniques that are taught in the corequisite course(s). If possible, students should take the corequisite course prior to [COMP 251 \(/study/2022-2023/courses/comp-251\)](#).
- [COMP 251 \(/study/2022-2023/courses/comp-251\)](#) uses basic counting techniques (permutations and combinations) that are covered in [MATH 240 \(/study/2022-2023/courses/math-240\)](#) but not in [MATH 235 \(/study/2022-2023/courses/math-235\)](#). These techniques will be reviewed for the benefit of [MATH 235 \(/study/2022-2023/courses/math-235\)](#) students.
- Restrictions: Not open to students who have taken or are taking [COMP 252 \(/study/2022-2023/courses/comp-252\)](#).

This course may be used as a required or complementary course in the following programs:

[Bachelor Engineering \(B.Eng.\) - Co-op in Software Engineering \(/https://www.mcgill.ca/study/2022-2023/faculties/engineering/undergraduate/programs/bachelor-engineering-beng-co-op-software-engineering\)](#)

[Bachelor of Arts \(B.A.\) - Major Concentration Computer Science \(/https://www.mcgill.ca/study/2022-2023/faculties/arts/undergraduate/programs/bachelor-arts-ba-major-concentration-computer-science\)](#)

[Bachelor of Arts \(B.A.\) - Major Concentration Computer Science \(/https://www.mcgill.ca/study/2022-2023/faculties/arts/undergraduate/programs/bachelor-arts-ba-major-concentration-computer-science\)](#)

22-
2023/faculties/basc/undergraduate/programs/bachelor-arts-ba-major-concentration-computer-science)

Bachelor of Arts (B.A.) - Major
Concentration Software
Engineering

([https://www.mcgill.ca/study/20](https://www.mcgill.ca/study/2022-2023/faculties/arts/undergraduate/programs/bachelor-arts-ba-major-concentration-software-engineering)

22-
2023/faculties/arts/undergraduate/programs/bachelor-arts-ba-major-concentration-software-engineering)

Bachelor of Arts (B.A.) - Minor
Concentration Computer
Science

([https://www.mcgill.ca/study/20](https://www.mcgill.ca/study/2022-2023/faculties/arts/undergraduate/programs/bachelor-arts-ba-minor-concentration-computer-science)

22-
2023/faculties/arts/undergraduate/programs/bachelor-arts-ba-minor-concentration-computer-science)

Bachelor of Arts (B.A.) - Minor
Concentration Computer
Science

([https://www.mcgill.ca/study/20](https://www.mcgill.ca/study/2022-2023/faculties/basc/undergraduate/programs/bachelor-arts-ba-minor-concentration-computer-science)

22-
2023/faculties/basc/undergraduate/programs/bachelor-arts-ba-minor-concentration-computer-science)

Bachelor of Arts and Science
(B.A. & Sc.) - Honours
Cognitive Science

([https://www.mcgill.ca/study/20](https://www.mcgill.ca/study/2022-2023/faculties/basc/undergraduate/programs/bachelor-arts-and-science-ba-sc-honours-cognitive-science)

22-
2023/faculties/basc/undergraduate/programs/bachelor-arts-and-science-ba-sc-honours-cognitive-science)

Bachelor of Arts and Science
(B.A. & Sc.) - Interfaculty
Program Cognitive Science

([https://www.mcgill.ca/study/20](https://www.mcgill.ca/study/2022-2023/faculties/basc/undergraduate/programs/bachelor-arts-and-science-ba-sc-interfaculty-program-cognitive-science)

22-
2023/faculties/basc/undergraduate/programs/bachelor-arts-and-science-ba-sc-interfaculty-program-cognitive-science)

Bachelor of Arts and Science
(B.A. & Sc.) - Major
Concentration Software
Engineering

([https://www.mcgill.ca/study/20](https://www.mcgill.ca/study/2022-2023/faculties/basc/undergraduate/programs/bachelor-arts-and-science-ba-sc-major-concentration-software-engineering)

22-
2023/faculties/basc/undergraduate/programs/bachelor-arts-and-science-ba-sc-major-concentration-software-engineering)

Bachelor of Engineering

(B.Eng.) - Bioengineering

<https://www.mcgill.ca/study/2022-2023/faculties/engineering/undergraduate/programs/bachelor-engineering-beng-bioengineering>

[Bachelor of Engineering \(B.Eng.\) - Computer Engineering](https://www.mcgill.ca/study/2022-2023/faculties/engineering/undergraduate/programs/bachelor-engineering-beng-computer-engineering)
(<https://www.mcgill.ca/study/2022-2023/faculties/engineering/undergraduate/programs/bachelor-engineering-beng-computer-engineering>)

[Bachelor of Engineering \(B.Eng.\) - Minor Computer Science](https://www.mcgill.ca/study/2022-2023/faculties/engineering/undergraduate/programs/bachelor-engineering-beng-minor-computer-science)
(<https://www.mcgill.ca/study/2022-2023/faculties/engineering/undergraduate/programs/bachelor-engineering-beng-minor-computer-science>)

[Bachelor of Science \(B.Sc.\) - Honours Biology - Quantitative Biology](https://www.mcgill.ca/study/2022-2023/faculties/science/undergraduate/programs/bachelor-science-bsc-honours-biology-quantitative-biology)
(<https://www.mcgill.ca/study/2022-2023/faculties/science/undergraduate/programs/bachelor-science-bsc-honours-biology-quantitative-biology>)

[Bachelor of Science \(B.Sc.\) - Honours Software Engineering](https://www.mcgill.ca/study/2022-2023/faculties/science/undergraduate/programs/bachelor-science-bsc-honours-software-engineering)
(<https://www.mcgill.ca/study/2022-2023/faculties/science/undergraduate/programs/bachelor-science-bsc-honours-software-engineering>)

[Bachelor of Science \(B.Sc.\) - Liberal Program - Core Science Component Computer Science](https://www.mcgill.ca/study/2022-2023/faculties/science/undergraduate/programs/bachelor-science-bsc-liberal-program-core-science-component-computer-science)
(<https://www.mcgill.ca/study/2022-2023/faculties/science/undergraduate/programs/bachelor-science-bsc-liberal-program-core-science-component-computer-science>)

[Bachelor of Science \(B.Sc.\) - Liberal Program - Core Science Component Software Engineering](https://www.mcgill.ca/study/2022-2023/faculties/science/undergraduate/programs/bachelor-science-bsc-liberal-program-core-science-component-software-engineering)
(<https://www.mcgill.ca/study/2022-2023/faculties/science/undergraduate/programs/bachelor-science-bsc-liberal-program-core-science-component-software-engineering>)

Bachelor of Science (B.Sc.) -
Major Biology - Quantitative
Biology.
(<https://www.mcgill.ca/study/2022-2023/faculties/science/undergraduate/programs/bachelor-science-bsc-major-biology-quantitative-biology>)

Bachelor of Science (B.Sc.) -
Major Computer Science
(<https://www.mcgill.ca/study/2022-2023/faculties/science/undergraduate/programs/bachelor-science-bsc-major-computer-science>)

Bachelor of Science (B.Sc.) -
Major Computer Science -
Computer Games
(<https://www.mcgill.ca/study/2022-2023/faculties/science/undergraduate/programs/bachelor-science-bsc-major-computer-science-computer-games>)

Bachelor of Science (B.Sc.) -
Major Computer Science and
Biology.
(<https://www.mcgill.ca/study/2022-2023/faculties/science/undergraduate/programs/bachelor-science-bsc-major-computer-science-and-biology>)

Bachelor of Science (B.Sc.) -
Major Mathematics and
Computer Science
(<https://www.mcgill.ca/study/2022-2023/faculties/science/undergraduate/programs/bachelor-science-bsc-major-mathematics-and-computer-science>)

Bachelor of Science (B.Sc.) -
Major Physics and Computer
Science
(<https://www.mcgill.ca/study/2022-2023/faculties/science/undergraduate/programs/bachelor-science-bsc-major-physics-and-computer-science>)

Bachelor of Science (B.Sc.) -
Major Software Engineering
(<https://www.mcgill.ca/study/2022-2023/faculties/science/undergraduate/programs/bachelor-science-bsc-major-software-engineering>)

[Bachelor of Science \(B.Sc.\) -
Major Statistics](https://www.mcgill.ca/study/2022-2023/faculties/science/undergraduate/programs/bachelor-science-bsc-major-statistics)
(<https://www.mcgill.ca/study/2022-2023/faculties/science/undergraduate/programs/bachelor-science-bsc-major-statistics>)

[Bachelor of Science \(B.Sc.\) -
Major Statistics and Computer
Science](https://www.mcgill.ca/study/2022-2023/faculties/science/undergraduate/programs/bachelor-science-bsc-major-statistics-and-computer-science)
(<https://www.mcgill.ca/study/2022-2023/faculties/science/undergraduate/programs/bachelor-science-bsc-major-statistics-and-computer-science>)

[Bachelor of Science \(B.Sc.\) -
Minor Cognitive Science](https://www.mcgill.ca/study/2022-2023/faculties/science/undergraduate/programs/bachelor-science-bsc-minor-cognitive-science)
(<https://www.mcgill.ca/study/2022-2023/faculties/science/undergraduate/programs/bachelor-science-bsc-minor-cognitive-science>)

[Bachelor of Science \(B.Sc.\) -
Minor Computer Science](https://www.mcgill.ca/study/2022-2023/faculties/science/undergraduate/programs/bachelor-science-bsc-minor-computer-science)
(<https://www.mcgill.ca/study/2022-2023/faculties/science/undergraduate/programs/bachelor-science-bsc-minor-computer-science>)



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