BIOL/PSYC 4309-001: NEUROPHARMACOLOGY
Spring 2020

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Faculty profile: https://mentis.uta.edu/explore/profile/qing-lin
Course number: BIOL/PSYC 4309-001
Time and Place of class meeting: Tuesday and Thursday 3:30-4:50 PM, LS424
Office Hours: Tuesday 11:00AM-12:00PM or by appointment, ERB434

Course Description:
Neuropharmacology is the scientific study of the actions of drugs and their effects on functional activity of the nervous system by binding to a particular target site or receptor. The specific focus of this course will be to provide a description of the cellular and molecular actions of drugs on synaptic transmission between neurons. This course will also discuss the pharmacological mechanisms of neurological diseases and their treatments.

Course Learning Objectives and Goals:
By the end of the course, students are expected to learn 1) how drugs produce biological and physiological changes in the functioning of neurons, which includes anatomical basis of neuro-signal pathways and biochemical basis of drug-induced signaling between neurons; 2) how human behavior, thought and mood processes are transferred from neuron to neuron and how medications can alter the chemical foundations of these processes.

Course Prerequisites:
Cell Biology and/or Physiology

Required Textbook and Major Assignments:
Attendance:

At The University of Texas at Arlington, taking attendance is not required but attendance is a critical indicator in student success. Each faculty member is free to develop his or her own methods of evaluating students’ academic performance, which includes establishing course-specific policies on attendance. However, while UT Arlington does not require instructors to take attendance in their courses, the U.S. Department of Education requires that the University have a mechanism in place to mark when Federal Student Aid recipients “begin attendance in a course.” UT Arlington instructors will report when students begin attendance in a course as part of the final grading process. Specifically, when assigning a student a grade of F, faculty report the last date a student attended their class based on evidence such as a test, participation in a class project or presentation, or an engagement online via Canvas. This date is reported to the Department of Education for federal financial aid recipients.

Please note: As the instructor of this course, I have established that class attendance is required by accounting for 10% of total score (please refer to “Grade Calculation”). Attending lecture is extremely beneficial to your performance in this advanced course. Students are responsible for signing the attendance sheet every time when coming to the class. The absence may be excused due to the events that happen unpredictably, such as illness (documentation is needed).

Examinations:

There will be three equally weighted closed-book examinations. The 3rd exam will NOT be comprehensive. You are required to take all three exams. The format for exams will be multiple-choice.

Please note: You are expected to be in class on time during examination dates. Exams will not be given to any late coming students after the first test has been turned in. If you come after this point to take the exam, it will be considered a “missed” exam. If you miss an exam, no grade will be given.

Grade Calculation:

The three exams will contribute one third each to 90% of the final grade. Class attendance and discussion is encouraged and will account for 10% toward the final grade. The final score will be calculated and averaged from the sum of three exams and credit of class attendance (30%+30%+30%+10%=100%). A letter grade will be assigned where A ≥ 86%, B ≥ 76%, C ≥ 66%, D ≥ 56%, F ≤ 55%.

Please note: There will be no extra credit work to make up the grade. Please do not ask. UTA policy will not allow distribution of grade over the phone call or email.

Make-up work:

If you miss an exam, a grade of zero will be given. There is no provision for taking a makeup exam in this course unless documentation for a University-approved excuse (see http://www.uta.edu/catalog/general/academicreg) is received within five days of the exam date. All makeup exams will be offered in the week right before the final exam week (see “Tentative lecture and topic schedule” on page 5).

Please note: Makeup exam is ONLY for those students who miss the first two exams.
Institution Information:

UTA students are encouraged to review the below institutional policies and informational sections and reach out to the specific office with any questions. To view this institutional information, please visit the Institutional Information page (http://www.uta.edu/provost/administrative-forms/course-syllabus/index.php) which includes the following policies among others:

- Drop Policy
- Disability Accommodations
- Title IX Policy
- Academic Integrity
- Student Feedback Survey
- Final Exam Schedule (please also refer to “Tentative lecture and topic schedule” on page 5)

Electronic Communication:

UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at http://www.uta.edu/oit/cs/email/mavmail.php.

Please note: Students are responsible for checking their MavMail and Canvas regularly, so that you will be aware of course update and announcements.

Student Support Services:

UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to resources@uta.edu, or view the information at http://www.uta.edu/universitycollege/resources/index.php.

The IDEAS Center (2nd Floor of Central Library) offers free tutoring to all students with a focus on transfer students, sophomores, veterans and others undergoing a transition to UT Arlington. To schedule an appointment with a peer tutor or mentor email IDEAS@uta.edu or call (817) 272-6593.

The Library’s 2nd floor Academic Plaza offers students a central hub of support services, including IDEAS Center, University Advising Services, Transfer UTA and various college/school advising hours. Services are available during the library’s hours of operation. http://library.uta.edu/academic-plaza.
Emergency Exit Procedures:

Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit, which is located at the entrance of Life Science Building. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist individuals with disabilities.

Emergency Phone Numbers:

In case of an on-campus emergency, call the UT Arlington Police Department at 817-272-3003 (non-campus phone), 2-3003 (campus phone). You may also dial 911. Non-emergency number 817-272-3381.

Library Information:

Research or General Library Help
Ask for Help
- Academic Plaza Consultation Services (library.uta.edu/academic-plaza)
- Ask Us (ask.uta.edu/)
- Research Coaches (http://libguides.uta.edu/researchcoach)

Resources
- Library Tutorials (library.uta.edu/how-to)
- Subject and Course Research Guides (libguides.uta.edu)
- Librarians by Subject (library.uta.edu/subject-librarians)
- A to Z List of Library Databases (libguides.uta.edu/az.php)
- Course Reserves (https://uta.summon.serialssolutions.com/#/course_reserves)
- Study Room Reservations (openroom.uta.edu/)
Course schedule: tentative lecture and topics

As the instructor for this course, I reserve the right to adjust this schedule in any way that serves the educational needs of the students enrolled in this course.


<table>
<thead>
<tr>
<th>Week</th>
<th>Date (Every Tuesday and Thursday)</th>
<th>Lecture Topics</th>
<th>Reading Assignments</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Jan 21, 23</td>
<td>Principles of Neuropharmacology</td>
<td>Chapter 1</td>
</tr>
<tr>
<td>2</td>
<td>Jan 28, 30</td>
<td>Structure and Function: the nervous system</td>
<td>Chapter 2</td>
</tr>
<tr>
<td>3</td>
<td>Feb 4, 6</td>
<td>Chemical Signaling by Neurotransmitters and Hormones Catecholamines</td>
<td>Chapter 2, Chapter 3, Chapter 5</td>
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<tr>
<td>4</td>
<td>Feb 11, 13</td>
<td>Serotonin Acetylcholine</td>
<td>Chapter 6, Chapter 7</td>
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<td>5</td>
<td>Feb 18, Feb 20</td>
<td>Exam 1 (2/18, Tuesday, 3:30-4:50 PM at LS 424, Chapters 1-3, 5-7)</td>
<td>Chapter 8</td>
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<tr>
<td></td>
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<td>Glutamate and GABA</td>
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<tr>
<td>6</td>
<td>Feb 25, 27</td>
<td>Glutamate and GABA Drug Abuse and Addiction</td>
<td>Chapter 8, Chapter 9</td>
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<tr>
<td>7</td>
<td>Mar 3, 5</td>
<td>Drug Abuse and Addiction Alcohol</td>
<td>Chapter 9, Chapter 10</td>
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<td>8</td>
<td>Mar 9-15</td>
<td>Spring break</td>
<td>No class</td>
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<td>9</td>
<td>Mar 17, 19</td>
<td>Alcohol Opiates</td>
<td>Chapter 10, Chapter 11</td>
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<td>10</td>
<td>Mar 24, 26</td>
<td>Opiates Psychomotor Stimulants</td>
<td>Chapter 11, Chapter 12</td>
</tr>
<tr>
<td>11</td>
<td>Mar 31, April 2</td>
<td>Exam 2 (3/31, Tuesday, 3:30-4:50 PM at LS 424, Chapters 8-12) Nicotine and Caffeine</td>
<td>Chapter 13</td>
</tr>
<tr>
<td>12</td>
<td>April 7, 9</td>
<td>Nicotine and Caffeine Marijuana and cannabinoids</td>
<td>Chapter 13, Chapter 14</td>
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<tr>
<td>13</td>
<td>April 14, 16</td>
<td>Anxiety Disorders and Anxiolytics Affective Disorders and Antidepressants</td>
<td>Chapter 18, Chapter 19</td>
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<tr>
<td>14</td>
<td>April 21, 23</td>
<td>Affective Disorders and Antidepressants Neurodegenerative Diseases</td>
<td>Chapter 19, Chapter 21</td>
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<tr>
<td>15</td>
<td>April 28, 30</td>
<td>Neurodegenerative Diseases Backup</td>
<td>Chapter 21</td>
</tr>
<tr>
<td>16</td>
<td>May 4-8</td>
<td>Week of review Makeup exam (May 5, Tuesday)</td>
<td>No class</td>
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<tr>
<td>17</td>
<td>May 11-15 Final exam week</td>
<td>Exam 3 (May 14, Thur, 2:00-4:30 PM at LS 424; Chapters 13,14,18,19 and 21) Please also get update for date of exam from &quot;UTA final exam online schedule&quot;, <a href="https://www.uta.edu/records/calendars/final-exams.php">https://www.uta.edu/records/calendars/final-exams.php</a>.</td>
<td>Exams</td>
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