

NS/BIOL 105 Syllabus: Introduction to Neuroscience
THINK Summer Institute 2014
July 15th – August 2nd
M-F 9 am –12:00 pm

Instructor: Fang Jiang, Ph.D.

Course Description: The brain arguably represents the only object on earth with function that is greater than the sum of its parts. This course presents an overview of neural function and cognition as a means to introducing basic principles in biological science. This course will also focus on the treatment and impact of neurological diseases on society. Topics will range from the electrical basis of brain function to higher-order cognitive processes and neurodegenerative diseases.

Course Prerequisites: None

Required Texts:

Textbooks and materials are purchased and provided to students by the THINK program

Course Objectives: This course aims to provide an overview of neural function, cognition, and diseases of the nervous system. The causes and social implications of neurodegenerative disorders will be a primary focus. This course also aims to introduce students to the neuroscience faculty and research programs at UNR.

Student Learning Outcomes:

- 1) Students will be able to demonstrate a basic understanding of neural function
- 2) Students will be able to articulate the general biological principles underlying neurodegenerative disease.
- 3) Students will be able to relate neural functions to societal issues including the cost, diagnosis and treatment of neurological disease.

WEBCAMPUS Course Site:

All course-related materials are available online through UNR WebCampus. In addition, announcements will be made through WebCampus regarding matters such as class cancellations, meeting times or room changes.

Content accessibility: This course may leverage 3rd party web/multimedia content, if you experience any issues accessing this content, please notify your instructor.

Grading: Grading scale: A-F

A: 90%-100%, B: 80%-89.9%, C: 70%-79.9%, D: 60%-69.9%, F: <59.9%. Pluses and minuses will be assigned to the top and bottom 2.5% of each grading bracket, respectively. The university does not recognize the grade of A+.

1000 points total comprising:

- Group project worth 250 points.
- Three exams worth 600 points total.
- Book summaries worth 150 points total.

Note *no* late book summary submissions.

For documented reasons such as medical and family emergencies, every attempt will be made to provide makeup exams, but these cannot be guaranteed.

Statement of Academic Dishonesty: The University Academic Standards Policy defines academic dishonesty, and mandates specific sanctions for violations. See the University Academic Standards policy: [UAM 6,502](#).

Statement of Disability Services: Any student with a disability needing academic adjustments or accommodations is requested to speak with the [Disability Resource Center](#) (Pennington Student Achievement Center, Suite 230) as soon as possible to arrange for appropriate accommodations.

Statement for Academic Success Services: Your student fees cover usage of the Math Center (784-443 or www.unr.edu/mathcenter/), Tutoring Center (784-6801 or www.unr.edu/tutoring/), and University Writing Center (784-6030 or http://www.unr.edu/writing_center/). These centers support your classroom learning; it is your responsibility to take advantage of their services. Keep in mind that seeking help outside of class is the sign of a responsible and successful student.

Student-created recordings: Surreptitious or covert video-taping of class or unauthorized audio recording of class is prohibited by law and by Board of Regents policy. This class may be videotaped or audio recorded only with the written permission of the instructor. In order to accommodate students with disabilities, some students may have been given permission to record class lectures and discussions. Therefore, students should understand that their comments during class may be recorded.

Instructor-created recordings: Class sessions may be audio-visually recorded for students in the class to review and for enrolled students who are unable to attend live to view. Students who participate with their camera on or who use a profile image are consenting to have their video or image recorded. If you do not consent to have your profile or video image recorded, keep your camera off and do not use a profile image. Students who un-mute during class and participate orally are consenting to have their voices recorded. If you do not consent to have your voice recorded during class, keep your mute button activated and only communicate by using the "chat" feature, which allows you to type questions and comments live.

Statement on Title IX: The University of Nevada, Reno is committed to providing a safe learning and work environment for all. If you believe you have experienced discrimination, sexual harassment, sexual assault, domestic/dating violence, or stalking, whether on or off campus, or need information related to immigration concerns, please contact the University's Equal Opportunity & Title IX office at 775-784-1547. Resources and interim measures are available to assist you. For more information, please visit: <https://www.unr.edu/equal-opportunity-title-ix>.

Technology Statement: You are allowed to use laptops in class to take notes. All materials including this syllabus will be available on WebCampus. In addition, the WebCampus site will be used to communicate via class announcements, to collect assignments, and to answer questions.

Student Response System Technology: Not required.

Statement on Failure to Comply with Policy (including as outlined in this Syllabus) or Directives of a University Employee: "In accordance with section 6,502 of the University Administrative Manual, a student may receive academic and disciplinary sanctions for failure to comply with policy, including this syllabus, for failure to comply with the directions of a University Official, for disruptive behavior in the classroom, or any other prohibited action. "Disruptive behavior" is defined in part as behavior, including but not limited to failure to follow course, laboratory or safety rules, or endangering the health of others. A student may be dropped from class at any time for misconduct or disruptive behavior in the classroom upon recommendation of the instructor and with approval of the college dean. A student may also receive disciplinary sanctions through the Office of Student Conduct for misconduct or disruptive behavior, including endangering the health of others, in the classroom. The student shall not receive a refund for course fees or tuition."

Schedule (subject to change):

Date		Lecture Topic	Textbook Reading	His Brother's Keeper Reading
15-July	M	Overview + Neuron	Neuroscience Ch.1; Brain facts Ch.1	Part 1 (p. 1- 72)
16-July	T	Synapse	Neuroscience Ch.1; Brain facts Ch.1	Part 1 (p. 1- 72)
17-July	W	Brain areas	Neuroscience Ch.2-3; Brain facts Ch.2	Part 1 summary due
18-July	Th	Techniques	Neuroscience Ch.2-3; Brain facts Ch.2	Part 2 (p. 73- 146)
19-July	F	Exam 1 & COBRE tour		Part 2 (p. 73- 146)
22-July	M	Vision	Neuroscience Ch.6; Brain facts Ch.2	Part 2 summary due
23-July	T	Audition	Neuroscience Ch.5-6; Brain facts Ch.3, 9	Part 3 (p. 147- 210)
24-July	W	Touch	Neuroscience Ch.5; Brain facts Ch.3	Part 3 (p. 147- 210)
25-July	Th	Memory & Learning	Neuroscience Ch.11,12; Brain facts Ch.4, 12	Part 3 summary due
26-July	F	Exam 2 & group project discussion		Part 4 (p. 211- 290)
29-July	M	Neuron function	Neuroscience Ch.8,10; Brain facts Ch.3, 9	Part 4 (p. 211- 290)
30-July	T	Neural plasticity	Neuroscience Ch.11,12; Brain facts Ch.4, 12	Part 4 summary due
31-July	W	Neurological disorders	Neuroscience Ch.18; Brain facts Ch.16	Part 5 (p. 291-354)
1-Aug	Th	Neurological disorders	Neuroscience Ch.15; Brain facts Ch.14	Part 5 (p. 291-354)
2-Aug	F	Exam 3 & group project presentation		Part 5 summary due