Cognitive Science Course Review Handbook

The Student Association of Cognitive Science

DISCLAIMER:
All information and opinions found herein are those of individual students, and **do not** represent the views or advice of McGill University or any faculty, advisors, or staff affiliated with the McGill Cognitive Science program.

Please note that courses change from year to year. Information in is this handbook is based on courses from **previous years**, and may not apply to future versions of the course.

PHIL 210

INTRO TO DEDUCTIVE LOGIC

One of the **LOGIC requirement options**

COURSE OVERVIEW

SEMESTERS | Fall Only

PROFESSORS | Dr. Michael Hallet

- An introduction to propositional and predicate logic; formalization of arguments, truth-tables, systems of deductions, elementary metaresults, and related topics.
- Lecture-style classes, 1 optional conference per week,
- Exam format: short answers and long answers.

TIPS FOR SUCCESS

- The class starts out slow and basic but it can ramp up fast so make sure you are following along with the textbooks.
- Even though the conferences are not mandatory, they are very helpful for keeping up with the material
- The TAs are very helpful- do not be afraid to ask them for help if you get stuck on an assignment.
- Work hard to get full marks on your assignments so there is less pressure on the exams.
- Make sure you use the GradeGrinder computer software to check your proofs!

WHAT TO TAKE NEXT IF YOU LIKED THIS COURSE

PHIL 310 — *Intermediate Logic*

PHIL 410 — *Advanced Topics in Logic 1*

PREREQ(S)

Recommended: COMP 202

INFO

GRADING SCHEME

Grade	Assessment
50%	Final
25%	Take-home midterm
25%	2 Assignments

RECORDED? (Y/**N**)

CLASS SIZE: ~200

TEXTBOOK

Language, Proof, and Logic: Second Edition

GradeGrinder software

WHEN TO TAKE?

Recommended **U0/U1**

PSYC/BIOL 514

NEUROBIOLOGY OF LEARNING AND MEMORY

NSCI & PSYC streams:
optional class

COURSE OVERVIEW

SEMESTERS | Fall and Winter

PROFESSORS | Karim Nader

- This course explores the properties of cells responsible for learning and memory. Recent advances in the understanding of neurophysiological, biochemical, and structural processes relevant to neural plasticity.
- Emphasis on a few selected model systems involving vertebrate and invertebrate animals.
- Lecture-style classes.
- Exam style: take home long answer and tests material from the lectures and readings.

TIPS FOR SUCCESS

- Engage with the course material and participate in discussion, and your experience of the class will be enhanced.
- Reading over the studies covered will help you do well on the midterm and final.

WHAT TO TAKE NEXT IF YOU LIKED THIS COURSE

PSYC 470 — *Memory and Brain*

PSYC 318 — *Behavioural Neuroscience II*

PREREQ(S)

BIOL 306 or PHGY 311 or NEUR 310 or NSCI 201

INFO

GRADING SCHEME

Grade	Assessment
33.3%	Take-home midterm
33.3%	Presentation
33.3%	Take-home final

RECORDED? (Y/**N**)

CLASS SIZE: 15-20

TEXTBOOK

None

WHEN TO TAKE?

Recommended **U3**

PSYC 318

BEHAVIOURAL NEUROSCIENCE II

NSCI & PSYC streams:
optional class

COURSE OVERVIEW

SEMESTERS | Winter Only

PROFESSORS | Jonathan Britt

- The physiological bases of motivational states, with respect to feeding, drinking, sexual behavior, drug use, and aggression. Physiological basis of learning and memory.
- Lecture-style classes based on assigned readings.
- Exam style: multiple choice.

TIPS FOR SUCCESS

- It is a challenging course and requires substantial background knowledge in biology as well as learning several technical terms.
- Make diagrams, detailed notes and be sure to attend class!
- Requires an in depth understanding of the material rather than just memorization as the questions on the exam require you to apply concepts and think abstractly.
- Try and work through the concepts with classmates to make sure you've grasped the material.

WHAT TO TAKE NEXT IF YOU LIKED THIS COURSE

PSYC 470 — *Memory and Brain*

PHGY 314 — *Integrative Neuroscience*

PREREQ(S)

PSYC 311 or NSCI 201 or PHGY 314 or BIOL 306

Recommended: BIOL 200

INFO

GRADING SCHEME

Grade	Assessment
25%	Midterm 1
25%	Midterm 2
50%	Final exam

RECORDED? (**Y**/N)

CLASS SIZE: ~300

TEXTBOOK

None

WHEN TO TAKE?

Recommended **U2**/**U3**

COMP 202

FOUNDATIONS OF PROGRAMMING

One of the **COMP requirement options**
COMP stream: optional class

COURSE OVERVIEW

SEMESTERS | Fall and Winter

PROFESSORS | David Romero (F), Giulia Alberini (F)

- Introduction to computer programming in a high level language: variables, expressions, primitive types, methods, conditionals, loops. Introduction to algorithms, data structures (arrays, strings), modular software design, libraries, file input/output, debugging, exception handling.
- Background in calculus is an asset.
- Exam style: multiple choice, short answer and a long answer question.

TIPS FOR SUCCESS

- For the exams - practice the long answers because they take up a significant amount of time.
- Try to write the code on your own first, especially practice writing by hand since you'll be writing code on the final!
- Keep up with assignments and start them ahead of time so that you can see TAs if you need help.

WHAT TO TAKE NEXT IF YOU LIKED THIS COURSE

COMP 250 — *Introduction to Computer Science*

COMP 206 — *Introduction to Software Science*

PREREQ(S)

A CEGEP level math course

INFO

GRADING SCHEME

Grade	Assessment
40%	Assignments
20%	Midterm
40%	Final exam

RECORDED? (**Y**/N)

CLASS SIZE: ~300

TEXTBOOK

None

WHEN TO TAKE?

Recommended **U1**

PSYC 311

HUMAN COGNITION AND THE BRAIN

PSYC & NSCI streams:
optional class

COURSE OVERVIEW

SEMESTERS | Fall ONLY

PROFESSORS | Michalakis Petrides

- An introduction to the study of the relation between human cognitive processes and brain processes.
- The material covered is primarily based on studies of the effects of various brain lesions on cognition and studies of brain activity in relation to cognitive processes with modern functional neuroimaging methods.
- Exam style: multiple choice.

TIPS FOR SUCCESS

- Since there are no slides for the class it's really important to attend class, plus Petrides is a great lecturer!
- The midterm mainly tests neuroanatomy and not too many details from the readings.
- For the final it is important to know the readings extremely well! You should be able to compare and contrast the deficits presented in lectures and readings.
- Conferences are extremely helpful.

WHAT TO TAKE NEXT IF YOU LIKED THIS COURSE

PSYC 427 — *Sensorimotor Behavior*

NSCI 410 — *Special Topics in Neuropsychology*

PREREQ(S)

None

INFO

GRADING SCHEME

Grade	Assessment
30%	Midterm
70% (or 100%)	Final exam

RECORDED? (Y/**N**)

CLASS SIZE: ~300

TEXTBOOK

Course pack - required

WHEN TO TAKE?

Recommended **U2**

LING 371

SYNTAX I

LING stream: optional class

COURSE OVERVIEW

SEMESTERS | Fall and Winter

PROFESSORS | Junko Shimoyama

- Introduction to the study of generative syntax of natural languages, emphasizing basic concepts and formalism: phrase structure rules, transformations, and conditions on rules.
- Exam style: multiple choice, short and long answer.

TIPS FOR SUCCESS

- It is essential to do as many practice problems as you can and keep on top of the work!
- Read the textbook, ask your prof/TAs, and check online sources to really consolidate the theories behind syntax.
- For drawing the trees it is helpful to explain why you are drawing each step to help you understand the theory presented in class.

WHAT TO TAKE NEXT IF YOU LIKED THIS COURSE

LING 571 — *Syntax II*

LING 455 — *Second Language Syntax*

PREREQ(S)

LING 201

INFO

GRADING SCHEME

Grade	Assessment
10%	Quizzes
30%	Problem sets
25%	Midterm
35%	Final exam

RECORDED? (Y/**N**)

CLASS SIZE: ~300

TEXTBOOK

Optional

WHEN TO TAKE?

Recommended **U1**

PSYC 427

SENSORIMOTOR BEHAVIOR

PSYC & NSCI streams:
optional class

COURSE OVERVIEW

SEMESTERS | Winter ONLY

PROFESSORS | David Ostry

- A systematic examination of the sensorimotor system, drawing on models and data from both behavioural and physiological studies.
- Topics include: cortical motor areas, cerebellum, basal ganglia, spinal mechanisms, motor unit properties and force production, prioception, muscle properties.
- Exam style: long answer questions

TIPS FOR SUCCESS

- Stay up to date with the course material. Both the midterm and final consist of essay questions therefore it requires thorough understanding of the material.
- Summarize the lecture/topic in your own words, try and compare your summary with the lecture notes and see if you are missing any key points. Focus on key elements of each study.

WHAT TO TAKE NEXT IF YOU LIKED THIS COURSE

PHGY 556 — *Topics in Systems Neuroscience*

PSYC 410 — *Special Topics in Neuropsychology*

PREREQ(S)

NSCI 201

INFO

GRADING SCHEME

Grade	Assessment
35%	Midterm
65%	Final exam

RECORDED? (Y/**N**)

CLASS SIZE: ~60

TEXTBOOK

Optional

WHEN TO TAKE?

Recommended **U2/U3**

PSYC 410

SPECIAL TOPICS IN NEUROPSYCHOLOGY

PSYC & NSCI streams:
optional class

COURSE OVERVIEW

SEMESTERS | Fall ONLY

PROFESSORS | Jelena Ristic

- Developments in cognitive neuroscience and cognitive neuropsychiatry via readings from primary sources.
- Topics include the neural bases of memory, emotion, social cognition and neuropsychiatric diseases. Integrating knowledge from studies in clinical populations and functional neuroimaging studies.
- Exam style: multiple choice (questions are either worth 1, 2, or 3 points).

TIPS FOR SUCCESS

- Exams are based on the lectures and the main ideas of the readings, although she does test on details from the lectures.
- It's important to attend the class! The first half of the class is the lecture and the second half of the class is for discussion. The discussion portion provides students the opportunity to ask questions and clarify points of confusion.

WHAT TO TAKE NEXT IF YOU LIKED THIS COURSE

PHGY 556 — *Topics in Systems Neuroscience*

PSYT 500 - Adv: Neur of Mtl Disorders

PREREQ(S)

PSYC 311 or NSCI 201

INFO

GRADING SCHEME

Grade	Assessment
20%	Weekly thought questions
30%	Midterm
50%	Final exam

RECORDED? (Y/**N**)

CLASS SIZE: ~80

TEXTBOOK

Book for the course is available at the bookstore

WHEN TO TAKE?

Recommended **U2/U3**

PSYC 538

CATEGORIZATION, COMMUNICATION AND CONSCIOUSNESS

PSYC stream:
optional class

COURSE OVERVIEW

SEMESTERS | Winter ONLY

PROFESSORS | Steven Harnad

- Focusses on the capacity to learn sensorimotor categories, to name and describe them verbally, and to transmit them to others, concluding with cognition distributed on the Web.
- Exam style: long answer.

TIPS FOR SUCCESS

- Go to class and participate in discussion.
- Do all of the skywritings, even if you feel like you don't have anything to say.
- Most of the information was new, but the course is mostly self-contained and prior knowledge is not required.

WHAT TO TAKE NEXT IF YOU LIKED THIS COURSE

PSYC 532 — *Cognitive Science*

PSYC 352— *Cognitive Psychology Laboratory*

PREREQ(S)

A 300-level course in any stream

INFO

GRADING SCHEME

Grade	Assessment
30%	Skywritings
20%	Class discussions
10%	Midterm
40%	Final Exam

RECORDED? (**Y**/N)

CLASS SIZE: ~80

TEXTBOOK

No textbook

WHEN TO TAKE?

Recommended **U3**

PSYC 305

STATISTICS FOR EXPERIMENTAL DESIGN

PSYC stream:
optional class

COURSE OVERVIEW

SEMESTERS | Fall and Winter

PROFESSORS | Rhonda Amsel (F), Heungsun Hwang (W)

- Introduction to the design and analysis of experiments, including analysis of variance, planned and post hoc tests and a comparison of anova to correlational analysis.
- Exam style: multiple choice and short answer,

TIPS FOR SUCCESS

- Make sure to dedicate time to learning the definitions, especially if you are taking the course with Amsel!
- Practice problems are done in class which so it's important to attend.
- The practice problems in the course pack are excellent practice for both the midterm and final.

WHAT TO TAKE NEXT IF YOU LIKED THIS COURSE

PSYC 406 — *Psychological Tests*

PSYC 531— *Structural Equation Models*

PREREQ(S)

PSYC 204

INFO

GRADING SCHEME

Grade	Assessment
25%	Assignments
20%	Midterm
55%	Final Exam

RECORDED? (Y/**N**)

CLASS SIZE: ~300

TEXTBOOK

None

WHEN TO TAKE?

Recommended **U1/U2**

BIOL 201

CELL BIOLOGY AND METABOLISM

NSCI stream: optional class

COURSE OVERVIEW

SEMESTERS | Winter

PROFESSORS | Gary Brouhard .

- This course provides students with an introductory overview to how cells work and function. Topics include: photosynthesis, energy metabolism and metabolic integration; plasma membrane including secretion, endocytosis, and contact mediated interactions between cells; cytoskeleton including cell and organelle movement; the nervous system; hormone signaling; the cell cycle.
- Lecture-style classes, only tested on lecture material.
- Exam style: multiple choice and short answer.

TIPS FOR SUCCESS

- It helps to do the online quizzes in groups so that you can discuss the material.
- Although you are given a cheat sheet for the exam and midterm, make sure you fully to understand the material rather than memorizing every detail. Brouhard's questions require an application of the material rather than the typical regurgitation

WHAT TO TAKE NEXT IF YOU LIKED THIS COURSE

BIOL 306 — *Neural Basis of Behavior*

NEUR 310— *Cellular Neurobiology*

PREREQ(S)

BIOL 200

INFO

GRADING SCHEME

Grade	Assessment
25% each	Two midterms
10%	Quizzes
40%	Final

RECORDED? (**Y**/N)

CLASS SIZE: 700

TEXTBOOK

Optional

WHEN TO TAKE?

Recommended **U1**

COMP 424

ARTIFICIAL INTELLIGENCE

COURSE OVERVIEW

SEMESTERS | Winter ONLY

PROFESSORS | Jackie Cheung

- Introduction to search methods. Knowledge representation using logic and probability. Planning and decision making under uncertainty. Introduction to machine learning.
- Exam format: short and long answer.

TIPS FOR SUCCESS

- There are a lot of formulas for the tests, so putting time into doing the assignments thoroughly will be good preparation for that.
- For the project, have fun with it! It's not hard to get a passing grade, but to succeed at the competition takes creativity, testing, and a lot of luck.
- Do NOT procrastinate on the assignments - they can and will be time consuming.

WHAT TO TAKE NEXT IF YOU LIKED THIS COURSE

PSYC 315— *Computational Psychology*

COMP 527— *Logic and Computation*

PREREQ(S)

COMP 206 and 251

MATH 323

INFO

GRADING SCHEME

Grade	Assessment
20%	Assignments
20%	Project
20%	Midterm
40%	Final exam

RECORDED? (Y/**N**)

CLASS SIZE: ~170

TEXTBOOK

Optional

WHEN TO TAKE?

Recommended: **U2**

PHGY 314

INTEGRATIVE NEUROSCIENCE

COURSE OVERVIEW

SEMESTERS | Fall ONLY

PROFESSORS | Maurice J Chacron, Reza Sharif Naeini, Erik P Cook

- The course examines our understanding of how neurons encode sensory information, generate movement, and control cognitive functions.
- Exam format: multiple choice.

TIPS FOR SUCCESS

- Having taken NSCI 201 beforehand is extremely helpful since there's considerable overlap!
- There's a lot of information to memorize in this class so it's important to stay up to date and to not study last minute. Make sure you know everything on the slides presented in class!

WHAT TO TAKE NEXT IF YOU LIKED THIS COURSE

PHGY 556 - Topics in Systems Neuroscience

NSCI Stream:
Optional class

PREREQ

PHGY 209

INFO

GRADING SCHEME

Grade	Assessment
32%	Midterm
20%	Paper
48%	Final

RECORDED? (**Y**/N)

CLASS SIZE: ~150

TEXTBOOK

Optional

WHEN TO TAKE?

Recommended: **U2 or U3**

COMP 251

ALGORITHMS AND DATA STRUCTURES

COURSE OVERVIEW

SEMESTERS | Fall and Winter

PROFESSORS | Hamed Hatami(F), Adrian Roshan Vetta (W)

- Introduction to algorithm design and analysis. Graph algorithms, greedy algorithms, data structures, dynamic programming, maximum flows.
- Exam format: short and long answer .

TIPS FOR SUCCESS

- Have a good grasp of the mathematical and logical foundations that are required for the course.

WHAT TO TAKE NEXT IF YOU LIKED THIS COURSE

COMP 360 - Algorithm Design

COMP stream:
optional class

PREREQ(S)

COMP 250

INFO

GRADING SCHEME

Grade	Assessment
20%	Assignments
20%	Midterm
60% or 80%	Final

RECORDED? (Y/**N**)

CLASS SIZE: ~150

TEXTBOOK

Optional

WHEN TO TAKE?

Recommended: **U1**

PSYC 213

COURSE OVERVIEW

SEMESTERS | Winter Only

PROFESSORS | Signy Sheldon

- Topics include memory, attention, categorization, decision making, intelligence, philosophy of mind, and the mind as a computer-metaphor.
- Exam style: multiple choice.

TIPS FOR SUCCESS

- Although there are a lot of definitions and concepts it's important to focus on the ones she emphasizes in class.
- Stay up to date with the readings as they are important for the final.

WHAT TO TAKE NEXT IF YOU LIKED THIS COURSE

PSYC 311 — *Human Cognition and the Brain*

PSYC 352 — *Cognitive Psychology Lab*

PREREQ(S)

One previous PSYC course

INFO

GRADING SCHEME

Grade	Assessment
50%	Midterm
50%	Final

RECORDED? (**Y**/N)

CLASS SIZE: ~700

TEXTBOOK

Required

WHEN TO TAKE?

Recommended **U1**

PHGY 209

MAMMALIAN PHYSIOLOGY

NSCI stream**:** optional class

COURSE OVERVIEW

SEMESTERS | Fall Only

PROFESSORS | Melissa Volrath, Phil Gold, Ann Wechsler

- Topics include: physiology of body fluids, blood, body defense mechanisms, muscle, peripheral, central, and autonomic nervous systems.
- Exam style: multiple choice.

TIPS FOR SUCCESS

- Evaluations include Type A and Type B multiple choice questions so it's important to do practice problems with both types of questions. The questions provided by the TEAM TA's are great practice.
- Each professor teaches a section and makes their own questions for that section. Some will emphasize minute details whereas others will emphasize having a general understanding. It helps a lot to know the level of detail expected by each professor!
- There is lots of material in this class so clarify confusing concepts as soon as possible.

WHAT TO TAKE NEXT IF YOU LIKED THIS COURSE

PHGY 311 — *Channels, Synapses & Hormones*

PHGY 314 — *Integrative Neuroscience*

PREREQ(S)

BIOL 200

CHEM 212

INFO

GRADING SCHEME

Grade	Assessment
30%	Midterm
70%	Final

RECORDED? (**Y**/N)

CLASS SIZE: ~700

TEXTBOOK

Optional

WHEN TO TAKE?

Recommended **U1**

PSYC 532

COGNITIVE SCIENCE

COURSE OVERVIEW

SEMESTERS | Fall ONLY

PROFESSORS | Anthony R Otto

- Multi-disciplinary study of intelligent systems
- Topics: problems in vision, memory, categorization, choice, problem-solving, cognitive development, syntax, language acquisition, and rationality. Rule-based and connectionist approach
- Exam format: multiple choice

TIPS FOR SUCCESS

- It's very important to engage in class discussion as it can significantly impact your mark

WHAT TO TAKE NEXT IF YOU LIKED THIS COURSE

PSYC 506 - Cognitive Neuroscience of Attention

PSYC 538 - Categorization, Communication, and Consciousness

PSYC/NSCI streams: optional class

PREREQ(S)

Previous courses in at least two disciplines of Cognitive Science

INFO

GRADING SCHEME

Grade	Assessment
20%	Assignments
20%	Reading log assignment
20	Class discussion/ participation
40%	Final

RECORDED? (Y/**N**)

CLASS SIZE: ~50

TEXTBOOK

Required

WHEN TO TAKE?

Recommended: **U3**

PSYC 506

COGNITIVE NEUROSCIENCE OF ATTENTION

PSYC/NSCI streams:
optional class

COURSE OVERVIEW

SEMESTERS | Fall ONLY

PROFESSORS |

- Intro to cognitive properties and neural mechanisms of attention.
- Topics: overview of the history of attention research, contemporary theories of attention, the varieties of attention, behavioural and neuroimaging experimental methods, the nature of attentional dysfunctions, and the links between and other cognitive functions.
- Exam format: short and long answer.

TIPS FOR SUCCESS

- Make sure to go through the readings very thoroughly.
- Be creative with your interpretation of the topic as a there is no concrete answer to many of the questions concerning attention.
- Be engaged and participate in class discussion!

WHAT TO TAKE NEXT IF YOU LIKED THIS COURSE

PSYC 538 - Categorization, Communication, and Consciousness

PSYC 532 - Cognitive Science

PREREQ(S)

PSYC 213 and 311
PSYC 305 or BIOL 373

INFO

GRADING SCHEME

Grade	Assessment
15%	Group presentation
35%	Critique paper
15%	Class participation
35%%	Take-home Final

RECORDED? (Y/**N**)

CLASS SIZE: ~25

TEXTBOOK

None

WHEN TO TAKE?

Recommended: **U3**

LING 440

MORPHOLOGY

LING stream:
optional class

COURSE OVERVIEW

SEMESTERS | Fall ONLY

PROFESSORS | Lisa De Mena Travis

- An introduction to the study of the internal structure of words. Topics will include the different ways words are formed in languages, how sound changes take. place within words, how words are used in sentences
- Exam format: short and long answer.

TIPS FOR SUCCESS

- Background in syntax is necessary to succeed in this course.
- Do the readings.
- If you're having trouble with the material don't hesitate to see the professor during office hours!

WHAT TO TAKE NEXT IF YOU LIKED THIS COURSE

LING 461 - Formal Methods in Linguistics

LING 590 - Language Acquisition and Breakdown

PREREQ(S)

LING 330 and LING 371

INFO

GRADING SCHEME

Grade	Assessment
15%	Quizzes
35%	Problem Sets
15%	Class participation
35%%	Group Activity

RECORDED? (Y/**N**)

CLASS SIZE: ~50

TEXTBOOK

Provided

WHEN TO TAKE?

Recommended: **U3**

LING 331

PHONOLOGY 1

LING stream:
optional class

COURSE OVERVIEW

SEMESTERS | Fall ONLY

PROFESSORS | Peter Milne

- Intro to cognitive properties and neural mechanisms of attention.
- Topics: overview of the history of attention research, contemporary theories of attention, the varieties of attention, behavioural and neuroimaging experimental methods, the nature of attentional dysfunctions, and the links between and other cognitive functions.
- Exam format: short and long answer.

TIPS FOR SUCCESS

- Make sure to go through the readings very thoroughly
- Be creative with your interpretation of the topic as a there is no concrete answer to many of the questions concerning attention.
- Be engaged and participate in class discussion!

WHAT TO TAKE NEXT IF YOU LIKED THIS COURSE

LING 451 - Acquisition of Phonology

LING 531 - Phonology 2

PREREQ(S)

LING 330

INFO

GRADING SCHEME

Grade	Assessment
15%	Group presentation
35%	Critique paper
15%	Class participation
35%%	Take-home Final

RECORDED? (Y/**N**)

CLASS SIZE: ~25

TEXTBOOK

None

WHEN TO TAKE?

Recommended: **U3**

ANAT 321

CIRCUITRY OF THE HUMAN BRAIN

NEURO stream:
optional class

COURSE OVERVIEW

SEMESTERS | Fall ONLY

PROFESSORS | David Ragsdale

- This course explores the functional organization of the human brain and spinal cord.
- The course focuses on how neuronal systems are designed to subserve specific motor, sensory, and cognitive operations.
- Exam format: multiple choice

TIPS FOR SUCCESS

- Memorize the material and make sure you understand the anatomical functions. The exam are very fair if you've memorized the material covered in class.
- Be engaged and participate in class discussion!

WHAT TO TAKE NEXT IF YOU LIKED THIS COURSE

BIOL 306 - Neural Basis of Behavior

NEUR 310 - Cellular Neurobiology

PREREQ(S)

ANAT/BIOC 212 or BIOL 201; and one of PHGY 209, NSCI 200 or PSYC 211
ONLY OPEN TO U3

INFO

GRADING SCHEME

Grade	Assessment
35%	Midterm
60%	Final Exam
5%	Readings

RECORDED? (**Y**/N)

CLASS SIZE: ~180

TEXTBOOK

None

WHEN TO TAKE?

Recommended: **U2**

BIOL 200

MOLECULAR BIOLOGY

NEURO stream:
optional class

COURSE OVERVIEW

SEMESTERS | Fall ONLY

PROFESSORS | Thomas Bureau, Richard Roy, Monique Zetka, Kenneth Hastings

- The physical and chemical properties of the cell and its components in relation to their structure and function. Topics include: protein structure, enzymes and enzyme kinetics; nucleic acid replication, transcription and translation; the genetic code, mutation, recombination, and regulation of gene expression.
- Exam format: multiple choice and short answer

TIPS FOR SUCCESS

- Memorize ALL the material on the slides and everything that is emphasized in class.
- The NTCs are an excellent aid for this class.
- The textbook is useful if you are having trouble understanding certain concepts.

WHAT TO TAKE NEXT IF YOU LIKED THIS COURSE

BIOL 201 - Cell Biology and Metabolism

NEUR 310 - Cellular Neurobiology

PREREQ(S)

BIOL 112

INFO

GRADING SCHEME

Grade	Assessment
25%	Midterm
65%	Final Exam
10%	Quizzes

RECORDED? (**Y**/N)

CLASS SIZE: ~200

TEXTBOOK

Not required

WHEN TO TAKE?

Recommended: **U1**

BIOL 306

NEURAL BASIS OF BEHAVIOR

COURSE OVERVIEW

SEMESTERS | Fall ONLY

PROFESSORS | Alanna Watt, Joseph Alan Dent, Jon Sakata

- Neural mechanisms of animal behaviour; neuroethology; cellular neurophysiology, integrative networks within nervous systems; neural control of movement; processing of sensory information.
- Exam format: multiple choice and short answer

TIPS FOR SUCCESS

- Make sure you memorize and understand all the animal models/examples they provide when describing certain behaviours

WHAT TO TAKE NEXT IF YOU LIKED THIS COURSE

BIOL 507 - Animal Communication

NEUR 310 - Cellular Neurobiology

NEURO stream:
optional class

PREREQ(S)

PHYS 102 or 142, and one of BIOL 201, ANAT 212, BIOC 212 or NSCI 200

INFO

GRADING SCHEME

Grade	Assessment
18%	Midterm 1
25%	Midterm 2
2%	Assignment
45%	Final Exam

RECORDED? (**Y**/N)

CLASS SIZE: ~200

TEXTBOOK

Not required

WHEN TO TAKE?

Recommended: **U2**

NSCI 200

INTRO TO NEUROSCIENCE 1

NEURO stream:
optional class

COURSE OVERVIEW

SEMESTERS | Fall ONLY

PROFESSORS | Edward Ruthazer, Keith Murai, David Stellwagen

- An introduction to how nerve cells generate action potentials, communicate with one another at synapses, develop synaptic connections, early brain development, and the construction of specific neural circuits.
- Exam format: multiple choice and short answer.

TIPS FOR SUCCESS

- Memorize and understand all the animal models/examples they provide when describing certain behaviours.
- This course requires both memorization of the material as well as being able to apply the material, so it is important to make sure you understand the material fairly well!

WHAT TO TAKE NEXT IF YOU LIKED THIS COURSE

NSCI 201 - Intro to Neuroscience 2

NEUR 310 - Cellular Neurobiology

PREREQ(S)

BIOL 112, CHEM 110, CHEM 120, PHYS 101 or PHYS 131, and PHYS 102 or PHYS 142.
Co-requisite: BIOL 200, CHEM 212

INFO

GRADING SCHEME

Grade	Assessment
20%	Midterm 1
20%	Midterm 2
60%	Final Exam

RECORDED? (**Y**/N)

CLASS SIZE: ~180

TEXTBOOK

Not required

WHEN TO TAKE?

Recommended: **U1**

NSCI 201

INTRO TO NEUROSCIENCE 2

COURSE OVERVIEW

SEMESTERS | Winter ONLY

PROFESSORS | Rosemary Bagot

- An introduction to how the nervous system acquires and integrates information and uses it to produce behaviour.
- Exam format: multiple choice and short answer

TIPS FOR SUCCESS

- There's a lot of material covered which may seem daunting initially, but if you stay up to date then it is very manageable.
- NTCs are extremely helpful for the course!
- Although the readings in the textbook are long, they provide you with a more in-depth understanding of the material.

WHAT TO TAKE NEXT IF YOU LIKED THIS COURSE

PSYC 311 - Human Cognition and the Brain

NEUR 310 - Cellular Neurobiology

NEURO stream:
optional class

PREREQ(S)

NSCI 200 or PSYC 211

INFO

GRADING SCHEME

Grade	Assessment
25%	Midterm
25%	Midterm
50%	Final Exam

RECORDED? (**Y**/N)

CLASS SIZE: ~150

TEXTBOOK

Required

WHEN TO TAKE?

Recommended: **U1**

COMP 230

LOGIC AND COMPUTABILITY

COMP stream:
optional class

PREREQ(S)
None

COURSE OVERVIEW

SEMESTERS | Fall ONLY

PROFESSORS | Dirk Schlimm

- Propositional Logic, predicate calculus, proof systems, computability Turing machines, Church-Turing thesis, unsolvable problems, completeness, incompleteness, Tarski semantics, uses and misuses of Gödel's theorem.
- Exam format: short answer and long answer.

INFO

GRADING SCHEME

Grade	Assessment
30%	Quizzes
5%	Homework
25%	Midterm
40%	Final Exam

RECORDED? (Y/**N**)

CLASS SIZE: ~100

TIPS FOR SUCCESS

- The prof really encourages participation.
- There is a lot of vocabulary so making flashcards can be really helpful.
- Study for the quizzes, you only get around 15-20 minutes to complete them so it is important that you work quickly and efficiently.
- Although the homework is only marked for completion, it is really good practice for the midterm and final exam.

TEXTBOOK

Required

WHEN TO TAKE?

Recommended: **U1**

WHAT TO TAKE NEXT IF YOU LIKED THIS COURSE

PHIL 310 - Intermediate Logic

COMP 330 - Theory of Computation