

## PROGRAM OF STUDY

### Cognitive Science Major Program Bachelor of Arts

Research in cognition has surged recently, which affects fields such as psychology, linguistics, philosophy, computing science, education, anthropology, communications, and sociology. The greatest impact within psychology is in the sub-fields of psycholinguistics, cognitive psychology, and developmental psychology; within philosophy, on philosophy of language, philosophical logic, and philosophy of mind; within linguistics, on semantics, syntax, phonology, and phonetics; and within computing science, on artificial intelligence.

Those working in these areas find they read the same literature and ask closely related questions in research and teaching. Increasingly, work in these fields belongs to a common area which cuts across traditional departmental organization. At Simon Fraser University, this interrelation is reflected in courses which draw on research, cognition and language from different departments. This program offers a structured and integrated study of cognition.

#### **Students complete 120 units which include at least**

Bachelor of Arts Requirements

65 units in Faculty of Arts and Social Sciences subjects (includes major/minor units if in this faculty)

45 upper division units (includes major/minor units)

writing, quantitative and breadth requirements as described below

#### **Program Requirements**

Within the minimum 120 units needed for the BA, students complete the required courses in the sections below.

#### **Introductory Courses**

Lower Division Requirements

Students complete a minimum of 18 units including

COGS 100	Exploring the Mind	3
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*and the following requirements.*

#### **Computing Science**

Students complete either

CMPT 126	Introduction to Computing Science and Programming	3
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or both of

CMPT 120	Introduction to Computing Science and Programming I	3
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CMPT 125	Introduction to Computing Science and Programming II	3
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Additionally students who choose intermediate level computing science, must complete

MACM 101	Discrete Mathematics I	3
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#### **Linguistics**

LING 220	Introduction to Linguistics	3
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#### **Philosophy**

PHIL 100W	Knowledge and Reality	3
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#### **Psychology**

PSYC 100	Introduction to Psychology I	3
PSYC 102	Introduction to Psychology II	3
Intermediate Courses		
Students complete a minimum of 18 units including		
COGS 200	Foundations in Cognitive Science	3
and the requirements for at least three of the four disciplines shown below.		
<b>Computing Science</b>		
Students who choose this discipline will complete		
CMPT 225	Data Structures and Programming	3
<b>Linguistics</b>		
Students who choose this discipline will complete		
LING 221	Introduction to Phonetics and Phonology	3
LING 222	Introduction to Syntax	3
<b>Philosophy</b>		
Students who choose this discipline will complete		
PHIL 201	Epistemology	3
PHIL 210	Natural Deductive Logic	3
<b>Psychology</b>		
Students who choose this discipline will complete		
PSYC 201W	Introduction to Research Methods in Psychology	4
PSYC 221	Introduction to Cognitive Psychology	3
PSYC 280	Introduction to Biological Psychology	3
<b>Upper Division Requirements</b>		
Students complete a minimum of 27 units, including both of		
COGS 300	Selected Topics in Cognitive Science	3
COGS 310	Consciousness	3
<i>and the requirements listed below for the three disciplines that were previously selected in the intermediate level, all with an upper division cognitive science grade point average of 2.0 or higher in each of these three disciplines.</i>		
<b>Computing Science</b>		
Students who chose this discipline in the lower division will also complete a total of nine units, including one of		
CMPT 379	Principles of Compiler Design	3
CMPT 383	Comparative Programming Languages	3
CMPT 384	Symbolic Computing	3
MACM 300	Introduction to Formal Languages and Automata with Applications	3
and two of		
CMPT 310	Artificial Intelligence Survey	3
CMPT 411	Knowledge Representation	3
CMPT 412	Computational Vision	3
CMPT 413	Computational Linguistics	3
CMPT 417	Intelligent Systems	3
CMPT 418	Computational Cognitive Architecture	3
CMPT 419	Special Topics in Artificial Intelligence	3

## Linguistics

Students who chose this discipline in the lower division will also complete a total of nine units, including, three of

LING 321	Phonology	3
LING 322	Syntax	3
LING 323	Morphology	3
LING 324	Semantics	3
LING 330	Phonetics	3
LING 350	First Language Acquisition	3
LING 400	Formal Linguistics	3
LING 480 *	Topics in Linguistics I	3
LING 481 *	Topics in Linguistics II	3

\*relevant topics include discourse analysis, functional linguistics, language and the brain, computational linguistics

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## Philosophy

Students who chose this discipline in the lower division will also complete a total of nine units, including three of

PHIL 302	Topics in Epistemology and Metaphysics	3
PHIL 314	Topics in Logic I	3
PHIL 341	Philosophy of Science	3
PHIL 343	Philosophy of Mind	3
PHIL 344	Philosophy of Language	3
PHIL 444W	Philosophy of Language II	4

## Psychology

Students who chose this discipline in the lower division will also complete a total of nine units, including, three of

PSYC 303	Perception	3
PSYC 325	Memory	3
PSYC 330	Attention	3
PSYC 335	Sensation	3
PSYC 354	Development of Children's Thinking	3
PSYC 383	Psychopharmacology	3
PSYC 382	Cognitive Neuroscience	3
PSYC 385	Evolution and Psychology	3

## Faculty of Arts and Social Sciences Program Requirements

For all bachelor of arts (BA) programs (except the honours program), students complete 120 units, which includes at least 60 units that must be completed at Simon Fraser University

at least 45 upper division units, of which at least 30 upper division units must be completed at Simon Fraser University

at least 65 units (including 21 upper division units) in Faculty of Arts and Social Sciences courses

satisfaction of the writing, quantitative, and breadth requirements

an overall cumulative grade point average (CGPA) and upper division CGPA of at least 2.0, and a program (major, joint major, extended minor, minor) CGPA and upper division CGPA of at least 2.0

## Writing, Quantitative, and Breadth Requirements

Students admitted to Simon Fraser University beginning in the fall 2006 term must meet writing, quantitative and breadth requirements as part of any degree program they may undertake. See [Writing, Quantitative, and Breadth Requirements](#) for university-wide information.

**Grade Requirements**

In addition to the BA requirement that a student's cumulative grade point average (CGPA) and upper division grade point average (UD GPA) be 2.0 or higher for graduation, cognitive science grade point averages (cognitive science GPA and cognitive science upper division GPA) are calculated based on all the courses selected to satisfy the graduation requirements for a major, minor or honours.

Cognitive science program GPAs (COGS CGPA and COGS UD GPA) of 2.0 or higher are required for program continuation.

**Residency Requirements and Transfer Credit**

The University’s residency requirement stipulates that, in most cases, total transfer and course challenge credit may not exceed 60 units, and may not include more than 15 as upper division work.

**Elective Courses**

In addition to the courses listed above, students should consult an academic advisor to plan the remaining required elective courses.

**Languages Other Than English**

Those contemplating graduate work are advised to acquire a reading knowledge of at least one language other than English.