Section: 2748, 3 credits
Tuesday periods 9-11, 4:05 – 7:05 p.m.
Rogers Hall (ROG), room 106

Professor: Darragh P. Devine, Ph.D.

dpdevine@ufl.edu
Psychology Building room 324
273-2174

office hours: Tuesday and Thursday period 6 (12:50 – 1:40 p.m.)
(or by appointment)


COURSE OBJECTIVES: The purpose of this course is to provide a broad foundation (graduate level) in the neural basis of behaviour. Lectures and reading material will emphasize the cellular and molecular biology, anatomy, physiology, and development of the nervous system. The neurobiology of sensation and motor function, motivational and regulatory systems, and cognitive neuroscience will be covered in BCN-2. The course is formulated primarily for first-year students in the Behavioral and Cognitive Neuroscience Program, and it is intended to assure that all students entering the program achieve equivalent levels of fundamental competence in the basic Behavioral Neurosciences.

The textbook provides adequate coverage of all these topics and some additional topics. We will cover those topics that are essential to be well-versed in the subject matter of Behavioral Neuroscience [note, the reading load will be demanding during some portions of the course, and I strongly suggest that you read ahead of class meetings - so plan accordingly]. Additional topics will be left to the students to pursue according to their individual interests. Specialized and more advanced courses will be available in the Behavioral and Cognitive Neuroscience program, the Department of Psychology, and in other departments in the university. The BCN-1/2 course sequence will prepare students to undertake those courses.

GRADING: This course will have three take-home exams and one optional final exam. Each take-home exam will consist of a combination of multiple choice and short essay questions. Each take-home exam will cover only the text and lecture material from the chapters that have most recently been discussed in class. The final exam will be comprehensive (i.e. all the chapters that are covered during the semester), and will be taken in class during the examination period. Students will receive a grade based upon the exams.

Each of the take-home exams will count 33⅓% toward your final grade. If you perform adequately on all take-home exams and are satisfied with your grade, you may skip the final exam. If you fail to turn in a take-home exam on time, or if you do poorly on an exam, you can drop that exam/grade and take the final exam to replace it. In this case your three best exam scores will each count 33⅓% of your total grade.

The final is the only option for a missed or failed exam. There will be no additional makeup tests under any circumstances. A penalty of 10% per day will be imposed for any examination that is turned in late.

The grading scheme is as follows:

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<th>Grade</th>
<th>Percentage</th>
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<td>93-100</td>
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<td>A-</td>
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<td>B</td>
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ADDITIONAL SUPPORT FOR STUDENTS WITH DISABILITIES: Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation.

ACADEMIC HONESTY GUIDELINES: The academic community of students and faculty at the University of Florida strives to develop, sustain and protect an environment of honesty, trust and respect. Students are expected to pursue knowledge with integrity. Exhibiting honesty in academic pursuits and reporting violations of the Academic Honesty Guidelines will encourage others to act with integrity. Violations of the Academic Honesty Guidelines shall result in judicial action and a student being subject to the sanctions in paragraph XI of the Student Conduct Code. The conduct set forth hereinafter constitutes a violation of the Academic Honesty Guidelines (University of Florida Rule 6C1-4.017).

**Cheating.** The improper taking or tendering of any information or material which shall be used to determine academic credit. Taking of information includes, but is not limited to, copying graded homework assignments from another student; working together with another individual(s) on a take-home test or homework when not specifically permitted by the teacher; looking or attempting to look at another student's paper during an examination; looking or attempting to look at text or notes during an examination when not permitted. The tendering of information includes, but is not limited to, giving of your work to another student to be used or copied; giving someone answers to exam questions either when the exam is being given or after taking an exam; giving or selling a term paper or other written materials to another student; sharing information on a graded assignment.

**Plagiarism.** The attempt to represent the work of another as the product of one's own thought, whether the work is published or unpublished, or simply the work of a fellow student. Plagiarism includes, but is not limited to, quoting oral or written materials without citation on an exam, term paper, homework, or other written materials or oral presentations for an academic requirement; submitting a paper which was purchased from a term paper service as your own work; submitting anyone else's paper as your own work.

NOTE – If you copy and paste materials from another author into your work, this constitutes plagiarism, no matter how many words you change. **ALL WRITING ON EXAMS AND PAPERS MUST BE COMPLETELY ORIGINAL.** All written assignments will be reviewed using Turnitin.com. Any instance of cheating or plagiarism will result in a failing grade for the course, with no exceptions.

**Bribery.** The offering, giving, receiving, or soliciting of any materials, items or services of value to gain academic advantage for yourself or another.

**Misrepresentation.** Any act or omission with intent to deceive a teacher for academic advantage. Misrepresentation includes using computer programs generated by another and handing it in as your own work unless expressly allowed by the teacher; lying to a teacher to increase your grade; lying or misrepresenting facts when confronted with an allegation of academic dishonesty.

**Conspiracy.** The planning or acting with one or more persons to commit any form of academic dishonesty to gain academic advantage for yourself or another.

**Fabrication.** The use of invented or fabricated information or the falsification of research or other findings with the intent to deceive for academic or professional advantage.

UF's Academic Honesty Policy is clearly stated in rule 6C1-4.017 Student Affairs: Academic Honesty Guidelines.
WEBSITE: Images from lectures (Adobe Acrobat format) will be available for students to review at the course website. The website is found at: http://www.psych.ufl.edu/~dpdevine/bcn1/psb6087.html It is very important for students to access this site. If you experience any difficulty, contact me as early as possible.
Free software to view the images is available through the website. Additional materials and interesting links will also be posted on this site.

COURSE SCHEDULE: (This schedule is tentative. It will likely be modified during the semester.)

Approximate Dates  Chapter  Topic

I. NEUROSCIENCE
Aug. 28  Chapter 1: Fundamentals of Neuroscience
         Chapter 2: Basic Plan of the Nervous System

II. CELLULAR AND MOLECULAR NEUROSCIENCE
Sept. 4  Chapter 3: Cellular Components of Nervous Tissue
         Chapter 4: Subcellular Organization of the Nervous System: Organelles and Their Functions
Sept. 11 Chapter 5: Electrotonic Properties of Axons and Dendrites
Sept. 18 Chapter 6: Membrane Potential and Action Potential
Sept. 25 Chapter 7: Neurotransmitters
         Chapter 8: Release of Neurotransmitters

Sept. 25 Take-Home Exam #1: Chapters 1 - 8, and all material covered in lectures (due Oct. 2 by 4:00 p.m.)

Oct. 2  Chapter 9: Neurotransmitter Receptors
Oct. 9  Chapter 10: Intracellular Signaling
Oct. 16 Chapter 11: Postsynaptic Potentials and Synaptic Integration
Oct. 23 Chapter 12: Complex Information Processing in Dendrites
Oct. 30 Chapter 13: Brain Energy Metabolism

Oct. 30 Take-Home Exam #2: Chapters 9 - 13, and all material covered in lectures (due Nov. 6 by 4:00 p.m.)

III. NERVOUS SYSTEM DEVELOPMENT
Nov. 6  Chapter 14: Neural Induction and Pattern Formation
Nov. 13 Chapter 15: Cellular Determination
         Chapter 16: Neurogenesis and Migration
Nov. 20 Chapter 17: Growth Cones and Axon Pathfinding
         Chapter 18: Target Selection, Topographic Maps, and Synapse Formation
Nov 27  Chapter 19: Programmed Cell Death and Neurotrophic Factors
         Chapter 20: Synapse Elimination
Dec. 4  Chapter 21: Dendritic Development
         Chapter 22: Early Experience and Sensitive Periods

Dec. 4 Take-Home Exam #3: Chapters 14 - 22, and all material covered in lectures (due Dec. 11 by 4:00 p.m.)
Dec. 12 COMPREHENSIVE FINAL EXAM (all chapters and lectures; due Dec. 14 by 4:00 p.m.)