PSYC 2324: Introductory Neuroscience – Fall 2023
Synchronous Meeting Times: 1:30-2:50pm, TTR mountain time

Professor: Katherine Serafine, Ph.D.
E-mail: kmserafine2@utep.edu
Office: 216B Psychology Building
Office Hours: Email me to schedule a virtual or audio appointment M-F
Social Media: @SerafineLab (twitter); @Serafine_Laboratory (instagram); Facebook.com/BehavioralPharmacologyLab (facebook)

Required Text:
Purves, Augustine, Fitzpatrick, Hall, LaMantia, Mooney, Platt & White (2018). Neuroscience 6th edition, Oxford University Press. ISBN: 9781605353807. All required chapters will be provided at no cost to students in PDF form on Blackboard. If you prefer a hardcopy of the text, you can purchase from the bookstore or online retailers. Note that you won’t get all the chapters as free PDFs, just the ones that are required reading (outlined in the schedule below). *Note that the hard copy, loose leaf, or ebook version are all fine as long as it is 6th edition. Access code is not required. Supplemental required reading will be provided on Blackboard.

Course Description:
This course begins with the study of neuronal structure and function, and the propagation of nerve impulses and the transfer of information between cells. We then move to the sensory systems such as olfaction, hearing, and vision and discuss how physical energy such as light is converted into neural signals, where these signals travel in the brain, and how they are processed. Next we study the control of voluntary movement. Finally, we cover higher brain functions and homeostasis, including the neurochemical bases of brain diseases and the systems which control motivation, emotion, learning and memory. The knowledge gained in this course will provide an appropriate background for students planning to pursue careers in neuroscience research, medicine or the allied health fields, or education. Prerequisites: Undergraduate student in good standing. Psychology 1301 or Biology 1305 and 1107 with a C or better.

Learning Objectives:
This course will provide a broad introduction to nervous system structures and functions. At the end of the academic term, students who successfully complete this course will be able to: 1) define the organization of the central and peripheral nervous system; 2) explain the properties of nervous system cells including the propagation of electrical signals and cell-cell communication; 3) describe the various neurotransmitter systems and how they operate within systems or circuits; and 4) demonstrate an understanding of the diagnostic and research methods used in neuroscience research and medicine.

Accommodations and Support Services:
If you have a disability and need classroom accommodations, please contact The Center for Accommodations and Support Services (CASS) at 747-5148, by email to cass@utep.edu, or visit their office located in UTEP Union East, Room 106. For additional information, please visit the CASS website at www.sa.utep.edu/cass. The instructor must be notified by CASS by the end of the first week of classes to facilitate accommodations support implementation. However, if an emergency arises later in the semester, contact CASS ASAP.
**Blackboard:**
Everything you need for this class can be found on Blackboard. Please check Blackboard for announcements at least once per week. Blackboard is also where you will find online quizzes and other supplemental materials relevant to the course. Make sure you check your email regularly for updates from me via Blackboard. If you are not receiving emails from Blackboard, reach out to UTEP tech support (number provided below).

**Virtual Attendance (synchronous and asynchronous options):**
To do well in this course, you are required to watch every lecture video and stay on top of the course videos. Lectures will be presented live often on Tuesday and Thursday afternoons from 1:30-2:50pm mountain time. If you cannot attend live, the recorded lecture will be online by 9pm (mountain time) the same day, so you can tune in later. Some days prerecorded lectures will be provided before class time instead of a live stream. You will also be informed within an hour before class time if a recording is coming instead of a live stream. You are encouraged to watch the Tuesday lectures on Tuesday, and so on, so that you do not fall behind. Respondus Lockdown pop quizzes will occur randomly throughout the semester and will be based on the lecture material (and are worth extra credit, see below). Watching lectures (live or recorded) is the key to success in this course, and historically – students that don’t miss lectures end up performing better in Dr. Serafine’s online courses than those who do not.

**Grades:**

**Exams: 400pts**
- There will be 4 exams, each worth 100 points during the course of the semester (dates below).
- Combinations of multiple choice, short answer and/or essay, matching, true/false, labeling or fill in the blank questions will be included.
- No test scores will be dropped. No make-up exams will be administered under any circumstances, no matter how compelling.
- The majority of the exam will be focused on lecture material, but 10-20% will be from the book (and most of the book questions will be very similar to the Blackboard textbook quizzes). Note that the final is 50% cumulative.
- Exams will take only 90 minutes and are timed. If you require any additional time or accommodation you must provide appropriate documentation at least one week prior to the first exam.
- All exams will be available on Blackboard for a 48-hour window, during which you can take the exam at your convenience; however, be advised that if you run into technical issues in the middle of the night, I won’t be able to assist you until the next day.
- No make-up exams will be administered under any circumstances, no matter how compelling.
  You must take the exam during the allotted 48-hour window. The 48-hour windows always include one scheduled class period (e.g., 1:30-2:50pm on a Tuesday or Thursday) which you should have free in your schedule since you registered for this as a synchronous course.
- Exams require you to use Respondus Lockdown, a program that will “lock” you out of being able to use other websites or items to take the exam. No notes, books, power points, electronic devices, devices that transmit audio or materials are allowed during the exams. You are also prohibited from discussing the exam with each other during the 48-hour exam window. However, you are strongly encouraged to study together virtually before the window begins and you can do this virtually on Slack.
- You should download Respondus Lockdown and install it on your computer ASAP: [https://www.utep.edu/technologysupport/_Files/docs/MM_Respondus-Student.pdf](https://www.utep.edu/technologysupport/_Files/docs/MM_Respondus-Student.pdf)
**Assignments: 100pts**

- **Homework Worksheets (25pts each)**
  - A large part of this course involves reading and thinking critically. To facilitate this, you will have opportunities to do some additional reading and learn about specific topics in neuroscience.
  - Homework worksheets are to be completed independently. Students are NOT permitted to work together on the homework. However, once the assignment deadline has passed if you want to discuss the homework with your classmates or compare answers that will be ok if it is done in a space where the instructor can see the conversation (e.g., discussion boards hosted by the instructor such as on Blackboard or Slack – details on Blackboard).
  - There are 5 homework assignments, but only the top 4 grades will count towards your final grade (in other words, the lowest homework grade will be dropped).
  - Homework will be due at 11:59pm on dates specified in the course schedule below.
  - The use of generative AI is prohibited for all homework assignments.

**Extra Credit:**

- **Asynchronous Textbook Quizzes (5pts)**
  - A total of 14 quizzes will be available on Blackboard throughout the semester. These will consist of multiple choice and true false questions. *Quiz questions will come from the reading assignments NOT from the lecture.* They will only be available during the week corresponding to that reading assignment (so if you are supposed to read chapter 2 by the end of the first week, the chapter 2 quiz should be completed by Friday of the first week of classes, etc).
  - To give maximum flexibility to students, the quizzes will be open from the start to finish of each exam content period (e.g., the first day the class covers material for exam 1 until the week before exam 1). However, you are STRONGLY encouraged to not wait to take all the quizzes at the end of the availability window (this could be overwhelming for you)! Recommended completion dates are included for each quiz so you can see when the best time to take each one is, corresponding to what we will cover in class and through your readings each week.
  - There will also be a syllabus quiz, which will expire on census day (September 13\(^{th}\)). If you take the syllabus quiz it will replace your lowest textbook quiz grade at the end of the semester.
  - Textbook Quiz bonus points will be calculated as follows: (points earned divided by 140) multiplied by 5. The quiz total points (maximum of 5) will be added to your total grade once the other 500 points have been completed. The maximum possible points you can earn for all quizzes if they are all perfect, is 5 total points added to your total out of 500.

- **Respondus Lockdown Lecture Pop Quizzes (??)**
  - Occasionally there will be unannounced pop quizzes, and you will have the opportunity to earn extra credit based on performance on these quizzes. These will typically only be open for 24 hours at the most. There will be 2.5-5pts possible via in class pop quizzes between each exam, and points will be added to the exam that follows the quiz. For example, a quiz occurring after Exam 1 will mean that any points earned get added to the Exam 2 grade.
  - The goal of these is to familiarize you with the Respondus program, and allow you to check for any technical issues with your wifi/internet service.
You are not permitted to use other devices, the internet or your book/notes during these pop quizzes. These quizzes are designed to help you prepare for the test environment.

**Extra Credit Creative Projects – (up to 20pts)**

- Twice during the semester there are opportunities to work on a creative project to earn additional points. These are designed to provide you with a chance to flex your creativity as you learn more about neuroscience and scientific communication.
- There will be approximately 2 of these optional assignments (worth up to 10 points each) which will get added as extra credit to your total at the end of the semester out of 500 points.
- The creative projects have specific due dates outlined in the calendar below and on Blackboard. Late assignments will still be accepted for partial credit, all the way until 12/15 at 11:59pm. The late point penalty is -1pt for every week late starting at 11:59pm the day after the deadline.
  - For example: Creative Project 1 is due on Tuesday October 17, but students can turn it in late with the following penalties:
    - Turned in by October 17 at 11:59pm = on time
    - Turned in between 12:00am Oct. 18-11:59pm Oct. 24 = -1pt
    - Turned in between 12:00am Oct. 25-11:59pm Oct. 31 = -2pts
    - Turned in between 12:00am Nov. 1 -11:59pm Nov. 7 = -3pts
    - Turned in between 12:00am Nov. 8 - 11:59pm Nov. = -4pts
    - Turned in between 12:00am Nov. 15-11:59pm Nov. 21 = -5pts
    - Turned in between 12:00am Nov. 22 – 11:59pm Nov. 28 = -6pts
    - Turned in between 12:00am Nov. 29 – 11:59pm Dec. 5 = -7pts
    - Turned in between 12:00am Dec. 6 – 11:59pm Dec. 12 = -8pts
    - Turned in between 12:00am Dec. 13 – 11:59pm Dec. 15 = -9pts
  - Creative Project 2 is due on Dec. 5, and if you turn it in between Dec. 12:00am on 6-11:59pm on Dec. 12 it will lose one point. Turning it in between Dec. 13-15 will only result in 2 points lost maximum (since the latest day to submit is the 15th, the last day of finals week).
  - No extensions will be available past Dec. 15 because grades are due to the registrar shortly after that, so this is the most flexibility possible!
- Students are not permitted to work together on any assignments in this course, but you can discuss them in public spaces the instructor can view (e.g., Blackboard or Slack – see details on Blackboard about class discussion).

**Exam Extra Credit (??)**

- There are typically 1-2 extra credit questions on each exam. These are extra, and if you get them wrong you will not be penalized but answering them correctly will get you full or partial extra credit points. They are typically more difficult than the rest of the exam questions and will usually be worth 2.5-5pts extra added to each exam grade.

**Academic Dishonesty:** Academic dishonesty is prohibited and is considered a violation of the UTEP Handbook of Operating Procedures. It includes, but is not limited to, cheating, plagiarism, and collusion. Cheating may involve copying from or providing information to another student, possessing unauthorized materials during a test, or falsifying research data on laboratory reports. Plagiarism occurs when someone intentionally or knowingly represents the words or ideas of another as one’s own. Collusion involves collaborating with another person to commit any academically dishonest act. Any act of academic dishonesty attempted by a UTEP student is unacceptable and will not be tolerated. All
suspected violations of academic integrity at The University of Texas at El Paso must be reported to the Office of Student Conduct and Conflict Resolution (OSCCR) for possible disciplinary action. Students may be suspended or expelled from UTEP for such actions. To learn more, please visit HOOP: Student Conduct and Discipline.

**Course Policies on the Use of Artificial Intelligence**: The use of generative AI tools such as Chat GPT is permitted in this course for the following activities, which must be noted or cited, and a printout of the generated content must also be uploaded along with the assignment.

- To draft and proofread emails when you have questions for the instructor
- To proofread/revise grammar for any written content for course (e.g., homework answers, information for creative assignment #2).
- To generate a topic for creative assignment #2
- To proofread/revise grammar for your own course notes
- To learn how to use pubmed to find peer-reviewed articles
- To learn how to read peer-reviewed articles that you find on pubmed
- *If you use AI in any of these approved ways, please print a screen shot of the transcript and upload along with your assignment or email to Dr. Serafine.

However, you may **not** use AI tools to complete the following activities:

- To generate content or answers for the homework assignments
- To generate new content or text for creative assignments (you can only use AI to review your own words and provide guidance on editing for grammar/sentence structure – but not to create new sentences or phrases).
- On the exams or quizzes (textbook or pop quizzes)
- To answer questions on the review sheet
- To find peer-reviewed papers or other sources instead of using pubmed
- The homework and creative assignment writing should all be your own, influenced by your own critical thinking after reading the textbook or supplementary documents.

Students must cite any borrowed content sources to comply with all applicable citation guidelines, copyright law, and avoid plagiarism. Instances that violate these guidelines will be referred to the Office of Student Conduct and Conflict Resolution. **If you wish to use generative AI for anything else related to this course that is not listed above, please ask the instructor at least one week prior to the deadline or due date for the item you are interested using it for.**

**Important Contact Information**
- University Counseling Center 202 Union West 747-5302
- Center for Accommodations and Support Services 106 Union East 747-5148
- University Career Center 103 Union West 747-5640
- Department of Psychology 112 Psychology 747-5511

**Final Grade Calculation**: Final grades will be calculated as follows (points earned + extra credit/500) x 100.

**Grading scale:**
- A = 90.0-100.0%
- B = 80.0-89.9%
- C = 70.0-79.9%
- D = 60-69.9%
- F < 60.0%
Please note that grades will not be “rounded up”. Therefore a 79.5% will be entered as a “C”. No exceptions will be made. If you have any questions or disputes regarding grades, you must raise these in writing within ten days of the grade being released. Grades will only be changed in cases of administrative error. The instructor does not hand back exams, if you wish to see your exam after it has been graded, you must schedule an appointment to come meet with the instructor (or if facilitated by the instructor, a meeting with the TA). Students should not contact the TA directly.

If you have a problem with the grading policies outlined above, you are welcome to drop the course before the drop deadline. If you disagree with your final grade in this course, despite the clear outline above of the way grades are calculated, you are welcome to file a complaint to the Chair of the Psychology Department or the UTEP grievance committee. Note that there is already information about extra credit written above. Do not ask for additional extra credit opportunities beyond what is provided on the syllabus or in class to the entire group.

Course Recordings:
The use of recordings will enable you to have access to class lectures and review sessions in the event you miss a synchronous or in-person class meeting due to illness or other extenuating circumstance. Our use of such technology is governed by the Federal Educational Rights and Privacy Act (FERPA) and UTEP’s acceptable-use policy. A recording of class sessions will be kept and stored by UTEP, in accordance with FERPA and UTEP policies. Your instructor will not share the recordings of your class activities outside of course participants, which include your fellow students, teaching assistants, or graduate assistants, and any guest faculty or community-based learning partners with whom we may engage during a class session. You may not share recordings outside of this course. Doing so may result in disciplinary action.

Copyright for Course Materials:
All materials used in this course are protected by copyright law. The course materials are only for the use of students currently enrolled in this course and only for the purpose of this course. They may not be further disseminated.

Class Schedule:  
Lecture title bold, reading (to be completed prior to class time italicized), BLUE indicates assignment deadlines, Yellow highlight indicates Exams.

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<td>Course overview</td>
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<td>Class Cancelled –Use the time to read, take textbook quizzes or work</td>
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<td>The neuron: structure and function</td>
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W  09/13  Census day – Syllabus Quiz Expires at 11:59pm

TH  09/14  Neurochemistry: Synaptic Transmission
        Chapter 5&6

M  09/18  Homework 1: Nernst Equation & Synaptic Structure due at 11:59pm via Blackboard

T  09/19  Neurochemistry: Neurotransmitter Systems
        Chapter 6&7

TH  09/21  Exam Review / Virtual Office Hours

T  09/26  Exam 1 Window covering chapters 1-7
        Exam 1 opens at 5pm Monday 09/25 and closes at 5pm Wednesday 9/27

TH  09/28  Vision & Olfaction
        Chapter 11&12

T  10/03  Vision & Olfaction
        Chapter 11&12

TH  10/05  Hearing & Vestibular Systems
        Chapter 13&14

T  10/10  Somatic Sensory System & Pain Processing
        Chapter 9 & 10

W  10/11  Homework 2: Reflex & Spinal Cord due at 11:59pm via Blackboard

TH  10/12  Spinal & Brain Control of Movement
        Chapter 17&18

T  10/17  Exam Review/ Virtual Office Hours
        Extra Credit Creative Project 1 (Build a Neuron) Due on Blackboard by 11:59pm

TH  10/19  Exam 2 covering chapters 9-14, 17-18
        Exam 2 opens at 5pm Wednesday 10/18 and closes at 5pm Friday 10/20

T  10/24  Emotion & Stress
        Chapter 31

TH  10/26  Motivation, Feeding & Sex
        Supplemental Reading: http://nobaproject.com/modules/drive-states

T  10/31  Language
        Chapter 33

TH  11/02  Alterations of Consciousness, including sleep and addiction
        Chapter 28
Supplemental Reading http://nobaproject.com/modules/psychopharmacology

F 11/03  Drop /Withdrawal Deadline

M 11/06  Homework 3: Addiction & Imaging Techniques due by 11:59pm via Blackboard

T 11/07  Alterations of Consciousness, including sleep and addiction  
        Chapter 28  
        Supplemental Reading http://nobaproject.com/modules/psychopharmacology

TH 11/09  Exam Review/ Virtual Office Hours

T 11/14  Exam 3 covering chapters 28, 31, 33 and supplemental readings  
        Exam 3 opens at 5pm Monday 11/13 and closes at 5pm Wednesday 11/15

TH 11/16  Learning & Memory  
        Evolution of Cognitive Functions  
        Chapter 30 and 34

T 11/21  Synaptic Plasticity  
        Chapter 8 and 25

TH 11/23  No class - Holiday

T 11/28  Synaptic Plasticity Continued, & Mental Illnesses  
        Chapter 8 and 25, plus Supplemental Readings:  
        • http://nobaproject.com/modules/history-of-mental-illness?r=NDY5NjIsNDE5Nzg%3D  
        • http://nobaproject.com/modules/schizophrenia-spectrum-disorders?r=NDY5NjIsNDE5Nzg%3D

TH 11/30  Mental Illnesses Continued  
        Supplemental Readings (see above for links)

F 12/01  Homework 4: LTP & Connectomics due at 11:59pm via Blackboard

T 12/05  Flex/Exam Review  
        Extra Credit Creative Project 2 Due on Blackboard by 11:59pm

TH 12/07  Flex/ Virtual Office Hours

TH 12/14  **FINAL EXAM** Our final exam window is scheduled for Thursday 12/14; however,  
        to provide you with a full 48 hour window as with previous exams, Exam 4 will open  
        on Wednesday 12/13 at 5pm and close on Friday 12/15 at 5pm. 50% of the final exam  
        will be on material covered after Exam 3 (chapters 24-25, 30, 34 and supplemental  
        readings). The other 50% of the exam will be cumulative information from the rest of  
        the course. ANY material from lecture or reading might appear on the final exam, but  
        material from lectures are more likely to appear on the final.

F 12/15  Homework 5: Issues in Neuroscience Due on Blackboard by 11:59pm
**Please note: The syllabus is subject to change during the semester. Please make sure I have your best email contact information, to insure you always have the most up to date version of the syllabus. I will also always post the most recent version to Blackboard.**

**Virtual Classroom Courtesy**

Please adhere to the following:

1. Be mindful of your behavior and language online. Remember that members of the class and the instructor will be reading any postings.
2. Respect and courtesy must be provided to classmates and to instructor at all times. No harassment or inappropriate postings will be tolerated.
3. When reacting to someone else’s discussion board post or in class questions, address the ideas, not the person. Post only what anyone would comfortably state in a F2F situation.
4. Blackboard is not a public internet venue; all postings to it should be considered private and confidential. Whatever is posted on these online spaces is intended for classmates and professor only. Please do not copy documents and paste them to a publicly accessible website, blog, or other space. If students wish to do so, they have the ethical obligation to first request the permission of the writer(s).
5. No solicitations. This includes “note takers for hire” and similar paid for tutoring services.

**Other Resources**

- **UTEP Library**: Access a wide range of resources including online, full-text access to thousands of journals and eBooks plus reference service and librarian assistance for enrolled students.
- **Help Desk**: Students experiencing technological challenges (email, Blackboard, software, etc.) can submit a ticket to the UTEP Helpdesk for assistance. Contact the Helpdesk via phone, email, chat, website, or in person if on campus.
- **University Writing Center (UWC)**: Submit papers here for assistance with writing style and formatting, ask a tutor for help and explore other writing resources.
- **Math Tutoring Center (MaRCS)**: Ask a tutor for help and explore other available math resources.
- **History Tutoring Center (HTC)**: Receive assistance with writing history papers, get help from a tutor and explore other history resources.
- **Military Student Success Center**: UTEP welcomes military-affiliated students to its degree programs, and the Military Student Success Center and its dedicated staff (many of whom are veterans and students themselves) are here to help personnel in any branch of service to reach their educational goals.

**COVID-19 Information**

Please stay home if you have been diagnosed with COVID-19 or are experiencing COVID-19 symptoms. If you are feeling unwell, please contact CASS and let your instructors know as soon as possible, so that we can work on appropriate accommodations. If you have tested positive for COVID-19, you are encouraged to report your results to covidaction@utep.edu, so that the Dean of Students Office can provide you with support and help with communication with your professors. The Student Health Center is equipped to provide COVID-19 testing.
The Center for Disease Control and Prevention recommends that people in areas of substantial or high COVID-19 transmission wear face masks when indoors in groups of people. The best way that Miners can take care of Miners is to get the vaccine. **If you still need the vaccine, it is widely available in the El Paso area, and will be available at no charge on the UTEP campus during the first week of classes.** For more information about the current rates, testing, and vaccinations, please visit [epstrong.org](http://epstrong.org).