COGNITIVE SCIENCE HONOURS (B.A. & SC.) (60 CREDITS)

Offered by: Science (Faculty of Science)
Degree: Bachelor of Arts and Science
Program credit weight: 60

Program Description

The Honours Cognitive Science, which is restricted to students in the B.A. & Sc., is an extension of the Interfaculty program and offers students an opportunity to undertake a research project in close association with professors in their main Arts and Science focus areas. Prior to selecting the Honours program, students should meet with the Cognitive Science Program Adviser https://www.mcgill.ca/science/undergraduate/advice/sousa and review the B.A. & Sc. academic requirements for Honours and First Class Honours, which can also be found under "University Regulations and Resources," "Graduation," and "Graduation Honours."

To receive an Honours degree, students are required to achieve a minimum overall program GPA of 3.3 at graduation, and attain a grade of B+ (3.3) or better in COGS 444 Honours Research.. Students must complete both the 60-credit Honours program and an approved minor concentration or a minor in the Faculties of Arts or of Science.

Note: B.A. & Sc. students who take interfaculty programs, including the Honours in Cognitive Science, must take at least 21 credits in Arts and 21 credits in Science across their interfaculty program and their minor or minor concentration.

Degree Requirements — B.A. & Sc. students

This program is offered as part of a Bachelor of Arts & Science (B.A. & Sc.) degree.

To graduate, students must satisfy both their program requirements and their degree requirements.

- The program requirements (i.e., the specific courses that make up this program) are listed under the Course Tab (above).
- The degree requirements—including the mandatory Foundation program, appropriate degree structure, and any additional components—are outlined on the Degree Requirements page.

Students are responsible for ensuring that this program fits within the overall structure of their degree and that all degree requirements are met. Consult the Degree Planning Guide on the SOUSA website for additional guidance.

Note: For information about Fall 2025 and Winter 2026 course offerings, please check back on May 8, 2025. Until then, the "Terms offered" field will appear blank for most courses while the class schedule is being finalized.

Required Course (9 credits)

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Course	Title	Credits
COGS 444	Honours Research.	6
NSCI 201	Introduction to Neuroscience 2.	3

Core Complementary Courses: (21 credits)

3 credits from the following logic courses:

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Course	Title	Credits
COMP 230	Logic and Computability.	3
MATH 318	Mathematical Logic.	3
PHIL 210	Introduction to Deductive Logic 1.	3

3 credits from the following statistics courses:

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Course	Title	Credits
MATH 203	Principles of Statistics 1.	3
MATH 323	Probability.	3
PSYC 204	Introduction to Psychological Statistics.	3

3 credits from the following computer science courses:

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Course	Title	Credits
COMP 202	Foundations of Programming.	3
COMP 204	Computer Programming for Life Sciences.	3
COMP 250	Introduction to Computer Science.	3

3 credits from the following linguistics courses:

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Course	Title	Credits
LING 201	Introduction to Linguistics.	3
LING 210	Introduction to Speech Science.	3
LING 260	Meaning in Language.	3

3 credits from the following philosophy courses:

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Course	Title	Credits
PHIL 200	Introduction to Philosophy 1.	3
PHIL 201	Introduction to Philosophy 2.	3
PHIL 221	Introduction to History and Philosophy of Science 2.	3

3 credits from the following neuroscience courses:

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Course	Title	Credits
NSCI 200	Introduction to Neuroscience 1.	3
PSYC 211	Introductory Behavioural Neuroscience.	3

3 credits from the following psychology courses:

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Course	Title	Credits
PSYC 212	Perception.	3
PSYC 213	Cognition.	3

Complementary Courses (30 credits)

30 credits selected as follows:

18 credits from one of the following lists: Computer Science, Linguistics, Neuroscience, Philosophy, or Psychology.

12 credits from any of the five lists.

Of the 30 credits Complementary Course credits, 15 credits taken must be at the 400 level or higher.

Computer Science

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Course	Title	Credits
COMP 206	Introduction to Software Systems.	3
COMP 250	Introduction to Computer Science.	3
COMP 251	Algorithms and Data Structures.	3
COMP 280	History and Philosophy of Computing.	3
COMP 302	Programming Languages and Paradigms.	3
COMP 330	Theory of Computation.	3
COMP 345	From Natural Language to Data Science.	3
COMP 360	Algorithm Design.	3
COMP 400	Project in Computer Science	4
COMP 409	Concurrent Programming.	3
COMP 417	Introduction Robotics and Intelligent Systems.	3
COMP 421	Database Systems.	3
COMP 424	Artificial Intelligence.	3
COMP 445	Computational Linguistics.	3
COMP 451	Fundamentals of Machine Learning.	3
COMP 523	Language-based Security.	3
COMP 527	Logic and Computation.	3
COMP 531	Advanced Theory of Computation.	3
COMP 546	Computational Perception.	4
COMP 549	Brain-Inspired Artificial Intelligence.	3
COMP 550	Natural Language Processing.	3
COMP 551	Applied Machine Learning.	4
COMP 558	Fundamentals of Computer Vision.	4
COMP 562	Theory of Machine Learning.	4
COMP 579	Reinforcement Learning.	4
MATH 222	Calculus 3.	3
MATH 223	Linear Algebra.	3
MATH 240	Discrete Structures.	3

Linguistics

Any course at the 300, 400 or 500 level from the department of Linguistics, or from the following list:

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Course	Title	Credits
LING 201	Introduction to Linguistics.	3
LING 210	Introduction to Speech Science.	3
LING 260	Meaning in Language.	3

Philosophy

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Course	Title	Credits
NSCI 300	Neuroethics.	3
PHIL 306	Philosophy of Mind.	3
PHIL 310	Intermediate Logic.	3
PHIL 311	Philosophy of Mathematics.	3
PHIL 341	Philosophy of Science 1.	3
PHIL 354	Plato.	3
PHIL 355	Aristotle.	3
PHIL 360	17th Century Philosophy.	3
PHIL 361	18th Century Philosophy.	3
PHIL 367	19th Century Philosophy.	3
PHIL 411	Topics in Philosophy of Logic and Mathematics.	3
PHIL 415	Philosophy of Language.	3
PHIL 419	Epistemology.	3
PHIL 421	Metaphysics.	3
PHIL 441	Philosophy of Science 2.	3
PHIL 470	Topics in Contemporary Analytic Philosophy.	3
PHIL 474	Phenomenology.	3

Psychology

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Course	Title	Credits
ANTH 440	Cognitive Anthropology.	3
MUMT 250	Music Perception and Cognition.	3
PSYC 204	Introduction to Psychological Statistics.	3
PSYC 211	Introductory Behavioural Neuroscience.	3
PSYC 212	Perception.	3
PSYC 213	Cognition.	3
PSYC 301	Animal Learning and Theory.	3
PSYC 302	Pain.	3
PSYC 304	Child Development.	3
PSYC 305	Statistics for Experimental Design.	3
PSYC 310	Intelligence.	3
PSYC 311	Human Cognition and the Brain.	3
PSYC 315	Computational Psychology.	3
PSYC 317	Genes and Behaviour.	3

PSYC 318	Behavioural Neuroscience 2.	3
PSYC 319	Computational Models - Cognition.	3
PSYC 340	Psychology of Language.	3
PSYC 341	The Psychology of Bilingualism.	3
PSYC 342	Hormones and Behaviour.	3
PSYC 352	Research Methods and Laboratory in Cognitive Psychology.	3
PSYC 406	Psychological Tests.	3
PSYC 410	Special Topics in Neuropsychology.	3
PSYC 413	Cognitive Development.	3
PSYC 427	Sensorimotor Neuroscience.	3
PSYC 433	Cognitive Science.	3
PSYC 439	Correlational Techniques.	3
PSYC 443	Affective Neuroscience.	0-3
PSYC 470	Memory and Brain.	3
PSYC 506	Cognitive Neuroscience of Attention.	3
PSYC 513	Human Decision-Making.	3
PSYC 514	Neurobiology of Memory.	3
PSYC 522	Neurochemistry and Behaviour.	3
PSYC 526	Advances in Visual Perception.	3
PSYC 529	Music Cognition.	3
PSYC 531	Structural Equation Models.	3
PSYC 537	Advanced Seminar in Psychology of Language.	3
PSYC 538	Categorization, Communication and Consciousness.	3
PSYC 541	Multilevel Modelling.	3
PSYC 545	Topics in Language Acquisition.	3

Neuroscience

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Course	Title	Credits
ANAT 321	Circuitry of the Human Brain.	3
BIOL 200	Molecular Biology.	3
BIOL 201	Cell Biology and Metabolism.	3
BIOL 306	Neural Basis of Behaviour.	3
BIOL 307	Behavioural Ecology.	3
BIOL 320	Evolution of Brain and Behaviour.	3
BIOL 414	Invertebrate Brain Circuits and Behaviours .	3
BIOL 506	Neurobiology of Learning.	3
BIOL 507	Animal Communication.	3
BIOL 517	Cognitive Ecology.	3
BIOL 530	Advances in Neuroethology.	3
BIOL 532	Developmental Neurobiology Seminar.	3
BIOL 580	Genetic Approaches to Neural Systems.	3
BIOL 588	Advances in Molecular/Cellular Neurobiology.	3
CHEM 212	Introductory Organic Chemistry 1.	4
NEUR 503	Computational Neuroscience.	3
NEUR 507	Topics in Radionuclide Imaging.	3
NSCI 200	Introduction to Neuroscience 1.[1]	3
NSCI 300	Neuroethics.	3
PHGY 209	Mammalian Physiology 1.[1]	3
PHGY 311	Channels, Synapses and Hormones.	3
PHGY 314	Integrative Neuroscience.	3
PHGY 556	Topics in Systems Neuroscience.	3
PSYC 211	Introductory Behavioural Neuroscience.	3
PSYC 302	Pain.	3
PSYC 311	Human Cognition and the Brain.	3
PSYC 317	Genes and Behaviour.	3
PSYC 318	Behavioural Neuroscience 2.	3
PSYC 342	Hormones and Behaviour.	3
PSYC 410	Special Topics in Neuropsychology.	3
PSYC 427	Sensorimotor Neuroscience.	3
PSYC 433	Cognitive Science.	3
PSYC 443	Affective Neuroscience.	0-3
PSYC 444	Sleep Mechanisms and Behaviour.	3
PSYC 502	Psychoneuroendocrinology.	3
PSYC 506	Cognitive Neuroscience of Attention.	3
PSYC 514	Neurobiology of Memory.	3
PSYC 522	Neurochemistry and Behaviour.	3
PSYC 526	Advances in Visual Perception.	3
PSYT 301	Issues in Drug Dependence.	3
PSYT 500	Advances: Neurobiology of Mental Disorders.	3
PSYT 515	Advanced Studies in Addiction.	3

[1] Students select either NSCI 200 Introduction to Neuroscience 1. or PHGY 209 Mammalian Physiology 1., but not both.

Research Course

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Course	Title	Credits
COGS 401	Research Cognitive Science 1.	6