



1.0 Degree Title  
Specify the two degrees for concurrent degree programs

Bachelor of Arts and Science

1.1 Major (Legacy= Subject) (30-char. max.)

Cognitive Science

1.2 Concentration (Legacy = Concentration/Option)  
If applicable (30 char. max.)

1.3 Minor (with Concentration, if applicable)  
(30 char. max.)

1.4 Category

- Faculty Program (FP)
- Major
- Joint Major
- Major Concentration (CON)
- Minor
- Minor Concentration (CON)
- Honours (HON)
- Joint Honours Component (HC)
- Internship/Co-op
- Thesis (T)
- Non-Thesis (N)
- Other
- Please specify

Interfaculty

1.5 Complete Program Title

Interfaculty Cognitive Science

2.0 Administering Faculty/Unit

Arts and Science, Psychology, Computer Science,  
Linguistics, Neuroscience, Philosophy

3.0 Effective Term of revision or retirement  
Please give reasons in 5.0 "Rationale" in the case  
of retirement  
(Ex. Sept. 2004 = 200409)      Retirement

Term: 201809

4.0 Existing Credit Weight      Proposed Credit Weight

54

54

5.0 Rationale for revised program

Addition of relevant courses to complementary  
course lists. Removal of retired course, PSYC 532  
Cognitive Science. Removal of COMP 202 from  
computer science complementary list.

6.0 Revised Program Description (Maximum 150 words)

7.0 List of existing program and proposed program

Existing program (list courses as follows: Subj Code/Crse Num, Title, Credit weight, under the headings of: Required Courses, Complementary Courses, Elective Courses)

**Required Course (3 credits)**

NSCI 201 Introduction to Neuroscience 2 (3 credits)

**Core Complementary Courses (21 credits)**

3 credits from the following logic courses:

COMP 230 Logic and Computability (3 credits)  
MATH 318 Mathematical Logic (3 credits)  
PHIL 210 Introduction to Deductive Logic 1 (3 credits)

3 credits from the following statistics courses:

MATH 203 Principles of Statistics 1 (3 credits)  
MATH 323 Probability (3 credits)  
PSYC 204 Introduction to Psychological Statistics (3 credits)

3 credits from the following computer science courses:

COMP 202 Foundations of Programming (3 credits)  
COMP 250 Introduction to Computer Science (3 credits)

3 credits from the following linguistics courses:

LING 201 Introduction to Linguistics (3 credits)  
LING 210 Introduction to Speech Science (3 credits)  
LING 260 Meaning in Language (3 credits)

3 credits from the following philosophy courses:

PHIL 200 Introduction to Philosophy 1 (3 credits)  
PHIL 201 Introduction to Philosophy 2 (3 credits)  
PHIL 221 Introduction to History and Philosophy of Science 2 (3 credits)

3 credits from the following neuroscience courses:

NSCI 200 Introduction to Neuroscience 1 (3 credits) \*\*  
PSYC 211 Introductory Behavioural Neuroscience (3 credits)

3 credits from the following psychology courses:

PSYC 212 Perception (3 credits)  
PSYC 213 Cognition (3 credits)

(continued on Attachment 1A)

Proposed program (list courses as follows: Subj Code/Crse Num, Title, Credit weight, under the headings of: Required Courses, Complementary Courses, Elective Courses)

**Required Course (3 credits)**

NSCI 201 Introduction to Neuroscience 2 (3 credits)

**Core Complementary Courses (21 credits)**

3 credits from the following logic courses:

COMP 230 Logic and Computability (3 credits)  
MATH 318 Mathematical Logic (3 credits)  
PHIL 210 Introduction to Deductive Logic 1 (3 credits)

3 credits from the following statistics courses:

MATH 203 Principles of Statistics 1 (3 credits)  
MATH 323 Probability (3 credits)  
PSYC 204 Introduction to Psychological Statistics (3 credits)

3 credits from the following computer science courses:

COMP 202 Foundations of Programming (3 credits)  
COMP 204 Computer Programming for Life Sciences (3 credits)  
COMP 250 Introduction to Computer Science (3 credits)

3 credits from the following linguistics courses:

LING 201 Introduction to Linguistics (3 credits)  
LING 210 Introduction to Speech Science (3 credits)  
LING 260 Meaning in Language (3 credits)

3 credits from the following philosophy courses:

PHIL 200 Introduction to Philosophy 1 (3 credits)  
PHIL 201 Introduction to Philosophy 2 (3 credits)  
PHIL 221 Introduction to History and Philosophy of Science 2 (3 credits)

3 credits from the following neuroscience courses:

NSCI 200 Introduction to Neuroscience 1 (3 credits) \*\*  
PSYC 211 Introductory Behavioural Neuroscience (3 credits)

3 credits from the following psychology courses:

PSYC 212 Perception (3 credits)  
PSYC 213 Cognition (3 credits)

(continued on Attachment 1A)

7.0 Attachment 1A

**Complementary Courses**

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

**Computer Science**

- ~~COMP 202 Foundations of Programming (3 credits)~~
- COMP 206 Introduction to Software Systems (3 credits)
- COMP 250 Introduction to Computer Science (3 credits)
- COMP 251 Algorithms and Data Structures (3 credits)
- COMP 280 History and Philosophy of Computing (3 credits)
- COMP 302 Programming Languages and Paradigms (3 credits)
- COMP 330 Theory of Computation (3 credits)
- COMP 360 Algorithm Design (3 credits)
- COMP 400 Project in Computer Science (4 credits)
- COMP 409 Concurrent Programming (3 credits)
- COMP 417 Introduction Robotics and Intelligent Systems (3 credits)
- COMP 421 Database Systems (3 credits)
- COMP 424 Artificial Intelligence (3 credits)
- COMP 523 Language-based Security (3 credits)
- COMP 526 Probabilistic Reasoning and AI (3 credits)
- COMP 527 Logic and Computation (3 credits)
- COMP 531 Advanced Theory of Computation (3 credits)
- COMP 546 Computational Perception (4 credits)
- COMP 558 Fundamentals of Computer Vision (3 credits)
- MATH 222 Calculus 3 (3 credits)
- MATH 223 Linear Algebra (3 credits)
- MATH 240 Discrete Structures 1 (3 credits)

(continued on Attachment 1B)

**Complementary Courses**

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

**Computer Science**

- COMP 206 Introduction to Software Systems (3 credits)
- COMP 250 Introduction to Computer Science (3 credits)
- COMP 251 Algorithms and Data Structures (3 credits)
- COMP 280 History and Philosophy of Computing (3 credits)
- COMP 302 Programming Languages and Paradigms (3 credits)
- COMP 330 Theory of Computation (3 credits)
- COMP 360 Algorithm Design (3 credits)
- COMP 400 Project in Computer Science (4 credits)
- COMP 409 Concurrent Programming (3 credits)
- COMP 417 Introduction Robotics and Intelligent Systems (3 credits)
- COMP 421 Database Systems (3 credits)
- COMP 424 Artificial Intelligence (3 credits)
- COMP 523 Language-based Security (3 credits)
- COMP 526 Probabilistic Reasoning and AI (3 credits)
- COMP 527 Logic and Computation (3 credits)
- COMP 531 Advanced Theory of Computation (3 credits)
- COMP 546 Computational Perception (4 credits)
- COMP 550 Natural Language Processing (3 credits)
- COMP 551 Applied Machine Learning (4 credits)
- COMP 558 Fundamentals of Computer Vision (3 credits)
- MATH 222 Calculus 3 (3 credits)
- MATH 223 Linear Algebra (3 credits)
- MATH 240 Discrete Structures 1 (3 credits)

(continued on Attachment 1B)

7.0 Attachment 1B

**Linguistics**

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

- LING 201 Introduction to Linguistics (3 credits)
- LING 210 Introduction to Speech Science (3 credits)
- LING 260 Meaning in Language (3 credits)

**Philosophy**

- NSCI 300 Neuroethics (3 credits)
- PHIL 306 Philosophy of Mind (3 credits)
- PHIL 310 Intermediate Logic (3 credits)
- PHIL 311 Philosophy of Mathematics (3 credits)
- PHIL 341 Philosophy of Science 1 (3 credits)
- PHIL 354 Plato (3 credits)
- PHIL 355 Aristotle (3 credits)
- PHIL 360 17th Century Philosophy (3 credits)
- PHIL 361 18th Century Philosophy (3 credits)
- PHIL 367 19th Century Philosophy (3 credits)
- PHIL 370 Problems in Analytic Philosophy (3 credits)
- PHIL 410 Advanced Topics in Logic 1 (3 credits)
- PHIL 411 Topics in Philosophy of Logic and Mathematics (3 credits)
- PHIL 415 Philosophy of Language (3 credits)
- PHIL 419 Epistemology (3 credits)
- PHIL 421 Metaphysics (3 credits)
- PHIL 441 Philosophy of Science 2 (3 credits)
- PHIL 470 Topics in Contemporary Analytic Philosophy (3 credits)
- PHIL 474 Phenomenology (3 credits)

**Psychology**

- ANTH 440 Cognitive Anthropology (3 credits)
- MUMT 250 Music Perception and Cognition (3 credits)
- PSYC 204 Introduction to Psychological Statistics (3 credits)
- PSYC 211 Introductory Behavioural Neuroscience (3 credits)
- PSYC 212 Perception (3 credits)
- PSYC 213 Cognition (3 credits)
- PSYC 302 The Psychology of Pain (3 credits)
- PSYC 304 Child Development (3 credits)
- PSYC 305 Statistics for Experimental Design (3 credits)
- PSYC 311 Human Cognition and the Brain (3 credits)
- PSYC 315 Computational Psychology (3 credits)

(continued on Attachment 1C)

**Linguistics**

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

- LING 201 Introduction to Linguistics (3 credits)
- LING 210 Introduction to Speech Science (3 credits)
- LING 260 Meaning in Language (3 credits)

**Philosophy**

- NSCI 300 Neuroethics (3 credits)
- PHIL 306 Philosophy of Mind (3 credits)
- PHIL 310 Intermediate Logic (3 credits)
- PHIL 311 Philosophy of Mathematics (3 credits)
- PHIL 341 Philosophy of Science 1 (3 credits)
- PHIL 354 Plato (3 credits)
- PHIL 355 Aristotle (3 credits)
- PHIL 360 17th Century Philosophy (3 credits)
- PHIL 361 18th Century Philosophy (3 credits)
- PHIL 367 19th Century Philosophy (3 credits)
- PHIL 370 Problems in Analytic Philosophy (3 credits)
- PHIL 410 Advanced Topics in Logic 1 (3 credits)
- PHIL 411 Topics in Philosophy of Logic and Mathematics (3 credits)
- PHIL 415 Philosophy of Language (3 credits)
- PHIL 419 Epistemology (3 credits)
- PHIL 421 Metaphysics (3 credits)
- PHIL 441 Philosophy of Science 2 (3 credits)
- PHIL 470 Topics in Contemporary Analytic Philosophy (3 credits)
- PHIL 474 Phenomenology (3 credits)

**Psychology**

- ANTH 440 Cognitive Anthropology (3 credits)
- MUMT 250 Music Perception and Cognition (3 credits)
- PSYC 204 Introduction to Psychological Statistics (3 credits)
- PSYC 211 Introductory Behavioural Neuroscience (3 credits)
- PSYC 212 Perception (3 credits)
- PSYC 213 Cognition (3 credits)
- PSYC 301 Animal Learning & Theory (3 credits)
- PSYC 302 The Psychology of Pain (3 credits)
- PSYC 304 Child Development (3 credits)
- PSYC 305 Statistics for Experimental Design (3 credits)
- PSYC 310 Intelligence (3 credits)
- PSYC 311 Human Cognition and the Brain (3 credits)
- PSYC 315 Computational Psychology (3 credits)

(continued on Attachment 1C)

7.0 Attachment 1C

PSYC 317 Genes and Behaviour (3 credits)  
PSYC 318 Behavioural Neuroscience 2 (3 credits)  
PSYC 340 Psychology of Language (3 credits)  
PSYC 341 The Psychology of Bilingualism (3 credits)  
PSYC 342 Hormones and Behaviour (3 credits)  
PSYC 352 Cognitive Psychology Laboratory (3 credits)  
PSYC 406 Psychological Tests (3 credits)  
PSYC 410 Special Topics in Neuropsychology (3 credits)  
PSYC 413 Cognitive Development (3 credits)  
PSYC 427 Sensorimotor Behaviour (3 credits)  
PSYC 470 Memory and Brain (3 credits)  
PSYC 501 Auditory Perception (3 credits)  
PSYC 506 Cognitive Neuroscience of Attention (3 credits)  
PSYC 514 Neurobiology of Learning and Memory (3 credits) \*  
PSYC 522 Neurochemistry and Behaviour (3 credits)  
PSYC 526 Advances in Visual Perception (3 credits)  
PSYC 529 Music Cognition (3 credits)  
PSYC 531 Structural Equation Models (3 credits)  
~~PSYC 532 Cognitive Science (3 credits)~~  
PSYC 536 Correlational Techniques (3 credits)  
PSYC 537 Advanced Seminar in Psychology of Language (3 credits)  
PSYC 538 Categorization, Communication & Consciousness (3 credits)  
PSYC 541 Multilevel Modelling (3 credits)  
PSYC 545 Topics in Language Acquisition (3 credits)  
PSYC 561 Methods: Developmental Psycholinguistics (3 credits)

**Neuroscience**

\* Students select either BIOL 514 or PSYC 514, but not both.  
\*\* Students select either NSCI 200 or PHGY 209, but not both.

ANAT 321 Circuitry of the Human Brain (3 credits)  
BIOL 200 Molecular Biology (3 credits)  
BIOL 201 Cell Biology and Metabolism (3 credits)  
BIOL 306 Neural Basis of Behaviour (3 credits)  
BIOL 307 Behavioural Ecology (3 credits)  
BIOL 320 Evolution of Brain and Behaviour (3 credits)

(continued on Attachment 1D)

PSYC 317 Genes and Behaviour (3 credits)  
PSYC 318 Behavioural Neuroscience 2 (3 credits)  
PSYC 340 Psychology of Language (3 credits)  
PSYC 341 The Psychology of Bilingualism (3 credits)  
PSYC 342 Hormones and Behaviour (3 credits)  
PSYC 352 Cognitive Psychology Laboratory (3 credits)  
PSYC 406 Psychological Tests (3 credits)  
PSYC 410 Special Topics in Neuropsychology (3 credits)  
PSYC 413 Cognitive Development (3 credits)  
PSYC 427 Sensorimotor Behaviour (3 credits)  
PSYC 433 Cognitive Science (3 credits)  
PSYC 470 Memory and Brain (3 credits)  
PSYC 501 Auditory Perception (3 credits)  
PSYC 506 Cognitive Neuroscience of Attention (3 credits)  
PSYC 513 Human Decision Making (3 credits)  
PSYC 514 Neurobiology of Learning and Memory (3 credits) \*  
PSYC 522 Neurochemistry and Behaviour (3 credits)  
PSYC 526 Advances in Visual Perception (3 credits)  
PSYC 529 Music Cognition (3 credits)  
PSYC 531 Structural Equation Models (3 credits)  
PSYC 536 Correlational Techniques (3 credits)  
PSYC 537 Advanced Seminar in Psychology of Language (3 credits)  
PSYC 538 Categorization, Communication & Consciousness (3 credits)  
PSYC 541 Multilevel Modelling (3 credits)  
PSYC 545 Topics in Language Acquisition (3 credits)  
PSYC 561 Methods: Developmental Psycholinguistics (3 credits)

**Neuroscience**

\* Students select either BIOL 514 or PSYC 514, but not both.  
\*\* Students select either NSCI 200 or PHGY 209, but not both.

ANAT 321 Circuitry of the Human Brain (3 credits)  
BIOL 200 Molecular Biology (3 credits)  
BIOL 201 Cell Biology and Metabolism (3 credits)  
BIOL 306 Neural Basis of Behaviour (3 credits)  
BIOL 307 Behavioural Ecology (3 credits)  
BIOL 320 Evolution of Brain and Behaviour (3 credits)

(continued on Attachment 1D)

7.0 Attachment 1D

BIOL 507 Animal Communication (3 credits)  
BIOL 514 Neurobiology Learning and Memory (3 credits) \*  
BIOL 530 Advances in Neuroethology (3 credits)  
BIOL 532 Developmental Neurobiology Seminar (3 credits)  
BIOL 580 Genetic Approaches to Neural Systems (3 credits)  
BIOL 588 Advances in Molecular/Cellular Neurobiology (3 credits)  
NEUR 310 Cellular Neurobiology (3 credits)  
NSCI 200 Introduction to Neuroscience 1 (3 credits) \*\*  
NSCI 300 Neuroethics (3 credits)  
PHGY 209 Mammalian Physiology 1 (3 credits) \*\*  
PHGY 311 Channels, Synapses & Hormones (3 credits) \*  
PHGY 314 Integrative Neuroscience (3 credits)  
PHGY 556 Topics in Systems Neuroscience (3 credits)  
PSYC 211 Introductory Behavioural Neuroscience (3 credits)  
PSYC 302 The Psychology of Pain (3 credits)  
PSYC 311 Human Cognition and the Brain (3 credits)  
PSYC 317 Genes and Behaviour (3 credits)  
PSYC 318 Behavioural Neuroscience 2 (3 credits)  
PSYC 342 Hormones and Behaviour (3 credits)  
PSYC 410 Special Topics in Neuropsychology (3 credits)  
PSYC 427 Sensorimotor Behaviour (3 credits)  
PSYC 444 Sleep Mechanisms and Behaviour (3 credits)  
PSYC 506 Cognitive Neuroscience of Attention (3 credits)  
PSYC 514 Neurobiology of Learning and Memory (3 credits) \*  
PSYC 522 Neurochemistry and Behaviour (3 credits)  
PSYC 526 Advances in Visual Perception (3 credits)  
~~PSYC 532 Cognitive Science (3 credits)~~  
PSYT 301 Issues in Drug Dependence (3 credits)  
PSYT 500 Advances: Neurobiology of Mental Disorders (3 credits)  
PSYT 502 Brain Evolution and Psychiatry (3 credits)  
PSYT 515 Advanced Studies in Addiction (3 credits)

**Research Course**

COGS 401 Research Cognitive Science 1 (6 credits)

BIOL 507 Animal Communication (3 credits)  
BIOL 514 Neurobiology Learning and Memory (3 credits) \*  
BIOL 530 Advances in Neuroethology (3 credits)  
BIOL 532 Developmental Neurobiology Seminar (3 credits)  
BIOL 580 Genetic Approaches to Neural Systems (3 credits)  
BIOL 588 Advances in Molecular/Cellular Neurobiology (3 credits)  
CHEM 212 Introductory Organic Chemistry 1 (4 credits)  
NEUR 310 Cellular Neurobiology (3 credits)  
NSCI 200 Introduction to Neuroscience 1 (3 credits) \*\*  
NSCI 300 Neuroethics (3 credits)  
PHGY 209 Mammalian Physiology 1 (3 credits) \*\*  
PHGY 311 Channels, Synapses & Hormones (3 credits) \*  
PHGY 314 Integrative Neuroscience (3 credits)  
PHGY 556 Topics in Systems Neuroscience (3 credits)  
PSYC 211 Introductory Behavioural Neuroscience (3 credits)  
PSYC 302 The Psychology of Pain (3 credits)  
PSYC 311 Human Cognition and the Brain (3 credits)  
PSYC 317 Genes and Behaviour (3 credits)  
PSYC 318 Behavioural Neuroscience 2 (3 credits)  
PSYC 342 Hormones and Behaviour (3 credits)  
PSYC 410 Special Topics in Neuropsychology (3 credits)  
PSYC 427 Sensorimotor Behaviour (3 credits)  
PSYC 433 Cognitive Science (3 credits)  
PSYC 444 Sleep Mechanisms and Behaviour (3 credits)  
PSYC 506 Cognitive Neuroscience of Attention (3 credits)  
PSYC 514 Neurobiology of Learning and Memory (3 credits) \*  
PSYC 522 Neurochemistry and Behaviour (3 credits)  
PSYC 526 Advances in Visual Perception (3 credits)  
PSYT 301 Issues in Drug Dependence (3 credits)  
PSYT 500 Advances: Neurobiology of Mental Disorders (3 credits)  
PSYT 502 Brain Evolution and Psychiatry (3 credits)  
PSYT 515 Advanced Studies in Addiction (3 credits)

**Research Course**

COGS 401 Research Cognitive Science 1 (6 credits)

8.0 Consultation with  
Related Units

Yes No

Financial Consult

Yes No

Attach list of consultations - Please see Attachment 1E

9. Approvals

Routing Sequence	<input type="checkbox"/>	<input type="checkbox"/>	Name	Signature	<input type="checkbox"/>	<input type="checkbox"/>	Date
Department							
Curric/Acad Committee							
Faculty 1							
Faculty 2							
Faculty 3							
SCTP							
GS							
APPC							
Senate							

Submitted by

Name

Tom Shultz

Phone

X6139

Email

thomas.shultz@mcgill.ca

Submission Date

To be completed by ARR:

CIP Code