

NSC 3361 Introduction to Neuroscience

Virtual Fall 2020 Syllabus

Van Miller MD PhD

Office: JO3.204

Office Hours: Friday 10-11 AM on MS Teams, and as needed any day via email

Email van.miller@utdallas.edu

Graduate TAs: Rachael Hudson: r.affenit.hudson@utdallas.edu

Kaitlyn Malley: Kaitlyn.Malley@utdallas.edu

Textbook

Recommended: *Mind's Machine*, by Neil V. Watson and S. Marc Breedlove, any edition. Many used paperback copies should be available via the bookstore and web. FYI: nearly all test questions come from lecture; use the book with this in mind.

Weekly Online lecture reviews are a resource for you. These apply to that week's lectures - student TAs will discuss them and answer your questions. The review sessions immediately after each test will be a test review.

Individual review: You are welcome and indeed encouraged to 'meet' with me or one of the student TAs during office hours and by arrangement to go over difficult concepts and discuss learning strategies. You must help us to help you. The day before the test is too late; make it a regular weekly thing.

Course Content

This course has a strong 'clinical' orientation, as I am a pediatric neurologist. Every lecture will try to include examples from real patients (children and adults) with real neurological disorders. There is a ***lot of new vocabulary*** we need to learn to talk about the brain and behavior. The course begins with the study of nerve cells: their structure, the propagation of nerve impulses and transfer of information between nerve cells, the effects of drugs (legal and otherwise) on this process. We also examine the overall structure of the nervous system and its development. We will see how sensory systems such as vision, hearing, and motor systems control behavior. Finally, we will study sex, hunger and thirst, language, attention, sleep, mental illness, emotion, learning and memory. In one semester! Whew! Come to class. Wear your seatbelt. Really.

Elearning

Class lecture slides are posted on elearning. No portion of these slides may be sold, retransmitted, reposted, duplicated or otherwise used without the express written approval of the author, which is me.

Announcements will be made from time to time. In event of classroom emergencies, such as lecture cancellations for nice golfing weather, or World Cup matches, I will send emails to all in the class.

Assessment

Exams: There will be three exams during the course. There is no cumulative final exam. Each exam will be out of 100 points and worth 30% of your final grade and will cover the material from the third of the course preceding the exam. Material covered on the exams will be taken from class lectures, as well as any additional material that I may provide. Exams will consist of multiple-choice and/or short answer questions.

Exams will take place on-line via elearning on the previously scheduled dates. Each test day, the exam will be viewable from 10 AM to 10 PM. You will have 75 minutes to complete it, once you start.

Weekly quizzes: A short (5 questions) quizzes will be available each Friday from 10 AM to 10 PM via elearning, covering the lectures since the last quiz. No quiz on an Exam week. Each week's quiz counts 1% of your final grade (10% total).

Final Grades: A final grade will be submitted: A+: 98-100%, A: 93-97.9%, A-: 90-92.9%, B+:87-89.9%, B: 83-86.9%, B-: 80-82.9%, C+: 74-79.9%, C: 68-73.9%, C-: 60-67.9%, D: 50-59.9%, F < 50.

Final grade = ((Exam 1 + Exam 2 + Exam)/3)0.9 + Total of the Weekly Quizzes

Teaching Assistants

For routine questions outside of class, please email the student TAs or graduate TAs. They are good sources for reviews of tests, and other appropriate academic help. The student TAs are also the best sources for questions about course content, how to use elearning, the lecture slides, inside information about the tests, etc. The student TAs especially are to be consulted, because they have taken the approx. same tests as you will be given. But I am available as well, either during office hours or by apt. We are your resource: use us!

NSC 3361 Fall 2020 Lecture Schedule

| | Lecture Topic | Class | Reading MM |
|---------------|---------------------------------------------------------|-------|------------|
| Week 1 | Introduction | 1 | |
| | Neuroanatomy – Just the basics | 2 | Chapter 2 |
| Week 2 | Membrane Properties of Neurons; The Action Potential | 3 | Chapter 3 |
| | Synaptic Transmission (Snap, Crackle, Pop) | 4 | Chapter 3 |
| Week 3 | “ | 5 | Chapter 3 |
| | Neuropharmacology (‘Drugs, Man’) | 6 | Chapter 4 |
| Week 4 | “ | 7 | ” |
| | Brain Development (From Little Acorns ...) | 8 | Chapter 13 |
| Week 5 | “ (... Big Oaks Grow) | 9 | |
| | Exam 1 | 10 | |
| Week 6 | Sex (and the Single Brain) | 11 | Chapter 8 |
| | Hunger, Thirst, Homeostasis (Eat, Drink, and be Mellow) | 12 | Chapter 9 |
| Week 7 | Emotions, Stress and Aggression | 13 | Chapter 11 |
| | Pain and Touch (‘This Might Hurt a Little Bit’) | 14 | Chapter 5 |
| Week 8 | “ | 15 | Chapter 5 |
| | Audition and Language (Listen Up!) | 16 | Chapter 6 |
| Week 9 | “ | 17 | Chapter 15 |
| | “ | 18 | Chapter 15 |
| Week 10 | Vision | 19 | Chapter 7 |
| | “ | 20 | Chapter 7 |
| Week 11 | Exam 2 | 21 | |
| | Motor Control (Why Tiger is so Still Much ... | 22 | Chapter 5 |
| Week 12 | ...Better at Golf than You and I Are) | 23 | Chapter 5 |
| | Rhythms of the Brain (Sleep) | 24 | Chapter 10 |
| Week 13 | Psychopathology (Xtreme Brains) | 25 | Chapter 12 |
| | “ | 26 | Chapter 12 |
| Week 14 | Learning and Memory (Don’t forget) | 27 | Chapter 15 |
| | “ | 28 | Chapter 15 |
| Week 15 | “ | 29 | Chapter 15 |
| | Exam 3 | 30 | |
| TBA | Final Exam | | |

Syllabus may be changed at any time during the course, as needed.

COVID-19 Guidelines and Resources

Please see <http://go.utdallas.edu/syllabus-policies>

Classroom Conduct Requirements Related to COVID-19

UT Dallas requires that all students must wear a face covering that covers the nose and mouth in all university buildings and classrooms. To help protect the health and safety of students, instructors, and the University community, students who choose not to wear a face covering may not attend class in person but may attend a course remotely. Anyone attending class in person without a face covering will be asked to put one on or leave. Instructors may end the class if anyone present refuses to appropriately wear a face covering for the duration of class. Students should also be sure they are at least six feet away from their fellow students and faculty and seated in a seat that is designated to ensure that distance. Students who either refuse to wear face coverings appropriately or to adhere to other social distancing protocols may face disciplinary action for Student Code of Conduct violations. Students who are unable to comply with the university policies including wearing a face covering should consult the Comets United webpage for further instructions.

Students who have tested positive for COVID-19 or may have been exposed should not attend class in person and should instead follow required disclosure notifications as posted on the university's website (see "[What should I do if I become sick?](#)" webpage)

Class Attendance

The University's attendance policy requirement is that individual faculty set their course attendance requirements. Regular and punctual class attendance is expected regardless of modality. Students who fail to attend class regularly are inviting scholastic difficulty. In some courses, instructors may have special attendance requirements; these should be made known to students during the first week of classes. These attendance requirements will not be used as part of grading (see Class Participation below for grading information).

In-person participation records may be used to assist the University or local public health authorities in performing COVID-19 occurrence monitoring. Please note – in-person attendance requires consistently adhering to University requirements, including wearing a face covering and other public safety requirements related to COVID-19, as presented in this syllabus. Failure to comply with these University requirements is a violation of the Student Code of Conduct.

Class Participation

Regular class participation is expected regardless of course modality. Students who fail to participate in class regularly are inviting scholastic difficulty. A portion of the grade for this course is directly tied to your participation in this class. It also includes engaging in group or other activities during class that solicit your feedback on homework assignments, readings, or materials covered in the lectures (and/or labs). Class participation is documented by faculty. Successful participation is defined as consistently adhering to University requirements, as presented in this syllabus. Failure to comply with these University requirements is a violation of the Student Code of Conduct.

Class Recordings

Students are expected to follow appropriate University policies and maintain the security of passwords used to access recorded lectures. Unless the Office of Student AccessAbility has approved the student to record the instruction, students are expressly prohibited from recording any part of this course. Recordings may not be published, reproduced, or shared with those not in the class, or uploaded to other online environments except to implement an approved Office of Student AccessAbility accommodation. Failure to comply with these University requirements is a violation of the [Student Code of Conduct](#).

The instructor may record meetings of this course. Any recordings will be available to all students registered for this class as they are intended to supplement the classroom experience. Students are expected to follow appropriate University policies and maintain the security of passwords used to access recorded lectures. Unless the Office of Student AccessAbility has approved the student to record the instruction, students are expressly prohibited from recording any part of this course. Recordings may not be published, reproduced, or shared with those not in the class, or uploaded to other online environments except to implement an approved Office of Student AccessAbility accommodation. If the instructor or a UTD school/department/office plans any other uses for the recordings, consent of the students identifiable in the recordings is required prior to such use unless an exception is allowed by law. Failure to comply with these University requirements is a violation of the [Student Code of Conduct](#).

Class Materials

The instructor may provide class materials that will be made available to all students registered for this class as they are intended to supplement the classroom experience. These materials may be downloaded during the course, however, these materials are for registered students' use only. Classroom materials may not be reproduced or shared with those not in class, or uploaded to other online environments except to implement an approved Office of Student AccessAbility accommodation. Failure to comply with these University requirements is a violation of the [Student Code of Conduct](#).

UT Dallas Syllabus Policies and Procedures

The information contained in the following link constitutes the University's policies and procedures segment of the course syllabus. Please go to <http://go.utdallas.edu/syllabus-policies> for these policies.