

# SYLLABUS: BIPN144 - Developmental Neurobiology

Professor: Ethan Bier

Tu/Th: 3:30-4:50 PM WLH 2001 SPRING 2013

Office Hours: Following class, Bonner Hall 4218

Graduate TAs: Nicole Mercer: [namercer@ucsd.edu](mailto:namercer@ucsd.edu)  
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<u>Date</u>	<u>Lecture</u>	<u>Reading</u>
4/2	Overview of Neural Development: Model organisms	Ch. 1* , Ch 3†
4/4	Dorsal-Ventral Patterning: Invertebrates	Ch. 1* , Ch 3
4/9	Dorsal-Ventral Patterning: Vertebrates	Ch. 1* , Ch 5†
4/11	Neural Induction	Ch. 1* , Ch1 3†
4/16	Neuronal Competence and Identity	Ch. 1* , Ch 5†
4/18	Neural Tube Patterning	Ch. 2,4*
4/23	Lateral Inhibition	Ch. 1* , Ch 1,3†
4/25	<b>MIDTERM 1</b> (Covers material through 4/24 lecture)	
4/30	Neural Specification /Localized Determinants	Ch. 4*
5/2	Eye Development/Cellular Interactions	Ch. 4* , Ch 4,6†
5/7	Neuronal Differentiation -> Cell Movement and Migration	Ch. 3,5*
5/9	Axonal Navigation: Ventral Midline	Ch. 5*
5/14	Axonal Navigation: Visual System	Ch. 6*
5/16	Cell Death	Ch. 7*
5/21	Trophic Factors	Ch. 7*
5/23	<b>MIDTERM 2</b> (Covers material through 5/22 lecture)	
5/28	Synapse Formation I: Inupt -> Target	Ch. 8*
5/30	Synapse Formation II: Target ->Inupt	Ch. 9*
6/4	Synaptic Modifiability	Ch. 9,10*
6/6	Learning and Behavior	Ch. 10
6/10	<b>FINAL EXAM (Comprehensive)</b>	<b>3:00 – 6:00 PM</b>

GRADING: Midterm 1 = 25%  
Midterm 2 = 25%  
Final = 50%

**TEXTS: \*Required:** Development of the Nervous System, Third Edition  
by D.H. Sanes, T.A. Reh, and W.A. Harris, Academic Press, 2011.

†**Optional:** The Coiled Spring: How Life Begins,  
by Ethan Bier, Cold Spring Harbor Laboratory Press, 2000.

**COURSE WEB SITE:** <http://classes.biology.ucsd.edu/bipn144.SP13/index.html>