

PRINCIPLES OF NEUROSCIENCE IV: 'NEURAL INTEGRATION AND CONTROL'

GMS6024 -- FALL/2013

2 CREDITS

CLASS LOCATION: MBI BUILDING, L1-101

MEETING TIME: MONDAY, WEDNESDAY, FRIDAY (9-11:00 AM)

COURSE DIRECTORS: *Benoit Giasson, Ph.D.* *Paul J. Reier, Ph.D.*
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COURSE DESCRIPTION AND OBJECTIVES:

This course is a 5-week module and represents the 4th part of the Principles of Neuroscience series. There will be 6 contact hours per week.

The primary objective of this course is to provide students with an overview of neuroscience concepts associated with specific topics related to higher-order and integrated nervous system functions. The course will focus on translational aspects with emphasis on experimental designs and methodology. This is an advanced neuroscience course with the expectation that the students will contribute to each lecture with interactive feedback and discussions.

Format: 1.5 hour lecture followed by a 30 min student presentation of a related paper.

COURSE TEXTBOOK:

Principles of Neural Science by Kandel, et al, 4th Ed., 2001

From Neuron to Brain by Nicholls, et al, 5th Ed., 2011

Reasonable Alternatives:

Neuroscience by Purves, et al, 4th Ed, 2008

Additional Reading will be assigned for each lecture.

HANDOUTS AND WRITTEN ASSIGNMENTS: Course handouts and reading materials in addition to course text will be provided using Drop Box. Registered students are to provide email addresses for file sharing purposes to Dr. Reier prior to the first class (Oct. 25).

PREREQUISITE KNOWLEDGE AND SKILLS:

Participation in either Neuropharmacology and its Clinical Application (GMS 6023) or Functional Human Neuroanatomy (GMS 6705).

Exceptions require instructor approval.

COURSE SCHEDULE:

Day	Date	Topic	Reading Chapter(s) in Nicholls and/or Kandel, Purves	Lecturer
1	Oct 25	Brain Function & Neurodegenerative Diseases		Dr. Benoit Giasson
2	Oct 28	Somatosensory Systems/Pain		Dr. Andy Ahn
3	Oct 30	Special Sensory Systems	Nicholls – 16 (IIIrd Ed. or Retina LGN chapter other eds.) Kandel – 26 Purves – IIIrd Ed./ Vision: The Eye <i>Papers to read in Dropbox folder</i>	Dr. Barbara Battelle
4	Nov 1	Autonomic Nervous System & Emotions	Nicholls -- 17 Kandel -- 50,51,61	Dr. Paul Reier
5	Nov 4	Memory and Higher-order Cognition		Dr. Jennifer Bizon
6	Nov 6	Language & Aphasias		Dr. Kenneth Heilman
7	Nov 8	UF Homecoming – NO CLASS		
8	Nov 11	Veteran's Day – NO CLASS		
9	Nov 13	MIDTERM EXAM Material thru Nov 11 st		Drs. Benoit Giasson & Paul Reier
10	Nov 15	Repetitive Behaviors, Clinical Issues & Animal Models		Dr. Mark Lewis
11	Nov 18	Stroke: Pathobiology, Modeling & Outcome		Dr. Sylvain Dore
12	Nov 20	Chemosensory Neurobiology		Dr. Shawn Dotson
13	Nov 22	Functional Magnetic Resonance Imaging of the Brain	Review article NK Logothetis	Dr. Marcelo Febo
14	Nov 25	Blood Brain Barrier & Blood-Nerve Barrier		Dr. Eduardo Candelario-Jalil
	Nov 27/29	THANKSGIVING HOLIDAYS – NO CLASS		
15	Dec 2	Drug Discovery & the Nervous System		Dr. Kevin Felsenstein
16	Dec 4	FINAL EXAM Material from Nov 15 th – Dec 2 nd		Drs. Benoit Giasson & Paul Reier

Disclaimer: This syllabus represents our current plans and objectives. As we go through the semester, those plans may need to change to enhance the class learning opportunity. Such changes, communicated clearly, are not unusual and should be expected.

GRADING POLICIES:

<i>Student Presentation/Weekly attendance:</i>	30%
<i>Midterm Exam:</i>	35%
<i>Final Exam:</i>	35%

INSTRUCTIONAL METHODS: Course materials will be delivered using traditional lectures. In addition, reading material and supplemental material will be posted using Drop Box.

COURSE POLICIES:

ATTENDANCE POLICY: *You are expected to attend each lecture and actively participate in the student projects.*

QUIZ/EXAM POLICY: *There are two exams in this course, a mid-term and a final. They are in-class exams comprised primarily of multiple choice and short answer questions.*

MAKE-UP POLICY: *You are expected to notify the course directors of any anticipated absences. You should make every effort to take the exams on the days they are scheduled. If extenuating circumstances prevent you from taking a scheduled exam, you will need to schedule an appointment to meet with the course directors to identify an alternative exam date.*

UF POLICIES:

UNIVERSITY POLICY ON ACCOMMODATING STUDENTS WITH DISABILITIES: Students requesting accommodation for disabilities must first register with the Dean of Students Office (<http://www.dso.ufl.edu/drc/>). The Dean of Students Office will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation. You must submit this documentation prior to submitting assignments or taking the quizzes or exams. Accommodations are not retroactive, therefore, students should contact the office as soon as possible in the term for which they are seeking accommodations.

UNIVERSITY POLICY ON ACADEMIC MISCONDUCT: Academic honesty and integrity are fundamental values of the University community. Students should be sure that they understand the UF Student Honor Code at <http://www.dso.ufl.edu/students.php>

ABOUT THE LECTURERS

COURSE CO-DIRECTORS:

Benoit Giasson, Ph.D. is Associate Professor in the Department of Neuroscience and is Co-director of the course

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COURSE FACULTY:

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