UNIVERSITY OF NEW MEXICO SYLLABUS
PSY2250: BRAIN & BEHAVIOR
DR. RON SALAZAR

GENERAL INFORMATION

Instructor: Ron Salazar, Ph.D., Phone: 505-925-8634, leave message
E-mail: rasalaz@unm.edu Section/Term: 501/ Fall 2020 Credit Hours: 3
Online: UNM Learn/BlackBoard and Zoom
Office Hours: Tues & Thurs 11:00am-1:00pm, contact thru email or course massaging via UNM Learn/BlackBoard

Course Description:

A general survey of the biological foundations of behavior and mental processes. Students will gain an understanding of anatomy, physiology, and chemistry of the nervous system and their relationships to human behavior.

Student Learning Outcomes:

Upon completion of the course students should be able to:

1. Identify and describe basic neuroanatomical structures and functions.
2. Identify and describe chemical processes of the nervous system.
3. Apply course concepts to psychological processes, such as learning, memory, sensation, perception, drive states, sleep, and language.
4. Apply course concepts to psychological disorders, such as schizophrenia and mood and anxiety disorders.
5. Describe the techniques used to study the relationship between brain and behavior.

SPECIFIC LEARNING OUTCOMES

Upon successful completion of the course, the student will be able to …

1. **Demonstrate an understanding of the different structures of the brain and nervous system:**
    a. Describe the gross anatomy of the nervous system;
    b. Describe the microscopic anatomy of the nervous system which includes neurons and neuroglia

2. **Demonstrate an understanding of the different functions of the nervous system:**
    a. Describe the physiology of the nervous system which includes:
        i. resting potentials,
        ii. action potentials

iii. graded potentials
iv. neurotransmitters
v. synaptic transmission
vi. IPSPs, EPSPs, PSPs, etc.

3. **Demonstrate an understanding of the chemistry of the brain and nervous system :**
   a. Explain how voltage gated ion channels work
   b. Discuss how different drugs effect neuronal functioning
      i. Agonistic drugs
      ii. Antagonistic drugs;
   c. Explain drug addiction and the brain's reward circuits

4. **Develop the ability to apply 1, 2, & 3 above to different psychological processes such as: learning, memory, sensation, perception, drive states, sleep, language, etc:**
   a. Discuss the different diseases of the nervous system and recovery of function from brain damage;
   b. Evaluate the different sensory systems structure and function (i.e. vision & hearing);
   c. Discuss how hormones work;
   d. Discuss sexual differentiation and biological basis of gender differences/ preferences;
   e. Explain the function of movement and the motor system
   f. Describe the regulation of drive states such as hunger, thirst, sex and regulation of body temperature;
   g. Explain the biological basis of learning and memory;
   h. Discuss the different sleep stages, functions of sleep and the circadian cycle;
   i. Discuss the biological basis of emotions and stress;
   j. Explain lateralization of language and other cortical functions that are localized;

5 **Develop the ability to apply 1,2, &3 above to psychological disorders such as: bipolar disorder, unipolar disorder, anxiety, and schizophrenia:**
   a. Describe the biological basis of mood disorders and schizophrenia;
   b. Describe biological basis of anxiety disorders;
   c. Describe other disorders of brain dysfunction (e.g. Alzheimer's, Autism, Epilepsy, Multiple Sclerosis, Parkinson's Disease, Huntington's Chorea, etc.).

Attendance and Grading Policy:

Students enrolled for credit, credit/no credit, or audit **are expected to be actively engaged on-line and work on all assignments, turn in homework, reflection journals, quizzes on-time**. Students may be dropped from the class if they do not keep up with assignments and are not responding to instructor's emails or on-line messages. Since this is an on-line course, students need to be actively engaged in course work every

week. There will be a calendar of when assignments are due. The calendar and announcements will be on UNM Learn/Blackboard as well as here on the syllabus.

Students must take the initiative in arranging with me to make up missed work. Your grade will be affected due to missed assignments, quizzes and exams. It may result in a lower grade or failing class. A student who misses the first-class meeting and has not contacted the instructor, or who misses two consecutive class meetings in the first week may be dropped from the course.

Quizzes & Final Exam

There are 12 online multiple choice quizzes , one midterm exam and one final comprehensive exam online.

Quizzes: You will have one week to do each quiz and multiple attempts. Highest grade is recorded. The quizzes will be taken through Blackboard.

Final Exam. Comprehensive multiple-choice final exam online Final Exam will consist of 50 multiple choice questions and cannot be dropped. Midterm and Final exam are multiple choice. There will be fifty questions on the midterm and fifty questions on the final exam. Only three attempts for Midterm and Final Exams.

Research Project (50 points total):

1. Pick a topic relevant to this course which must be approved by the instructor (see list in Other Content folder.
2. Research your topic using:
   - -internet
   - -scientific journals
   - -textbooks/ medical texts
3. Create a MS PowerPoint, Prezi, or Google Slides Presentation (i.e. if disorder then include definition, symptoms, where & how it affects the nervous system, prognosis & treatment).
4. Three references must be for project for Power Point Presentation.

Presentation will consist of 25 slides minimum, including title slide and reference slide. You will then create a 15-20-minute Zoom video for your presentation and the email to me or upload to course messages as an attachment.

Grading Scale:

GRADING

A = 90-100% D = 60-69%
B = 80-89% F = Below 60%
C = 70-79%

Quizzes = 40%

Oral Presentation =40%
Midterm & Final Exam =20%

TEXTBOOK:

1. Pinel, J.P. (2018***). Biopsychology***., Allyn & Bacon Pub, N.Y. **(REQUIRED)**

Student Responsibilities

In order to be successful in this course each student must take responsibility for the following:

•Read the required readings

- Attend class and turn in-class assignments in at end of class
- Keeping up with the calendar of assignments
- Contacting the instructor by email immediately when there is a true emergency that prevents submitting work by the due date or attending class
- Having consistent and reliable access to a computer and to the internet
- Checking regularly to view grades and comments from me
- Posting and submitting quizzes before midnight on due date
- Adhering to the Student Code of Conduct
- Following proper protocol for withdrawing from class if needed

Academic Honesty:

Students are expected to comply with the academic policy of UNM – Valencia. Any academic dishonesty will result in expulsion from the course. Your writing assignments must not be plagiarized. Plagiarism means using or copying language and/or ideas without acknowledging where you got them. Plagiarism includes copying another student's paper or ideas, downloading and turning in papers from the Internet, copying passages from sources without proper documentation, or rephrasing an author's ideas and them presenting them as your own original thoughts. To learn how to avoid plagiarism you can talk to me, or consult a tutor. If you would like even more information about plagiarism, The Owl at Purdue website offers sage advice: http://owl.english/purdue.edu/owl/resource/589/01

If you do plagiarize, you will face one or more of the following consequences: failing the assignment, failing the course, or facing disciplinary action taken by the University. The University considers plagiarism a serious form of academic dishonesty or stealing.

Academic Integrity

Having academic integrity is paramount to your success in any class. Plagiarism or cheating is not tolerated. Any instance of this will result in a grade of zero for that assignment. Here is the link to the UNM Academic Dishonesty Policy: https://policy.unm.edu/regents-policies/section-4/4-8.html. The policy states:

Each student is expected to maintain the highest standards of honesty and integrity in academic and professional matters. The University reserves the right to take disciplinary action, up to and including dismissal, against any student who is found guilty of academic dishonesty or who otherwise fails to meet the expected standards. Any student judged to have engaged in academic dishonesty in course work may receive a reduced or failing grade for the work in question and/or for the course.

Academic Dishonesty is defined as:

"Academic dishonesty" includes, but is not limited to, dishonesty in quizzes, tests, or assignments; claiming credit for work not done or done by others; hindering the academic work of other students; misrepresenting academic or professional qualifications within or without the

University; and nondisclosure or misrepresentation in filling out applications or other University records.

STUDENTS WITH DISABILITIES: Include a statement such as the following: jmlujan@unm.edu. If you have a documented disability, the Equal Access Services office will provide me with a letter outlining your accommodations. I will then discuss the accommodations with you to determine the best learning environment. If you feel that you need accommodations, but have not documented your disability, please contact Jeanne Lujan, the coordinator for Equal Access Services at 925-8910 or

LECTURE/READING ASSIGNMENTS

WEEK	Topic	Chapter

I **Introduction to Biological Psychology** **1**

8/17-8/23:

1. Read Chapter 1
2. Quiz 1 (8/17 quiz 1 for Chapter 1 open, due 8.23)
3. Watch videos on Phineas Gage and Phantom Limbs

II **Anatomy of the Nervous System** **3, 9**

8/24-8/30 & 8/31-9/6:

1. Read chapter 3 & 9
2. Quiz 2 (quiz 2 for Chapter 3, open 8/24, due 9/6)
3. Write Reflection Journal on videos from 1st week and chapter 1 reading (and then upload to UNM Learn/BB, due 9/6)

III **Nerve Cells, Synapses & Transmission** **4**

9/7-9/13 & 9/14-9/20:

1. Read Chapter 4
2. Quiz 3 (quiz 3 for chapter 4, open 9/7, due 9/20)

IV **Research Methods** **5**

9/21-9/27:

1. Read Chapter 5
2. Quiz 4 (quiz chapter 5 open 9/21, due 9/27)
3. Write Reflection Journal on chapter 4 reading (and then upload to UNM Learn/BB, due 9/27)

V **Human Brain Damage** **10**
9/28-10/4:

1. Read Chapter 10
2. Quiz 5 (quiz chapter 10 open 9/29, due 10/4)
3. Watch videos on Parkinson's, Huntington's Chorea and Alzheimer's Disease
4. Write reflection journal on chapter 10 readings & videos, due 10/4

VII **Visual System/ Perception & other senses** **6 & 7**
10/5-10/11:

1. Read chapters 6 & 7
2. Quiz 6 (quiz over chapters 6 & 7 open 10/5, due 10/11)

VIII **MIDTERM EXAM/ Hormones & Sex** **13**
10/12-10/18:

1. Read Chapter 13
2. Quiz 7 (quiz over chapter 13, open 10/12, due 10/18)
3. ***MIDTERM open 10/12 and covers chapters 1, 3, 4, 5 & 10 Due Monday 10/19***
4. Write Reflection Journal chapter 13 reading (and then upload to UNM Learn/BB, due 10/18)
5.

IX **Sleep** **14**
10/19-10/25:

1. Read Chapter 14
2. Quiz 8 (quiz on chapter 14, open 10/19, due 10/25)
3. Watch video on sleep and dreams
4. Write reflection journal on chapter 14 reading, due 10/25

X **Drug Addiction** **15**

10/26-11/1:

1. Read chapter 15
2. Quiz 9, quiz on chapter 15, open 10/26, due 11/1)

XI **Memory** **11**

11/2-11/8:

1. Read chapter 11
2. Quiz 10 (quiz on chapter 11, open 11/2, due 11/8)
3. Watch videos on Clive Wearing and H.M.
4. Write reflection journal on videos & chapter 11 reading, due 11/8

XII **Lateralization of Language/ Cortical Localization of Function** **16**

11/9-11/15:

1. Read chapter 16
2. Quiz 11 (quiz over chapter 16, open 11/9, due 11/22)

XIII **Lateralization, of Language, Split Brain** **16**

11/16-11/22:

1. Read chapter 16
2. Quiz 11 (quiz over chapter 16, open 11/9, due 11/22)

XIV **Biopsychology of Psychiatric Disorders** **18**

11/23-11/29:

1. Read chapter 18
2. Quiz 12 (quiz over chapter 18, open 11/23, due 12/6)

XV **Biopsychology of Psychiatric Disorders** **18**

11/30-12/6:

1. Read chapter 18
2. Quiz 12 (quiz over chapter 18, open 11/23, due 12/6)

XVI **FINAL EXAMINATION**

12/7-12/11

1. ***Final Exam- Comprehensive***, open 12/7, due 12/11
2. ***PowerPoint Presentation*** due 12/11, do Zoom Recording