

Syllabus -- BIO 306 -- SPRING 2014

Neurobiology



Image from <http://philmckinney.com/>

Bulletin Course Description: Study of the nervous system and its regulatory role in the body. Underlying physics and chemistry; molecular and cellular principles; development and plasticity; motor control; rhythms and emotions; evolution and diversity. Pre-requisite: BIO 105 or equivalent. 3 credits

Instructor: Dana Merriman Halsey 249 merrimad@uwosh.edu 424-3076

Class time: 8:00-9:30 am Halsey 260 Tue-Thur

Podcasts: Will post on our D2L site. Not responsible for malfunctions.

Office Hrs: Tue 1:00-2:00 pm. Thur 9:30-10:30 am. First come, first served.

Appointments: Sign up sheet is on my office door. If nothing posted works for you, [email me](#).

Textbook: Fox *Human Physiology* 13th ed. This edition will be used in BIO 212 and 310 during Fall '14. If you cannot afford this book, any edition that's 5 years old or less will likely match our content pretty well. The figure numbers won't, but I'll be podcasting. **ADDITIONAL READINGS** will be announced and posted on D2L as they occur.

STUDENTS WITH DISABILITIES ARE WELCOME IN THIS COURSE. There is a form for you to fill out posted on D2L Content. Please hand in to [me](#) the first week of class.

ACADEMIC HONESTY policies are clearly defined at this University and all students are expected to abide by them. Penalties for violations are severe. Cheating on an exam (including looking at someone else's paper) at a minimum results in a zero on that exam, with no opportunity for a make-up or extra credit. A second offense is an F in the course and a report to the Dean of Students.

CAMPUS EMAIL & D2L will be used as official communication to the class. Any class questions emailed to me will be returned with a request to post them on the D2L Discussion board. Please check email and D2L frequently for updates and make sure you email doesn't send "BIO 306" messages to spam. If you need help, see any Help Desk at any Computer Lab on campus (e.g. Halsey 101).

TUTOR? The Center for Academic Resources (CAR, located in Student Success Center Rm 102) provides free, confidential tutoring. To see if there's a tutor for this class yet, visit www.uwosh.edu/car. To request a tutor, call 424-2290.



LEARNING OBJECTIVES. Building on the knowledge base of the BIO 105 prerequisite, students coming out of this course will be able to:

- Use the “Joe Cell” model to think creatively about cellular functions
- Identify & describe the 3 systems that control body function and behavior & how they interact
- Identify & describe the several important cell types that compose the nervous system
- Explain the special features that make some cells “excitable” & incur extra metabolic costs thereby
- Explain how synapses operate & are impacted by pharmacological agents
- Deconstruct simple excitatory & inhibitory neuronal wiring diagrams
- Appreciate the diversity of nervous systems produced by evolution
- Describe the basic principles of selected sensory systems
- Describe the basic principles of mammalian motor control

CLASSROOM POLICIES:

- Please silence all electronic devices on entrance to the classroom.
- Please address me as “Dr. Merriman”. *If you know me from before as “Dr. Vaughan”, that is okay, too!*
- Feel free to raise your hand to ask questions in lecture at ANY time. *I enjoy classroom give-and-take!*
- 8:00 am classes that last for 90 minutes present a challenge to a sleep-deprived person. If at all possible, get 8 hours of sleep, eat a protein-rich breakfast, and get a little brisk exercise before class.
- If you are struggling with a concept in class, get my assistance early. Right before (or worse, right after) an exam may be too late to cement proper thinking in time for it to show.
- Old exams will be posted on D2L to help you study. Answer keys will NOT be posted because they only help you memorize, and that isn’t the point of a college course. Questions this semester may be the same as, or different from, old exams.

EVALUATION POLICIES (“GRADING”)

D2L Gradebook: Points earned on assignments will post on the D2L Gradebook, which will be set up to display your grade thus far in the course. Grades are based on performance, not effort.

<u>Letter</u>	<u>Percentage</u>	<u>Gradepoints</u>
A	92.0-100	4.00
A-	90.0-91.9	3.67
B+	88.0-89.9	3.33
B	82.0-87.9	3.00
B-	80.0-81.9	2.67
C+	78.0-79.9	2.33
C	72.0-77.9	2.00
C-	70.0-71.9	1.67
D+	68.0-69.9	1.33
D	62.0-67.9	1.00
D-	60.0-61.9	0.67
F (Failure)	<60.0	0.00

“C” = average performance. Curves will be used if needed to ensure a “C” average (72.0%-77.9%).

Raw scores will be converted to percentages with one decimal point (D2L Gradebook does the rounding automatically). The above cut-offs (which are University standard; see the current Bulletin) are firm. Requests to move a letter grade up due to being close to the cut-off will be ignored. There are no last-minute extra credit opportunities.

See course schedule below for homework/quiz/exam dates and weights. All tests are cumulative from the first day of class.

Missed Quiz or Exam: I never give exams early. If you miss a quiz or exam, I will notice it when I inventory submitted papers. “WHY” you missed is your business, not mine.

- All missed work is made up on Thu May 15 during our regular class period. Exactly as with other tests, I’ll have 30 minutes for open Q&A and then a maximum of 60 minutes for the makeup.
- If you happen to miss more than one quiz or exam, no extra time will be given just because you are taking more than one makeup.

Incomplete Grade: Sometimes circumstances warrant an Incomplete grade. Requests for Incompletes require formal documentation of circumstances. To understand your legal obligations regarding any Incomplete grade, see http://www.uwosh.edu/registrar/bulletins/bulletin/2011-2013/policies/academic_pol.php#grade_policies (scroll down to section C.5.2.).

Quiz/Exam Questions can come from lecture and/or assigned reading that is specifically identified as “fair game for the exam”. Question type will vary but, in the realm of neuroscience, you may expect graphs, equations, short answer, thought questions, and multiple choice “all that apply” (see Homework assignment worth 5%).

We may go faster or slower than this schedule shows; it is only an approximation.

- Bio 105 Homework is a scantron-based, open-book, take-home exam that you complete outside of class during the first week and hand in for 5% of your course grade.
- Exam cut-offs are date-based, not topic-based. I will announce the cut-off dates in class.
- All tests will be preceded by 30 minutes of open, in-class Q&A.
- Quiz 1 will be allotted 30 minutes; all others will be allotted 60 minutes.

	Week of	Topic list	Helpful chapters	Assignments
1	Feb 3	Why study neurobiology; Jahi McMath case; Triangle of Control	1-6, bits of 11 & 15	
2	Feb 10	Joe Cell (generic cell physiology)	7	Homework (5%) due in class on Tue Feb 11 th
3	Feb 17	Cell types found in nervous systems	6, 7	Thu Feb 20: Quiz 1 (10%)
4	Feb 24	Excitable cell physiology	7	
5	Mar 3	Excitable cell physiology	5, a bit of 19	
6	Mar 10	Energetic supply & demand	7	Thu Mar 13: Exam 1 (15%)
7	Mar 17	Neurochemistry & pharmacology Wed 19th = last day to drop this class		
	Mar 24	NO CLASS, SPRING BREAK		
8	Mar 31	Development & plasticity	Bits of 7 & 8	
9	Apr 7	Wiring diagrams for beginners	8, 12	
10	Apr 14	Gross anatomy of human NS	8	Thu Apr 17: Exam 2 (30%)
11	Apr 21	Autonomic NS & endocrinology	8, 9	
12	Apr 28	Evolution & diversity		
13	May 5	Sensory physiology	10	
14	May 12	Tue: 30 min Q&A, then 60 min Final Thur: Makeup Exams		Tue May 13 Exam 3 (40%)
	May 19	Letter grades posted to TitanWeb by May 21		