

# NSC 3361 Introduction to Neuroscience

## Fall 2022 Syllabus

Van Miller MD PhD

Office: JO3.204

Office Hours: *times by agreement. I am usually open for business M-Th 7:00-8:15 AM, if you rise early.*

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Graduate TA:

### Textbook

Recommended: *Mind's Machine*, by Neil V. Watson and S. Marc Breedlove, **any edition**. 4th edition is 9780197542286. Many used paperback copies should be available. FYI: nearly all test questions come from lecture; use the book with this in mind.

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

### Assessment

**Exams:** There will be 3 exams during the course. An optional cumulative final exam will also be offered. The average of your exams will be worth 75% of your final grade. I will drop the lowest of your 4 possible test grades, including the final exam. If you miss a test during the semester, no worries – take the final and replace it. 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 questions and maybe some short-answer.

Weekly Quizzes: Every Friday a short 5-question quiz is available from 8AM-10PM on-line via elearning. The average of these tests counts for 25% of your grade.

Turning Point app: The points gained count as bonus of up to 6 points on your final grade. Clicker app grading: You receive 2 points for every correct clicker question answer, and 1 point for every incorrect answer. For the final clicker grade computation, I will average the top three students' total clicker points and set that as 100%. So, if the top three students earned 130, 129 and 128 points, 100% is the average of these: 129. If you scored 112 total points, then your grade for the clickers is  $112/129$ : 87%, and you receive  $6 \times .87 = 5.4$  points added to your final course grade.

Final Grades: A+: 98-106, 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-: 63-67.9, D: 50-62.9, F < 50.

Class attendance: Recall the wisdom of Woody Allen and others: "Ninety percent of life is just showing up". Your class participation affects your grade.

#### Teaching Assistants

For routine questions outside of class, please email the student TAs or graduate TA. 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. And I am available as well, either during office hours or by appt. We are your resource: use us!

# NSC 3361 Schedule

Date		Lecture Topic	Class		Friday Quiz
8/23	Week 1	Introduction	1		
8/25		Neuroanatomy – Just the basics	2		Quiz 1
8/30	Week 2	Membrane Properties of Neurons; Action Potential	3		
9/1		Synaptic Transmission (Snap, Crackle, Pop)	4		Quiz 2
9/6	Week 3	Neuropharmacology ('Drugs, Man')	5		
9/8		Netflix/Hulu/AppleTV/Paramount+	6		Quiz 3
9/13	Week 4	Neuropharmacology ('Drugs, Man')	7		
9/15		Brain Development (From Little Acorns ...)	8		Quiz 4
9/20	Week 5	" (... Big Oaks Grow)	9		
9/22				Exam 1	
9/27	Week 6	Sex (and the Single Brain)	10		
9/29			11		Quiz 5
10/4	Week 7	Hunger, Thirst, Homeostasis (Eat, Drink, be Mellow)	12		
10/6		Stress and Aggression	13		Quiz 6
10/11	Week 8	Pain and Touch ('This Might Hurt a Little Bit')	14		
10/13		"	15		Quiz 7
10/18	Week 9	Audition and Language (Listen Up!)	16		
10/20		"	17		Quiz 8
10/25	Week 10	"	18		
10/27				Exam 2	
11/1	Week 11	Rhythms of the Brain (Sleep)	19		
11/3		Vision	20		Quiz 9
11/8	Week 12	"	21		
11/10		Motor Control (Why Tiger is Still So Much ...)	22		Quiz 10
11/15	Week 13	...Better at Golf than You and Me	23		
11/17		Psychopathology (Xtreme Brains)	24		Quiz 11
11/29	Week 14	"	25		
12/1		Learning and Memory (Don't forget)	26		Quiz 12
12/6	Week 15	"	27		
12/8				Exam 3	
TBD				Final Exam	

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

## 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.