This advanced course in physiological psychology focuses on the biological and environmental forces that shape the development of the brain and behavior. It is assumed that students have a basic understanding of the nervous system and behavior from PSB 3002 or PSB 3340. If you are a little rusty, it would be a good idea to review the basics of nervous system structure and function.

Topics covered in this course will include cellular aspects of brain development, the structure and function of behavior during early development, the roles of hormones in the growth and differentiation of the brain and their effects on behavior, experiential factors in brain development, the relationship between development and evolution, and the relationship between development of the brain and recovery from brain damage. Sensory and motor development and the development of feeding, sexual behavior, language, learning and memory, and socialization and play will be discussed. This course will consider each of these topics from behavior down to the level of the cell, and thus will bridge the gap between traditional courses in developmental biology and developmental psychology.

The Introduction to Physiological Psychology course and Behavioral Neuroscience courses were "fact oriented," i.e., emphasized memorization of basic terms, structures, and functions. Because there is little time for consideration of broader conceptual issues, students often have little intuitive grasp of how everything fits together. I think that this course will help you develop that intuition, because developmental studies of the nervous system and behavior enable us to understand how and why the adult nervous system is organized as it is. The readings are mostly review articles and book chapters written as scientific communications rather than for use as texts, and some of them are fairly difficult. However, I have tried to choose the most succinct, current, and best-written material available.

The class will be conducted as a mixture of lecture and discussion. The amount of overlap between the lecture and readings varies, but the two are usually complementary rather than redundant. I expect you to read the relevant material before coming to class so that you can participate in class discussions. Don't be afraid to speak up. This class works best when there is a lot of student participation, and there aren't that many classes at the University of Florida in which you are encouraged to freely express yourself. Because of the relatively "open" format of the class, I never know exactly how fast we will cover particular topics. However, the exam dates are firm.
Evaluation: Your final grade will be based on three hourly exams and a cumulative final, which will be weighted equally. Each exam will be given in two parts. An objective part of the exam will be taken in class on a Friday. Essay questions will be revealed to students after the Friday exam and students will be allowed to study them over the weekend. Students may discuss them among themselves and may use any resources that are available to them to prepare answers. The essay answers themselves must be written in class on the next Monday with no assistance of any kind. No make-up exams will be given, but the lowest of your exam grades will be dropped. The objective and essay portions of the exam will be considered separately, so you could drop, for example, the objective part of Exam 1 and the essay part of Exam 3. If you miss either part of an exam, that becomes your "drop" for that part of the exam and you must take that part of the final exam. If you are happy with your grade based on the three hourly exams, you need not take the final. If you decide to take the final exam in an attempt to raise your final score, you may take the objective, essay or both parts.

TOPICS

Organization of the brain and behavior

Development of the CNS: Overview

Development of the CNS: Cellular processes

Development of the CNS: Epigenesis

**Behavioral embryology**


**Postnatal behavior**


**Ontogeny and phylogeny**


**Hormones and development of the brain and behavior**

**Thyroid hormones**


**Sex hormones**


Stress hormones


Sensory development


Development of Communication


Development of learning and memory


Play and Social development

**Teratology and Fetal Alcohol Syndrome**


**Schizophrenia**


**Autism Spectrum Disorders**

Development and brain damage

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**EXAM SCHEDULE**

*Exam 1*: September 23 & 26  
*Exam 2*: October 28 & October 31  
*Exam 3*: December 2 & 5

*Final Exam*: Thursday, December 15  
129 PSY, 4:00. – 6:00 p.m.