

BIBB 350 PRELIMINARY Syllabus
Fall 2009
Developmental Neurobiology

Instructor: Lauren A. O'Donnell, PhD
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Office Hours: By appointment
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Lecture Hours: T, Th @ 5:00-6:30pm (Williams Hall, Room 201)

Required Materials:

Development of the Nervous System
Second Edition, Elsevier Academic Press Publications.

We will also review and discuss selected papers from the scientific literature throughout the course.

Objectives of Course:

Developmental Neurobiology focuses on cellular and molecular mechanisms of the organogenesis of the central nervous system. A goal of the course will be to understand the form, function and pathology of the adult nervous system in terms of antecedent developmental processes. Examples of the relationship of CNS pathology to developmental processes will be considered. This course utilizes the Blackboard website for distribution of journal articles. Please visit: <https://courseweb.library.upenn.edu/> early in the semester to make sure you can access the course site.

Course grades will be based on weekly quizzes (10%), two midterm exams (25% each) and one cumulative final exam (40%).

Tentative Lecture Schedule

Week	Date	Topic	Chapter
1	Sept 10	Expectations for the Course	None!
2	Sept 15 Sept 17	Introduction to Embryogenesis Neural Induction, Pt. I	Chapter 1
3	Sept 22 Sept 24	Neural Induction, Pt. II Polarity and Segmentation	Chapter 2
4	Sept 29 Oct 1	Neurogenesis, Pt. I Neurogenesis, Pt. II: the role of the cell cycle	Chapter 2
5	Oct 6 - EXAM I Oct 8	Neuromigration, Pt. I	Chapter 3

6	Oct 13 Oct 15	Neuromigration, Pt. II Determination and Differentiation	Chapter 3
7	Oct 20 – NO CLASS Oct 22	Glia and myelination	Chapter 4
8	Oct 27 Oct 29	Axon Growth and Guidance, Pt. I Axon Growth and Guidance, Pt. II	Chapter 5
9	Nov 3 Nov 5	Target Selection, Pt. I Target Selection, Pt. II	Chapter 5
10	Nov 10 Nov 12 - EXAM 2	Neurotrophic Factors	Chapter 7
11	Nov 17 Nov 19	Neural Cell Death Synapse Formation, Pt.I	Chapter 6
12	Nov 24 - Nov 26 - NO CLASS	Synapse Formation, Pt.II Thanksgiving Break	Chapter 11
13	Dec 1 Dec 3	Stabilization of Synaptic Connections, Pt. I Stabilization of Synaptic Connections, Pt. II	Chapter 11
14	Dec 8 Dec 10	Guest Lecture: Dr. Glenn F. Rall, Fox Chase Cancer Center – Development of Autism Spectrum Disorders Trophic Interactions & Plasticity in the Mature CNS	
	TBA	FINAL EXAM (CUMULATIVE!)	

Quizzes: Short quizzes will be given at the beginning of class each Thursday. Quizzes will consist of multiple choice, fill in the blank, and short answer questions. The lowest quiz score will be dropped, and the remaining scores will be averaged to constitute 10% of the final course grade.

Exams: The midterm and final exams will consist of multiple choice and short answer questions designed to assess basic knowledge of the concepts discussed in class as well as the ability to apply that knowledge to a novel research question. As such, you should understand the material in sufficient depth to be able to integrate information from different lectures. Unless otherwise noted, lecture material will be the primary source of exam content. The final exam will be cumulative.

Missed exams will only be given at a later date with an authorized university absence. If you wish to submit an exam for a re-grade, you should do so in writing within one week of receiving the graded exam. If you submit an exam for a re-grade, the entire exam will be re-graded and your resulting score may higher or lower than the original grade. A fraction of exams are photocopied before being returned to the students. If an exam is found to have been altered before submission for re-grading, the student will be reported to the Office for Student Conduct.