

# SPRING 2012 BIO 306 Neurobiology Syllabus

## INSTRUCTOR CONTACT:

- Dr. Dana Merriman's office is in Halsey 249.
- Her office phone number is 424-3076.
- Her email is Vaughan@uwosh.edu. Email contact is probably the most efficient route of communication.

## OFFICE HOURS:

- Tues 9:45-10:45 am and 2:00-3:00 pm
- Weds 9:15-10:15 am
- To check my schedule, visit <http://www.uwosh.edu/facstaff/merriman/my-schedule>

## APPOINTMENTS:

- I do NOT make appointments by email. Instead, you must come to my office door (Halsey 249) and sign up for a time slot designated by a **yellow** space on my schedule. Available slots will vary considerably week to week.

## EMAIL & D2L POLICY:

- Campus email (you@uwosh.edu) and D2L postings are considered legal communications by the University and I use both of them, frequently. Therefore, you are advised to read your campus email and survey D2L for announcements on a daily basis. Please make sure my emails to the class are not going to your Spam.
- If you need help forwarding your campus email inbox to some other inbox (e.g. Yahoo or Gmail), consult the Help Desk at any Computer Lab.
- I will not answer emails from other than uwosh.edu email accounts.
- I will not *reliably* answer emails after business hours or on weekends/holidays.
- D2L Discussion Boards: Almost without exception, when one student has a question, a dozen others have the same question, too. Therefore, I urge everyone in the class to post questions on D2L (anonymously if you wish) and let other students participate in our mutual thought processes.

**PREREQUISITE:** BIO 105 "Introductory Biology: Unity", which means that this 300-level course is still at an introductory level. Many non-BIO-majors take this course. A lot of its content overlaps with BIO 212, 323, and 319.

**PODCASTS:** I have requested podcasting set-up for this course. Podcasts will post through D2L. Podcast microphones do NOT pick up audience voices, so may be incomplete. Equipment malfunctions outside my control mean that I cannot guarantee consistent podcasting.

**STUDENTS WITH DISABILITIES ARE WELCOME IN THIS COURSE.** There is a form for you to fill and hand in to me posted on D2L. Please see me at my office during the first week of the semester to hand in this form and make sure I understand your needs.

**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 leads to 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 Dean of Students.

## READINGS:

- REQUIRED TEXTBOOK: Human Physiology 12<sup>th</sup> ed by Fox.
- Medical textbook free online: <http://neuroscience.uth.tmc.edu/>
- Readings that I post by email or D2L.

**WANT TUTORING?** The Center for Academic Resources (CAR) provides free, confidential tutoring for students in most undergraduate classes on campus. [**Note:** even if BIO 306 is not a listed class, you can REQUEST one OR any tutor for BIO 212 or 319 can probably help you!] CAR is located in the Student Success Center, Suite 102. Check the Tutor List page on CAR's website ([www.uwosh.edu/car](http://www.uwosh.edu/car)) for a list of tutors. If your course is not listed, click on a link to request one, stop by SSC 102 or call 424-2290. To schedule a tutoring session, simply email the tutor, let him/her know what class you are seeking assistance in, and schedule a time to meet. Tutoring takes place in SSC 102. The Center for Academic Resources also provides support to students through Supplemental Instruction (SI) and the Peer Educator program. Visit the website for more information.

**OBJECTIVES OF BIO 306:** Students enrolled in this course are offered:

- A basic understanding of the 3 systems that control behavior
- A basic understanding of the physics and chemistry behind nervous function
- An introduction to the chief cell types of the nervous system
- A basic understanding of synaptic function
- An introduction to selected sensory and motor systems
- An introduction to the ways in which nervous system functions are assessed
- Insights into the many causes of neuropathology

**CLASSROOM POLICIES:**

- Please address me as "Dr. Merriman". *If you know me from before as "Dr. Vaughan", that is okay, too!*
- Please silence all electronic devices on entrance to the classroom.
- Feel free to raise your hand to ask questions in lecture at ANY time. *I enjoy classroom give-and-take!*
- If I am moving too fast in my presentation, please raise BOTH hands as a signal to me to "slow down"!
- Most images shown in lecture will be from the required textbook. However, I reserve the right to introduce new images from other sources.

**MISSING LECTURE**

- Since I am podcasting, missed lectures can be accessed through D2L.
- I don't have "lecture notes" to hand out to students.
- You are all legal adults capable of understanding the importance of regular attendance. While I will notice you are absent, I have no choice but to trust you to make your own decisions.

**Extra Credit to Earn in Week 1:** A growing policy at UWO stems from evidence that the instructor learning student names helps students learn. As class sizes have shot up recently, I need help learning names. Any student who wants to earn 1% "extra credit" can do so simply by posting a RECOGNIZABLE head shot on D2L so that I can put a face with the name, no later than Fri Feb 3. What this extra credit means is that, at the end of the term when D2L computes your final percentage grade, I will add 1% to that. See any campus Computer Lab Help Desk person for assistance in posting your head shot. I may possibly give partial credit for a late submission, but that's up to me.

Note: even if I already know you, you must post this photo to get the extra credit. NO EXCEPTIONS.

## EVALUATION POLICIES (“GRADING”)

“C” = average.

“A” = outstanding.

*Evaluation instruments are written in order to “stretch” the class sufficiently to discern average from outstanding performance. Effort cannot be assessed, so it cannot enter into evaluation.*

**We are all adults.** Everyone wants an “A” but as you know, I don’t “give grades”, instead I “keep score” (thanks to Dr. Lammers for this nice phrase). If you are struggling with Neuro in silence, I won’t know anything’s wrong until I see a low grade in front of me, and then it’s too late to go back in time. All we can do is look ahead to the next test. I will do my level best to be available (see office hours, appointment policies, and email at start of this syllabus). Please do NOT wait until the week of the final to seek help!

**Old Exams:** Old exams will be posted on D2L. Answer keys will NOT be posted. Questions this semester may be the same or different from old exams.

**D2L Gradebook:** Grades will post on the D2L Gradebook which will be set up to display your grade thus far in the course.

**Participation:** It is in your very best interest to actively participate in every class you take during college. Participation hones important “soft skills” of attention, engagement, critical thinking, and peer-to-peer communication. Participation is also the ONLY thing that makes it possible for instructors to write convincing letters of recommendation, should you ever need one (most students do). As in real life, if your points grade in class is on the cusp of a higher letter grade, impressive participation *just might* push you over the edge. **Note:** If you want assistance becoming comfortable with class participation, I have the solution for you. Just come see me and we’ll set it up.

**Exams:** The table below gives exam dates, coverage, and weight value toward the final grade. All exams are cumulative from the first day of class. I never give exams early. See missed exam policy below.

Assignment	Due/take date	Covers material through	Weight value
Exam 1	Fri Feb 17	Mon Feb 13	10%
Exam 2	Mon Mar 12	Wed Mar	15%
Exam 3	Mon Apr 9	Wed Apr	25%
Exam 4, part 1	Wed May 9	Fri May	35%
Exam 4, part 2	Fri May 11	Mon May 7	15%

**Missed Exam 1, 2, or 3:** If you miss a midterm exam, I will notice it when I post grades on D2L. I don’t need to know why; you’re an adult and I have no choice but to trust your judgment. To make up for it, I will simply substitute the lowest (percentage) score from amongst the other exams (including Part 1 of the final) for the missing grade.

Note: Missing an exam “on purpose” because you are uncomfortable with the material is your prerogative as an adult, but since exams are cumulative, you need to get comfortable with the material.

**Missed Final Exam:** If you miss EITHER part of the final exam, then tell me in writing (Titanmail is fine) if you prefer a zero grade on what you missed (and then the letter grade that comes with that zero), or if you prefer an Incomplete “I” grade. If I don’t hear differently, I will record the zero grade for any missing part(s) of the final.

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](http://www.uwosh.edu/registrar/bulletins/bulletin/2011-2013/policies/academic_pol.php#grade_policies) (scroll down to section C.5.2.).

**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” (meaning that one, some, none, or all answer choices may be correct).

**Exam Curve:** Exams are written to “stretch” the class. I reserve the right to curve exams, for example to ensure no worse than a “C” average. I will clearly inform the class of any curve in the D2L Gradebook.

**Our Final Exam has 2 parts:** The 2 parts will be conducted on 2 different days (see schedule below). The first day will be a typical 60 minute examination made of a variety of question styles. The second will be 60 minutes to write a short essay about one of the “Neuro in the News” suggestions that I will post. In this essay, I’ll be looking for:

- Adequate handwriting; if I can’t read it, it’s wrong.
- Clarity of expression; if your sentence makes no sense, it’s wrong.
- Accurate & appropriate use of course-taught basic concepts and vocabulary.
- Skillful application of course teaching to “Neuro in the News”.
- For an A: at least one clearly-articulated Value-added insight, probably from some outside research you’ve done.
- For an A+: at least three clearly-articulated Value-added insights.

**Final Essay Practice Run:** To prepare you to do your best on Part 2, we will conduct at least one “practice run” prior to the final exam week using the D2L environment as our “playing field”. This Part 2 practice run will occur *outside of class time*. Practice participation is entirely voluntary, but is obviously in your best interest. It is perfectly acceptable to practice writing your “News” essay well ahead of time, but it may not be handed in ahead of time; it must be written in front of me in class on the designated day.

Since I don’t have time to pre-read *everyone’s* essay, I will be unable to pre-read *anyone’s* essay.

However, I urge you to share your essays with a class partner for peer editing of clarity and vocabulary, if nothing else! If a classmate can understand your essay, then I probably can, too.

**Final Course Grades:** Cut-offs are firm. Just because you are within 0.1 percentage point of the next higher grade is not sufficient reason for me to move you up. Remember, posting your face shot on D2L by the deadline gave you 2% extra credit points, plenty to push you over any truly close cusp.

<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

## Topics

Neuro is a HUGE field. We aren't going to be able to get to all of it.

My philosophy is begin by providing a strong foundation in the basics (including a bit of review of concepts I need you to recall from the prerequisite course, BIO 105).

I will then pick and choose topics based on what I think are important new directions the field is taking. I will invite students to also suggest topics for late semester learning.

With this sort of open-ended "list of things to do", we are not in a hurry. Moreover, I'm never sure how long a particular group of individuals will need to tackle certain concepts. Therefore, I do not put dates on our topics.

What you see below is my idea of how the first 10 weeks or so of our courses will go. I will update this with reading assignments as appropriate.

- Welcome, syllabus, overview of course.
- Neuroscience & society.
- Foundations: BIO 105 review, Joe Cell, Ligands-Receptors, Triangle of Control, Excitable Joe, Bioelectricity, Electromagnetism. Fox: parts of Ch. 1-5 plus most of Ch. 6, which is probably the most unfamiliar to you.
- Just enough gross neuroanatomy. Fox Ch. 8, 9.
- Just enough cellular neuroanatomy. Fox Ch. 7, sections 1 and 3.
- Triangle of control. Fox: parts of Ch. 11 & Ch. 15. Online: Sect. 4, Fig. 2.8.
- Neuroscientist's toolbox – Beginners: methods we use to assess and research the nervous system.
- Excitable cell physiology: ion channels, synapses, currents & potentials, myelination. Fox: rest of Ch. 7. Online text: selections from Section 1.
- Fundamentals of nerve circuitry using Motor Control as examples. Fox: Ch. 12. Online text: selections from Motor Systems Ch. 1-3.
- Sensory system principles. Fox Ch. 10.
- Survey of NON-vision sensory systems. Selections from Fox Ch. 10. Likely some readings on D2L.
- Visual system. Fox Ch. 10. Online text: selections from Ch. 14, 15. Another great resource is the WEBVISION textbook located at <http://webvision.med.utah.edu/>
- Limbic system. Fox p. 216. Online text: Section 4, Ch. 6, esp Fig. 6.8.
- Neuroscientist's Toolbox - Intermediate: methods we use to assess and research the nervous system.
- Mirror neurons as integrators of motor control, vision, audition, memory, and mood.
- Von Economo neurons as the substrate of self-awareness.
- Neuropathology. Movement disorders. Online text: selections from Motor Systems Ch. 6. Other readings TBA.