

CAPILANO UNIVERSITY COURSE OUTLINE	
Term: FALL 2012	Course No. BIOL 353
Course: BRAIN HEALTH	Credits: 3.0 Section:
Instructor: Office: Tel: email:	

COURSE FORMAT: This is an online course in which students have 15 weeks to complete all assignments and the mandatory examinations. Midterm and final examinations are to be written on campus at scheduled times, however, other arrangements can be made if necessary.

PRE-REQUISITES: Successful completion of 45 credits of post-secondary courses at the 100-level or higher.

NOTE:

The following courses are recommended as prerequisites:

- BIOL 112/113 **or**
- BIOL 104/113 with a minimum grade of C+ **or**
- BIOL 110/111 **or**
- HKIN 190/191 **or**
- EDUC166/267 **or**
- EDUC 350

COURSE DESCRIPTION:

Given the complexity of the brain and how vital it is, how do we keep it healthy? Unlike other parts of the body, the brain remains the least understood organ in terms of health and disease. The purpose of this course is to describe brain structure and function and how they relate to control of vital biological processes as well as the pathophysiological basis of selected neurodegenerative diseases. In addition, effective strategies to lessen the risk of neurodegenerative disease will be examined.

COURSE OBJECTIVES:

General:

- To provide an overview of brain structures and function as they relate to neurodegenerative diseases.
- To examine the anatomy and physiology of different brain structures and how they are implicated in neurodegenerative disease.
- To provide an overview of restorative and palliative care for brain disease patients.

- To outline effective strategies for the prevention of brain disease.
- Additional emphasis will be given to brain health as well as brain disease prevention.
- To prepare students for further studies in Biology or the Health Sciences.

Instructional:

Upon successfully completing the course, the student should be able to:

- Demonstrate an understanding of the structure and function of the brain systems discussed;
- Understand and apply the pillars of brain health; and
- Identify the causes and symptoms of brain disease.

REQUIRED COURSE MATERIALS:**Textbook:**

¹ Marieb, Elaine N. and Katja Hoehn. Human Anatomy and Physiology, 8th ed. San Francisco: Benjamin Cummings, 2010.

² Kiraly, Stephen J. Your Healthy Brain, 2nd ed. Vancouver: Raincoast Press, 2010.

Selected Readings:

Readings will be assigned throughout the term.

COURSE CONTENT:

Weeks	Topics	Text References
1	Introduction: Brain disease is the next largest killer, challenges/environment today, obstacles to brain health.	² Chapters 1-3
2	The brain is an organ of the body and not simply the "mind".	² Chapters 3-6
3-4	Homeostasis, brain anatomy and physiology.	¹ Chapters 11, 12
5-6	Membrane activity, neurotransmitters, neuropeptides, receptors, HPA axis	¹ Chapter 11
7	Neurodegenerative brain disease and nerve disease of the brain.	¹ Chapter 12
9-10	Fundamentals of brain health, practical applications of healthy brain pillars.	² Chapters 7-14
11-13	Stabilizing brain function under clinical circumstances.	² Chapters 7-14
14-15	Final Exam Period	TBA

EVALUATION PROFILE:

Final grades for the course will be computed based on the following schedule:

Quizzes (2)	20%
Midterm Exam	35%
Case Study	10%
Final Exam	35%
TOTAL	100%

Quizzes, the mid-term and final exam will include both multiple choice and essay-type questions. The final exam will be cumulative.

Students will be given a medical case study and will identify the condition or disease, basing diagnosis on identified risk factors and symptoms ascertained from the study. Students will then apply the principles of brain health and prepare a working recommendation of how one might ameliorate such unique disease pathologies, and such recommendations/ findings will be written up as a technical report.

GRADING PROFILE:

Letter grades will be assigned according to the following guidelines:

A+ 88 - 100%	B+ 78 - 79%	C+ 68 - 69%	D 50 - 59%
A 83 - 87%	B 73 - 77%	C 63 - 67%	F 0 - 49%
A- 80 - 82%	B- 70 - 72%	C- 60 - 62%	

Students should refer to the University Calendar for the effect of the above grades on grade point average.

OPERATIONAL DETAILS:***University Policies:***

Capilano University has policies on Academic Appeals (including appeal of final grade), Student Conduct, Cheating and Plagiarism, Academic Probation and other educational issues. These and other policies are available on the University website.

Attendance:

The student is responsible for all information presented, including times of examinations and assignment deadlines.

Missed Exams:

Normally, a score of zero will be given for a missed exam, test, quiz, etc. In some **exceptional** situations, the student will be permitted to write a make-up test. The date and timing of any make-up option is at the discretion of the instructor.

Options will only be offered to students if:

1. Circumstances are beyond the control of the student which resulted in the exam, test, quiz, etc. to be missed. Such circumstances include serious illness or injury, or death of close family member. A departmental "medical form" to be completed by both the student and his/her physician may be requested. A copy of the death certificate of a close family member may also be required.

Reasons do **NOT** include forgetting about the test, lack of preparation for the test, work-related or social obligations.

2. The student has notified the instructor (or the Pure and Applied Science office staff, if the instructor is not available) about the missed exam, test, quiz, etc. Such notification **MUST** occur in advance, if possible, or at the latest, on the day of the exam, test, quiz, etc.
3. Proof of the circumstances must be provided. Proper documentation of illness or injury requires a completed medical form (supplied by the department) by both the student and the physician. All documentation **must be submitted within 5 days** of the missed exam.
4. The student has been fully participating in the course up until the circumstances that prevented the writing of the exam, test, quiz, etc. **Fully participating means attending almost all classes and turning in all assignments in the course.**

Final Exam Period: Students should note that the final exam period is from **(insert date)** (including Saturday, (date), and that they can expect to write exams at any time during this period. Individual exam times will not normally be rescheduled because of holidays, work, or other commitments. While efforts are made to spread exams throughout the exam period, an individual's particular course combination may result in exams being scheduled close together, or spread widely through the entire exam period.

Cheating/Plagiarism: Students caught cheating on a test will normally receive a grade of "F" on the course and may be expelled from the University. Plagiarism (including the copying of any part of assignments and essays) is a serious offence and is a form of cheating.

Incomplete Grades: Incomplete grades ("I") are given only when special arrangements have been agreed upon with the instructor prior to the end of the semester. Since "I" grades are granted only in exceptional circumstances (usually health problems), their occurrence is rare.

Final Letter Grade: All registered students will receive a final letter grade unless they have officially withdrawn (see the University Calendar for the withdrawal date).

- Professionalism:*** Students should be able to demonstrate a professional attitude and behaviour: reliability, respect for and cooperation with colleagues, willingness to work calmly and courteously, respect for equipment and systems, and constructive response to criticism.
- English Usage:*** Students are expected to use correct standard English in their written and oral assignments, exams, presentations and discussions. Failure to do so may result in reduced grades in any part of the Evaluation Profile. Please refer to the guidelines provided in the Capilano University Guide to written Assignments (available from the University Bookstore).
- Emergency Procedures:*** Please read the emergency procedures posted on the wall of the classroom.