Course Syllabus

Course Information

Course Number/Section	NSC 4353 (1U1) Wednesday
Course Title	Neuroscience Laboratory Methods
Term	Summer 2017
Days & Times	Green Hall 4.708 1:00–5:00 PM

Professor Contact Information

Professor	Dr. Steve McWilliams
Office Phone	972-883-6785 (do **NOT** leave messages)
Email Address	**ALL course-related communication via email must be sent through eLearning/official UTD email- I am the 'section instructor'**
Office Location	GR 4.714
Office Hours	MW 12:30-1:00 or by appointment
Other Information	Course Web Site: UTD eLearning

Teaching Assistants

Wednesday Lab Section 1U1

Andi Wangzhou	Office: GR 4.708
1:30-2:30 -or- by appointment	E-mail: axw131330@utdallas.edu

Course Pre-requisites, Co-requisites, and/or Other Restrictions

NSC 3361 (Behavioral Neuroscience) and either NSC 4352 (Cellular Neuroscience) or NSC 4356 (Neurophysiology). College level writing skills are strongly recommended.

Course Description

This laboratory course is designed to introduce students to scientific writing as used in many scientific journal publications and to expose students to some of the various methods used in the field of neuroscience research. Students will carry out experiments, research existing literature related to such experiments, and write up their data in a scientific journal-style paper, similar to that found in a scientific journal. The course fulfills the advanced writing requirement for Neuroscience majors.

Student Learning Objectives/Outcomes

After completing the course, students should be able to:

- Apply scientific methods to design, conduct and analyze studies using available research methods.
- Locate, concisely summarize, and compare findings from sources in peer-reviewed literature.
- Demonstrate proficiency in writing research reports, in a manner suitable for publication, that include an abstract, introduction, methods, results and discussion sections.
- Demonstrate competence in effectively collaborating with others.
- Students will be able to write using effective technical requirements, including organization, mechanics, and thesis development.
- Students will be able to demonstrate an ability to conduct research, apply source material, discuss general information, and apply logical process when writing.

Required Textbooks and Materials

- Day and Gastel, How to Write and Publish a Scientific Paper, 6th or 7th edition.
- Other readings on ***eLearning:*** Students should print out "Lab Handouts" and bring to class on the days they are to be used. These are posted on the course eLearning web site and will NOT be provided by the instructor.

Suggested Textbooks (But not required!)

- Cargill and O'Connor, Writing Scientific Research Articles, 2nd edition.
- Hofmann, Writing in the Biological Sciences, A Comprehensive Resource for Scientific Communication

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Assignments

Exams: Students will complete three in-class exams. The first exam covers neuroanatomy and includes fill-in-the-blank, multiple-choice, and true/false questions. The second exam is an essay- type short-answer exam covering both the open-field experiment and the inhibitory avoidance experiment. The third exam is an essay-type short-answer exam covering neurophysiology.

Papers*:* Students will complete four scientific publication- style journal papers. This will include a draft and a final revised version of the draft for each of the two experiments. Since revision is such a critical part of writing, students will submit an initial draft for each paper as a way of getting feedback on their writing. This is designed to help students with the writing process. Each paper should include a title, abstract, introduction, materials and methods, results, discussion, and published references. Students should expect to write a minimum of 15 pages cumulative for the two papers with a minimum of 5 pages of revision. However, students often end up writing more than 15 pages by the end of the course. All papers MUST be typed and double-spaced with no split columns!

Submission of drafts and final papers: Students will submit each draft and final version electronically via email directly to the Instructor for grading on the day due. Once papers are revised, graded, and grades are posted, they will be returned via email. In addition to submitting drafts and final version papers electronically via email, both final version papers MUST be submitted to Turnitin. Students should not submit papers showing Instructor/TA revised comments; such papers will NOT count toward an on time submission. In such a case, the student will be asked to submit the correct copy (without Instructor/TA comments) with the paper being counted as late if submitted after the due date.

FINAL VERSION PAPERS SUBMITTED/SENT TO INSTRUCTOR, BUT NOT SUBMITTED TO TURNITIN BY THE DATE DUE, WILL BE DEDUCTED ONE LETTER GRADE.

Students should print off a copy of the digital receipt that is displayed when submitting a paper on Turnitin as proof of submission.

SEE BELOW REGARDING POLICY ON GRADING.

SEE BELOW REGARDING POLICY ON LATE WORK.

SEE BELOW REGARDING POLICY ON TURNITIN SUBMISSION.

SEE BELOW REGARDING UTD POLICY ON PLAGIARISM.

SEE BELOW FOR LAB SCHEDULE AND DUE DATES.

NO EXTRA CREDIT WORK OF ANY KIND WILL BE GIVEN.

Students should expect to spend a good amount of time with the writing process of the course as this type of writing is typically time consuming for most individuals. As such, students should allow themselves enough time to complete and correct their papers prior to the due dates!

Grading Policy

Exams (30% of grade): Each of the three exams is worth 10% of your final course grade.

Drafts and final papers (60% of grade): The first draft (covering the open-field experiment) is worth 5% and the second draft (covering the inhibitory-avoidance experiment) is worth 10% of your final course grade. The final revised OF paper is worth 20% and the final revised IA paper is worth 25% of your final course grade. Scientific writing is an acquired skill that is learned through much writing and revision. Therefore, as students progress along the writing process, grades based on writing become increasingly weighted. Student papers are assigned a grade based on a grading rubric posted on eLearning and available to students. The grading rubric details all aspects of the paper as well as possible point deductions. Papers are graded for formatting, grammar, comprehension, and c o n t e n t . Papers must be typed- papers that are not typed will not be accepted or graded; this will result in a zero for that assignment. DRAFTS/PAPERS deemed INCOMPLETE will NOT be REVISED or commented on, but will be GRADED.

SEE BELOW FOR POLICIES CONCERNING LATE WORK.

SEE BELOW REGARDING POLICY ON TURNITIN SUBMISSION.

Participation/Attendance (10% of grade): Attendance and class participation is worth 10% of your final course grade.

SEE BELOW FOR POLICIES CONCERNING ATTENDANCE.

Final Grades: The plus/minus grading system is used in this course. A+ (97–100), A (94<97), A- (90<94), B+ (87<90), B (84<87), B- (80<84), C+ (77<80), C (74<77), C- (70<74), D+ (67<70), D (64<67), D- (60<64), F (< 60).

Course Policies:

All matters related to grades or absences should be emailed to the section instructor and not the TA!

Make-up exams: Make-up exams are at the discretion of the professor. However, exam one covering neuroanatomy cannot be rescheduled.

Late Work: All papers are due on the dates listed below, unless pre-approved by the instructor.

DRAFTS NOT TURNED IN BY THE DUE DATE WILL NOT BE REVIEWED OR GRADED.
FINAL VERSION PAPERS NOT TURNED IN BY THE DUE DATE WILL BE DEDUCTED ONE LETTER GRADE FOR EVERY DAY LATE (INCLUDING WEEKENDS).

FINAL VERSION PAPERS NOT SUBMITTED TO TURNITIN BY THE DATE DUE, WILL BE DEDUCTED ONE LETTER GRADE.

Class Attendance: Students are expected to attend all lab classes on time. Lab doors open at 2:30**- DON'T BE LATE!** Students a r e responsible for completing all assigned readings BEFORE coming to class. Excused absences are at the discretion of the instructor. If you know you will miss a class you must notify the instructor in advance of the scheduled class. Two or more unexcused absences will result in a reduction of the final course grade by one letter grade! Coming to lab late or leaving lab early repeatedly will also count as an absence. Students coming to lab late on exam days MUST finish the exam at the same time the class is finished. Late students will NOT be allowed extra time to finish an exam unless approved by the instructor.

YOU ARE NOT ALLOWED TO ATTEND ANOTHER LAB SECTION WITHOUT PRIOR APPROVAL FROM BOTH INSTRUCTORS!

UT Dallas Syllabus Policies and Procedures

Plagiarism, especially from the web, from portions of papers for other sections of the class, and from any other source is unacceptable and will be dealt with under the university's policy on plagiarism (see general catalog for details). Other than group data, students are NOT allowed to work together and should NOT share their writing with another student. Each student is expected to write his or her on paper. This course will use the resources of turnitin.com, which searches the web for possible plagiarism and is over 90% effective. All suspected forms of cheating, collusion, and plagiarism will be turned over to Judicial Affairs according to UTD policy.

Students should read the handout on Plagiarism: What Every Student Should Know that is posted on the course eLearning page!

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.

The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.

Continued participation in the class requires the following requirements be completed by Wednesday, June 14

Students not completing all requirements below by the DUE DATE will no longer be allowed access to the Neuroscience Laboratory Methods class

Please follow the instructions below:

Laboratory Methods Requirements

www.utdallas.edu/research/orc/iacuc/facility_access

Step 1: Access Requests and Online Training

- **Online Training**
  - Please visit the BioRAFT website (https://utd.bioraft.com/request-access). Login with your UTD NetID and password.
  - Once you have logged into the BioRAFT system, you can access the training courses from the BioRAFT home screen in the Training section.
  - Please complete the 3 required modules: 1. Ethics in Animal Research, 2. Zoonotic Diseases, and 3. Working with the Laboratory Rat
  - If you have trouble seeing the available training, you can try this link to direct you to it https://utd.bioraft.com/node/403323

Step 2: Immunization Requirements and Participation in the Occupational Health Program

- **Tetanus Immunization**
  - Proof of a Tetanus immunization received within the last 10 years is required.
  - If your current immunization is more than 10 years old, you can visit the UTD Student Health Center to be re-immunized.
- **Medical Health Questionnaire**
  - All individuals working with animals are required to complete the Medical Health Questionnaire for review by the Student Health Center Medical Director.
- **Submitting The Required Documents**
  - Both forms may be submitted to your professor. You may also submit the forms via email (tyler.tornblom@utdallas.edu), or in person at the Natural Science and Engineering Laboratory Building (NSERL). If submitting the form in person, please turn in your paperwork to the security guard in the NSERL lobby. The security guard will place your forms in a folder in Tyler's mailbox.

NeuroLab Schedule and Due Dates

Week of	Class Topic	Reading	Due
May 31	Orientation and Course Outline What is plagiarism?	Syllabus Handout	
June 7	What is Scientific Writing and What is a Scientific Paper (AIMRD) Introduction to Neuroanatomy/ Sheep Brain Dissections	Day&Gastel Chpts.1 & 4 PowerPoint/ Lab Handout	
June 14	Scientific Writing- Title, Abstract, Methods and Results <Animal Handling> Sheep Brain Dissections	Day&Gastel Chpts. 7, 9, 11 & 12 Lab Handout	**Online Training Immunization and MHQ**
June 21	**Exam 1 Neuroanatomy** Scientific Writing- Introduction, Discussion, References <Animal Handling>	Day&Gastel Chpts. 10, 13, and 15	
June 28	**Experiment 1**: Behavioral Pharmacology/Open-Field (OF)	Lab Handout	
July 5	**NO CLASS**		**OF Draft Due**
July 12	In-Class Discussion Q&A *over* Drafts (draft/writing issues addressed)	Day&Gastel Chpts. 30 and 31	***Students should bring revised drafts to class!***
July 19	**Experiment II: part 1** Arousal Systems and Memory/Inhibitory Avoidance (IA)–Training Latencies-	Lab Handout	**Final OF Paper Due**
July 26	**Experiment II: part 2** Arousal Systems and Memory/Inhibitory Avoidance (IA)-Retention Latencies-	Lab Handout	
Aug 2	**Exam 2** *over* Behavioral Pharmacology and Arousal and Memory Experiments PhysioEx 9.0 Neurophysiology	Lab Handout	**IA Draft Due (Drafts returned Sunday, 6th)**
Aug 9	**Exam 3** *over* PhysioEx		**Final IA Paper Due(Thursday, 10th)**