**Syllabus -- BIO 306/506 -- SPRING 2017**

**Neurobiology**

**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*

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**Instructor:** Prof.Dana Merriman Halsey 249 merrimad@uwosh.edu

**Class time**: Tue and Thu, 3:00-4:30 pm Halsey 175

**Office Hours**: Tue and Thu 1:30-2:30 pm. First come, first served.

**Appointments**: Sign-up sheet will be on my office door. Days/times vary widely week-to-week. If nothing posted works for you OR if you need immediate assistance, email me. **LIMITED APPOINTMENTS AVAILABLE AFTER APRIL 15.**

**Textbook:** free online neuroscience text: <http://neuroscience.uth.tmc.edu/toc.htm>

**ADDITIONAL REQUIRED READINGS** will be announced and posted on D2L as they occur.

**STUDENTS WITH DISABILITIES ARE WELCOME IN THIS COURSE**. There is an Accommodations 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).

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

* Explain the brain’s centrality to life & death
* Identify & describe interactions between the 4 systems that control body function & behavior
* Use the “Joe Cell” model to think creatively about cellular functions
* Explain the special features that make some cells “excitable” & incur extra metabolic costs thereby
* Identify & describe the roles played by several important cell types that compose the nervous system
* Explain how synapses operate & are impacted by pharmacological agents
* Deconstruct simple excitatory & inhibitory neuronal wiring diagrams
* Describe the basic principles of sensation
* Describe the basic principles of mammalian motor control

**LEARNING ASSISTANCE:**

* D2L: I will post **Powerpoint slide sets** ahead of each unit, which you may print off and bring to class.
	+ *Do not use these as an excuse to sit passively in class.* Take notes as you go and ask questions.
	+ If you find yourself becoming over-reliant on the Powerpoints, don’t bring them but use them after class to “clean up” your notes.
	+ I reserve the right to make last-minute changes to ANY slide set.
* D2L: I have set up **Discussion boards** where you may ask questions Anonymously if you wish.
* **Office hours and appointments with me**: See face page of this syllabus.
* Need a **tutor**? First check <http://car.uwosh.edu/find-a-tutor/> to see if there is already one available. If there isn’t one, go to <http://car.uwosh.edu/find-a-tutor/tutor-request-form/> and ask for one (availability is not guaranteed). Tutoring is always free & confidential.
* I am **NOT podcasting** because the technology fails too often.

**CLASSROOM POLICIES**:

* Please silence all electronic devices on entrance to the classroom.
* Please address me as “Dr. Merriman”.
* I will learn your last name only, as it’s the best way to tell students apart in such large classes.
* Ask questions in class. *I enjoy classroom give-and-take!*
* Ask questions on the D2L Discussion board. You can be Anonymous.
	+ If you ask me a question by direct email, I will reply “Please post on the D-board”.
	+ Please reserve direct email for personal matters (which might include neuro issues not related to class).
* Late afternoon 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.

**UNITS PLANNED** (time permitting, subject to change)

1. The centrality of the brain to life and death
2. Principles of physiology
3. Membrane transport
4. Nervous system divisions, organs, tissues, and cells
5. Cell-cell communication in the nervous system
6. Energy supply & demand
7. Circuitry and pathways that serve sensory and motor function
8. Autonomic nervous system and neuroendocrinology
9. Neuroplasticity
10. ?????

**EVALUATION POLICIES (“GRADING”):**

Open Book Unit Homework Online:

* We will go through at least 9 units in this course (listed directly above). At the end of each unit and halfway through some of the bigger units, I will post a 10-point unit homework set on D2L. I will announce the homework posting in class and on D2L, as I cannot say exactly when each unit will be done.
* You will have a couple of days to complete each homework and you may use notes while doing it.
* Your homework grade will automatically enter into the D2L Gradebook for this course.
* There will be a total of 13 unit homeworks. Your two lowest scores will be dropped. The average of your remaining homework scores will count for 25% of your course grade.

Closed-book, Date-based Exams in Class:

* You will take three exams in our classroom. You will have the entire 90 minute class period to complete the exam. No electronics, notes, or talking are permitted.
* Exam coverage is purely date-based (see below).
* Exam questions will query material covered since the previous exam **BUT** -- **since concepts build on one another and are used repeatedly -- it’s wise to consider these exams as “cumulative”.**
* Exam 1 will be on **Tues Feb 28** and will be worth 20% of your course grade.
	+ Coverage:
		- JustInTime reviews and Meet Joe Cell on D2L.
		- In-class learning through/including Tues Feb 21.
* Exam 2 will be on **Thurs Apr 6** and will be worth 20% of your course grade.
	+ Coverage:
		- In-class learning through/including Thurs Mar 30.
* Exam 3 will be on **Thurs May 11** and will be worth 35% of your course grade.
	+ This exam will be a bit LONGER than Exam 1 and 2.
	+ Coverage:
		- In-class learning through/including Thurs May 4.
		- Up to ¼ of this exam will repeat questions *verbatim* from Exams 1 and 2. Therefore you are advised to examine the Exam 1 and 2 keys that are posted for one week following each exam.

Explanatory exam keys will be posted on D2L for exactly one week after the exams are handed back in class. No requests to re-post an expired key will be honored.

Grades on homework and exams will post on the D2L Gradebook, which will be set up to display your overall grade thus far in the course all semester long. Grades are based on performance, not effort.

Letter Percentage Gradepoints

|  |  |  |
| --- | --- | --- |
| 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. If needed, curves will be used on each exam 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 cut-offs at left (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.

**MISSED EXAM POLICY**:

Students who miss an exam for certain reasons (see table below) are **offered a make-up *so long as a Makeup Exam Request Form (found in D2L Content)******is promptly submitted and documentation is provided***. Makeup exams will be identical to the regularly-scheduled exam and will delay posting of all students’ grades.

|  |  |  |
| --- | --- | --- |
| **General reason for missed exam** | **Examples** | **Documentation required to makeup** |
| UW Oshkosh activity  | Class trip, competition or travel to same (athletics, Model UN, debate) | MINIMUM ONE WEEK NOTICE: University-issued document stating general reason and timeframe and timeframe absent (best to have your coach/supervisor/instructor send a TitanEmail to class instructor directly) |
| More than two (2) UW Oshkosh exams on the same day |  | MINIMUM ONE WEEK NOTICE: Photocopy of official class schedule from TitanWeb plus confirmation from other instructors via TitanEmail |
| Civic activity | Jury duty, military service ≤ 2 weeks’ duration, court appearance as defendant or witness | Official-issued document stating general reason and timeframe absent. MAXIMUM 2 WEEKS AFTER THE FACT. |
| Health problems | Serious medical conditions of the student (or their dependent requiring home care); medical emergency of student or immediate family member | Healthcare provider-issued document stating timeframe absent, but NOT nature of medical problem. MAXIMUM 2 WEEKS AFTER THE FACT. |
| Bereavement | Death of immediate family member | Obituary (if student is named as survivor) or funeral program. MAXIMUM 2 WEEKS AFTER THE FACT. |

**Elsewhere in D2L Content, you will find a downloadable “Makeup Exam Request Form” to use to make appropriate arrangements. Absolutely no makeups will be allowed without this form.**

According to University policy, vacation travel or other private events are not valid excuses for missing any exam.

**Incomplete Grade**: Sometimes a student misses so much classwork that circumstances warrant an Incomplete grade. Requests for Incompletes require formal documentation of circumstances. To understand your legal obligations regarding any Incomplete grade, see [www.uwosh.edu/registrar/undergradbulletins/2015-2017/policies](http://www.uwosh.edu/registrar/undergradbulletins/2015-2017/policies) (scroll down to section C.5.b.).