

 FLORIDA ATLANTIC UNIVERSITY	NEW COURSE PROPOSAL Undergraduate Programs		UUPC Approval <u>12/4/23</u> UFS Approval _____ SCNS Submittal _____ Confirmed _____ Banner Posted _____ Catalog _____
	Department Honors College College Wilkes Honors College (To obtain a course number, contact erudolph@fau.edu)		
Prefix PCB Number 4832	(L = Lab Course; C = Combined Lecture/Lab; add if appropriate) Lab Code C	Type of Course Lecture/Lab <input type="button" value="v"/>	Course Title RI: Honors Neurophysiology
Credits (See <i>Definition of a Credit Hour</i>) 3	Grading (Select One Option) Regular <input checked="" type="radio"/> Sat/UnSat <input type="radio"/>	Course Description (Syllabus must be attached; see <i>Template and Guidelines</i>) Neurophysiology will bring the students closer to understanding neurophysiological signaling at the cellular level and whole animal by using actual wet laboratory experiences supplemented with lectures. We will look at signaling from the perspective of the electrical properties of neurons, the basis for all neuronal function. The students will learn through both theory and practical laboratory experiences and then translate their findings into modular reports. This is a research-intensive course.	
Effective Date (TERM & YEAR) Fall 2024	Prerequisites, with minimum grade* BSC1010 grade of C BSC1010L grade of C and permission of instructor		Corequisites
		Registration Controls (Major, College, Level) Honors College, Undergraduate	
<i>*Default minimum passing grade is D-. Prereqs., Coreqs. & Reg. Controls are enforced for all sections of course</i>			
WAC/Gordon Rule Course <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No WAC/Gordon Rule criteria must be indicated in syllabus and approval attached to proposal. See WAC Guidelines .		Intellectual Foundations Program (General Education) Requirement (Select One Option) None General Education criteria must be indicated in the syllabus and approval attached to the proposal. See Intellectual Foundations Guidelines .	
Minimum qualifications to teach course Ph.D. in Neuroscience or related field.			
Faculty Contact/Email/Phone Jennifer Krill, jkrill@fau.edu, 772-643-1599		List/Attach comments from departments affected by new course Biology Department	
Approved by Department Chair <u>William O'Brien</u> College Curriculum Chair <u>Rachel Carr</u> College Dean <u>Julie L. Earles</u> UUPC Chair <u>Korey Sarge</u> Undergraduate Studies Dean <u>Dan Meeroff</u> UFS President _____ Provost _____			Date <u>11/13/2023</u> <u>11/9/2023</u> <u>11/13/2023</u> <u>12/4/23</u> <u>12/4/23</u> _____ _____

Email this form and syllabus to mjenning@fau.edu seven business days before the UUPC meeting.

[PCB4832C]: [RI: HONORS NEUROPHYSIOLOGY]

Wilkes Honors College
CRN TBA, Section TBA
Fall 2024
3 Credit Hours

Instructor: Dr. Jennifer Krill

Office Location: Jupiter Campus, EC202I

Office Hours: TBA

Email: jkrill@fau.edu

Video Conferencing Tool Name: Zoom

Graduate Teaching Assistant: TBA

Email: TBA

Office Hours: TBA

Graduate Research Assistant: TBA

Email: TBA

Office Hours: TBA

Lecture and Lab Hours and Location: TBA, EC104

Open Lab Hours (optional): TBA, EC104

COURSE DESCRIPTION

Neurophysiology will bring the students closer to understanding neurophysiological signaling at the cellular level and whole animal by using actual wet laboratory experiences supplemented with lectures. We will look at signaling from the perspective of the electrical properties of neurons, the basis for all neuronal function. The students will learn through both theory and practical laboratory experiences and then translate their findings into modular reports. This is a research-intensive course.

NOTE ON HONORS DISTINCTION:

This Honors course differs from a non-Honors course in the work and intellectual demands it places on students. In addition to the textbook readings, students will read articles published by professional scholars in peer-reviewed journals, and are expected to think critically about the debates within the field.

RI Designation: This course contains an assignment or multiple assignments designed to help students conduct research and inquiry at an intensive level. If this class is selected to participate

in the university[1]wide assessment program, students will be asked to complete a consent form and submit electronically some of their research assignments for review. Visit the Office of Undergraduate Research and Inquiry (OURI) for additional opportunities and information at <http://www.fau.edu/ouri>.

Undergraduate Research Certificate: FAU now offers an Undergraduate Research Certificate to recognize undergraduate students for the systematic development of excellence in undergraduate research. Students seeking a certificate must complete 12 credits in research-intensive (RI), skillbuilding, exposure, and research dissemination activities. Successfully completing this course earns you three credits in research intensive coursework. Learn more about the RI Certificate here Office of Undergraduate Research and Inquiry (OURI) | Florida Atlantic University ([fau.edu](http://www.fau.edu))

COURSE PREREQUISITES

Biological Principles (BSC 1010 and BSC1010L with grade of C) and Permission of Instructor.

COURSE OBJECTIVES

Upon successful completion of this course, students will be able to:

1. Explain biological concepts, principles, and paradigms as it relates to neuroscience. Apply the principles of scientific inquiry and ethical standards using earthworms and crickets to develop and investigate research questions about neurophysiological processes.
2. Apply neuroscience knowledge (concepts) from simulations, provided data or scientific journal articles to experimental findings.
3. Critically evaluate scientific claims, arguments, and methodology using simulations, provided data or extracellular techniques.
4. Demonstrate and explain how experiments are conducted through virtual wet lab experimentation and written explanation.

STUDENT LEARNING OUTCOMES

SLO 1: Knowledge. Students will demonstrate content knowledge, core principles, and acquired technical skills in neurophysiology. Competency in concepts of action potential threshold, conduction velocity, and the effect of temperature, frequency, and drugs on these neuroelectric properties will be demonstrated in laboratory reports. Students will also gain mastery of the technical skills of electrophysiology required to gather and analyze data on such concepts.

SLO 2: Formulate Questions. Students will formulate their own independent research projects that integrate of fundamental principles and knowledge of electrophysiology to a novel and unique question.

SLO 3: Plan of Action. Students will develop and implement a plan of action to address research and inquiry questions using the electrophysiology techniques mastered in the lab. This will include the development of the student's own methods for carrying out the experiment to answer their independent research question in SLO1.

SLO 4: Critical Thinking. Students will apply critical thinking skills to evaluate and integrate information from published scientific journals with predicted outcomes of experiments from simulations and experimental data gathered in lab. This will include analysis of the data from their laboratory experiments and their own independent research question in SLO1.

SLO 5: Ethical Conduct. While this laboratory utilizes invertebrate model organisms, it is recommended that students complete the Responsible conduct of research (RCR) certificate through the [CITI training of academic research on-line](#). Students are also encouraged to attend FAU OURI workshops on topics related responsible conduct of research. Information on OURI workshops can be found [here](#).

SLO 6: Communication. Students will convey all aspects of their research and inquiry in laboratory reports that follow the format of primary scientific articles. Students are also encouraged to share their independent research findings by submitting their paper to the Florida Atlantic University Undergraduate Research Journal (FAURJ) or at Florida Atlantic University's Undergraduate Research Symposium held at Florida Atlantic University (Boca Raton campus) each Spring Semester. Use the following links for information: [journal submissions](#)-, [symposium submissions](#).

WRITING COURSE COMPONENT

The writing component of this course involves laboratory reports written in the format of a scientific journal article. Each 8-page report will be co-authored by lab partners and include an introduction, materials and methods, results, discussion and references sections. Students will take wet lab data and through data analysis, relate their findings to the underlying cellular and molecular mechanisms as well as extrapolate the significance of their findings to a scientific concept. Students will receive feedback on their reports which they will use to improve their scientific writing skills over the course of the semester. There are a total of 6 reports due throughout the semester. Up to 2 reports will be eligible for revision and resubmission for full credit.

Students will also compose an independent research project. Students will receive feedback on their project idea, experimental design, and significance of their results from a research mentor. Students will conduct a literature review, experimental design, and an independent project

proposal. Mentor meetings are intended to provide students with feedback to better develop their independent projects. Students will submit their notes from mentoring meeting and incorporate mentor feedback from their literature review and experimental design in their formal project proposal. Students will compose a formal written report in the format of a scientific journal article and a poster presentation on their project. Based on feedback, students will revise their papers for publication. Projects that do not incorporate feedback in their revisions will not be published. Posters may also be used to present their independent projects at symposia.

For all co-authored assignments, students will be required to submit an assessment of individual student contributions. This will be used for grading purposes and individual student contribution will contribute to individual student grades on a particular assignment.

COURSE DELIVERY MODE

This is a fully in-person course accessible only during class time and open lab hours. Assignments, lecture materials, and other useful course information will be posted through FAU's learning management system, Canvas. You must log into Canvas with your FAU ID and Password to access the materials and assignments in this course. If you do not know your FAU ID or Password, [contact OIT for help](#). The course is organized into modules with due dates. **Unless otherwise specified, each module begins on Monday at 12:00am, EST, and ends on Sunday at 11:59pm, EST.** The course begins with the Start Here module, which will familiarize you with the organization and navigation of the course. You will open a new learning module to access the assigned reading materials, videos, presentations, and other relevant materials for each subsequent module.

TIME COMMITMENT PER CREDIT HOUR

This course has three (3) credit hours. For traditionally delivered courses, not less than one (1) hour of classroom or direct faculty instruction each week for fifteen (15) weeks per Fall or Spring semester, and a minimum of two (2) hours of out-of-class student work for each credit hour. Equivalent time and effort are required for Summer Semesters, which usually have a shortened timeframe. Fully Online courses, hybrid, shortened, intensive format courses, and other non-traditional modes of delivery will demonstrate equivalent time and effort.

REQUIRED TEXTS & MATERIALS

Required Texts/Materials

In this course, you will need the following texts and/or materials.

- Neurophysiology, 3rd edition- required, provided*
- Neurons in Action V2

- *NIA is available for direct download from the [publisher](#).*
- *Updates for the application are available at this [link](#). (You must update for program to work correctly)*
- *personal copies from \$30-\$45.*
- *Henley, Casey. *Foundations of Neuroscience*, Michigan State University Libraries, 1 Jan. 2021, <https://openbooks.lib.msu.edu/neuroscience/>. (Open source, provided*)*

MINIMUM TECHNOLOGY & COMPUTER REQUIREMENTS

HARDWARE & SOFTWARE REQUIREMENTS

Hardware

- Dependable computer
- Computer speakers
- Headset with microphone
- Webcam

Software

- [Microsoft 365 Suite](#)
- Reliable web browser (recommended [Chrome](#) or [Firefox](#))
- Canvas mobile app: Download instructions for [iOS device](#) or [Android device](#)
- [Adobe Reader](#)
- [Adobe Flash Player](#)

Internet Connection

- Recommended: Broadband Internet connection with a speed of 4 Mbps or higher.
- To function properly, Canvas requires a high-speed Internet connection (cable modem, DSL, satellite broadband, T1, etc.). The minimum Internet connection speed to access Canvas is a consistent 1.5 Mbps (megabits per second) or higher.
- [Check your Internet speed here.](#)

Other Technologies

1. [Firefox](#) – You will need to use Firefox when accessing the NIA software.
[Firefox Privacy Policy](#)
2. [Neurons in Action](#)
3. [NIA Guides](#)
[Privacy Policy](#) | [Terms of Service](#) | [Accessibility](#)

COMPUTER REQUIREMENTS

Basic Computer Specifications for Canvas

- Operating system: Windows 10 or macOS High Sierra (10.3) or higher.
- [Specifications](#)

Peripherals

- A backup option should be available to minimize the loss of work. This can be an external hard drive, a USB drive, cloud storage, or your folder on the FAU servers.

Software

- Once logged in to Canvas make sure your Internet browser is compatible.
- Other software may be required for specific learning modules. If so, the necessary links to download and install will be provided within the applicable module.

MINIMUM TECHNICAL SKILLS REQUIREMENTS

The general and course-specific technical skills you must have to succeed in the course include but are not limited to:

- Accessing Internet.
- Using Canvas (including taking tests, attaching documents, etc.).
- Using email with attachments.
- Creating and submitting files in commonly used word processing program formats such as Microsoft Office Tools.
- Copying and pasting functions.
- Downloading and installing software.
- Using presentation, graphics, and other programs.
- Posting and commenting in an online discussion.
- Searching the FAU library and websites.

TECHNICAL SUPPORT

In the online environment, technical issues are always possible (e.g., lost connection, hardware or software failure). Many of these can be resolved relatively quickly, but if you wait until the last minute before due dates, the chances of these glitches affecting your success are greatly increased. Please plan appropriately. If a problem occurs, it is essential you take immediate action to document the issue so your instructor can verify and take appropriate action to resolve the problem. Most issues in Canvas can be resolved by clicking on the “Help” tab located on the menu bar.

When a problem occurs, click “Help” to:

- Report a Problem
- Live Chat with Canvas Support
- Search Canvas Guides

Additional Technical Support

1. Contact the eLearning Success Advisor for assistance: (561) 297-3590
2. If you can, make a Print Screen of the monitor when the problem occurs. Save the Print Screen as a .jpg file. If you are unfamiliar with creating a Print Screen file, see [Print Screen instructions](#).
3. Complete a [Help Desk ticket](#). Make sure you complete the form entirely and give a full description of your problem so the Help Desk staff will have the pertinent information in order to assist you properly. This includes:
 - a. Select “Canvas (Student)” for the Ticket Type.
 - b. Input the Course ID.
 - c. In the Summary/Additional Details section, include your operating system, Internet browser, and Internet service provider (ISP).
 - d. Attach the Print Screen file, if available.
4. Send a message within Canvas to your instructor to notify him/her of the problem. Include all pertinent information of the incident (2b-d above).
5. If you do not have access to Canvas, send an email to your instructor with all pertinent information of the incident (2b-d above).
6. If you do not have access to a computer, call your instructor with all pertinent information of the incident. If he/she is not available, make sure you leave a detailed message.
7. If you do not hear back from the Help Desk or your instructor within a timely manner (48 hours), it is your responsibility to follow up with the appropriate person until you obtain a resolution.

COURSE ASSESSMENTS, ASSIGNMENTS & GRADING POLICY

GRADING CRITERIA

Syllabus Agreement and Lab Partner Contract (20 total points, 1% total grade)

Students are expected to know and adhere to the rules of the laboratory and the policies of the course. Students are also expected to abide by the ground rules and expectations set out in the lab partner contract that they establish with their lab partner. Each lab partner will submit an assessment of individual contribution for co-authored assignments. Individual grade weighting for a given assignment may vary depending on the individual student contributions to that assignment.

Pre-Lab Quizzes (30 total points, 2% total grade)

For each lab a short 5 question quiz will be posted on Canvas. Questions will come from the lab that the students are going to perform. Questions will be short answer, fill in the blank and true/false. The purpose of the quizzes is that students review the lab prior to completing it. **Pre-Lab Quizzes are due Fridays at 11:59am.**

Pre- and Post-Reflection Surveys

For the course and for each of the 5 full labs, there will be a pre- and post-reflection survey. Surveys are opportunities for you as a student to reflect on your learning, your confidence in your understanding of the material, and what you think could better improve your learning experience. The information you provide will also serve to improve the course so that it best fits student learning needs. Your feedback is key to making this course better for you and your fellow students!

NIA Assignments (40 total points, 4% total grade)

As part of the course assignments, you will be asked to complete tutorials and answer questions using the Neurons in Action software simulation. Students will use a simulation to investigate different properties of neurons to gain a better understanding of how neurons function at a cellular level and the factors that affect their function. Students will investigate and modify properties like internal and external ion concentrations, threshold, conduction velocity, refractory period and the differences between passive potentials and action potentials as well as the effects of drugs, axon diameter and changes in temperature on these neuronal properties. **NIA assignments are due Fridays at 11:59am.**

Equipment and Calibration Assignment (50 total points, 3% total grade)

Students will familiarize themselves with the purpose and use of each piece of equipment used in the electrophysiology laboratory. Students will calibrate their stimulator and also learn how to interpret data on the oscilloscope. Students will learn how to generate a professional scientific figure with a figure legend. **Assignment due Sunday at 11:59pm.**

Lab Reports (4 x 135 points total, 36% total grade)

Students will conduct experiments using crickets and earthworms to investigate neuroscience principles of cellular neuroscience. Students will gain knowledge and experience in neurophysiology techniques in these experiments so that will culminate in answering a unique student question for the independent project. When conducting these experiments, students will learn how to conduct scientific research, collect and analyze data, and generate a laboratory report in the format of a scientific journal publication with an introduction, materials and methods, results, discussion and citations. Students will also conduct literature searches to gather primary source publications to synthesize a discussion of their results and the relevance of their results with regard to previously published literature. Students will critically analyze their data in relation to expected results gathered from simulations as well as previously published

literature and learn how to create publication-worthy figures and graphs. Feedback on laboratory reports can be used by the student to complete their independent project manuscript. **All reports are due Sundays at 11:59PM.** Submissions are uploaded to the Assignments tab in Canvas using the Turnitin plagiarism application.

Independent Project (660 points total, 43% total grade)

Mini-Independent Project Poster (100 points)

Students will perform a mini-independent project for the Drugs and Ions Lab, where students will explore the effects of pharmacological agents on neuronal function. Students will conduct a literature review on their pharmacological agent and gather and analyze data to create a poster presentation. Poster presentations will be discussed as a class on points of clarity and effectiveness with respect to scientific communication. This is in preparation for the poster presentation of the comprehensive independent project. Feedback from this assignment can be used by the student to complete their independent project poster presentation. **Assignment due Sunday at 11:59pm.**

Lit Review, Experimental Design, Project Proposal and Mentoring (275 points total)

Students will use the content knowledge, skills and techniques learned in lab during the course of the semester to develop their own unique research question. Students will conduct a literature review on their chosen topic to develop a unique student-driven hypothesis that they will then design and experiment to gather and analyze data to test their hypothesis and come up with a conclusion. Students will have mentoring meetings during the research process where they will receive feedback. Students are expected to take notes during mentoring meetings that they will submit for a grade and mentor feedback should be incorporated into the final project proposal for the independent project.

Independent Project Manuscript, Poster, and Oral Presentations (300 pts)

Students will apply the knowledge and technical skills learned in the experimental laboratories and literature searches to develop their own independent hypothesis. Students will design an experiment using the techniques learned in the experimental labs to answer their unique question. Students will relay their findings in a report in the format of a scientific poster and present their findings orally during the class scheduled final exam time. **Assignment due Sunday at 11:59pm (except for Oral Presentation).**

Scientific Communication and Written Component: Students will learn how to communicate their experimental findings in the manner of a scientific journal article. Students will receive feedback on reports and are expected to use that feedback to improve their scientific writing skills throughout the course. Iterative feedback and subsequent report submissions will develop these skills to the level of publication in a scientific journal. **Approved reports of independent projects will be submitted to [for publication in a non-peer reviewed publication or the FAU Undergraduate Research Journal or MicroPub for as peer-reviewed publication.](#)** Students will also be able to revise and resubmit up to two reports for full credit. Late penalties from original reports will be applied to any revisions. Students will also create a poster presentation of their independent project findings that they can present at an FAU symposium.

Posters and oral presentations will be provided feedback so students can iteratively improve on their scientific communication skills over the course of the semester.

The instructor will calculate your grade based on the following weighted distribution:

Assessment	Total Points
Course Orientation <ul style="list-style-type: none"> • Syllabus & Course Agreement Quiz – Worth up to 10 points. • Lab partner Agreement 10 points 	20
NIA Assignments	40
Pre-Lab Quizzes x 6 <ul style="list-style-type: none"> • Worth up to 5 points each. 	30
Equipment & Calibration Assignment	50
Lab Report Threshold	135
Lab Report Conduction Velocity	135
Lab Report Refractory Period/Frequency	135
Lab Report Temperature Q10	135
Mini Independent Project Poster- Drugs and Ions	100
Comprehensive Independent Project <ul style="list-style-type: none"> • Lit review and Exp design- 50 points each • Mentoring meeting notes (X3)- 25 points each • Proposal- 100 points • Poster- 100 points • Oral Presentation- 50 points • Manuscript- 150 points • Q&A- 10 points 	560
Lab Participation	130
Final Exam	50
TOTAL:	1520

GRADE SCALE

Grade	Percentage (%)
A	93 – 100%
A-	90 – 92%

B+	87 – 89%
B	83 – 86%
B-	80 – 82%
C+	77 – 79%
C	73 – 76%
C-	70 – 72%
D+	67 – 69%
D	63 – 66%
D-	60 – 62%
F	0 – 59%

LATE ASSIGNMENTS POLICY

Students are expected to participate in activities, discussions, and assignments within the period they are allotted. If you know in advance that you will be absent, or need accommodations for religious reasons, contact the TA to make necessary arrangements.

Reasonable accommodation will also be made for students participating in a religious observance. Assignments are due on the dates listed in the course schedule and canvas. **Late assignments will be penalized 10% per day and none will be accepted after 5 days.**

MAKE-UP POLICY FOR TESTS

There are no make-up exams or quizzes. Students must complete all quizzes and exams by the due dates. Technical issues are not accepted as excuses for lack of completion as the assignments are posted over the course of several days to weeks.

INCOMPLETE GRADE POLICY

The University policy states that a student who is passing a course but has not completed all work due to exceptional circumstances, may, with consent of the instructor, temporarily receive a grade of incomplete (“I”). The assignment of the “I” grade is at the discretion of the instructor but is allowed only if the student is passing the course.

COURSE POLICIES

CODE OF ACADEMIC INTEGRITY POLICY STATEMENT

Students at Florida Atlantic University should endeavor to maintain the highest ethical standards. Academic dishonesty is a serious breach of these ethical standards because it interferes with the University mission to provide a high-quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive to the university community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, see [University Regulation 4.001](#).

PLAGIARISM

[Plagiarism](#) is unacceptable in the University community. Academic work must be an original work of your own thought, research, or self-expression. When students borrow ideas, wording, or organization from another source, they must acknowledge that fact in an appropriate manner. Plagiarism is the deliberate use and appropriation of another's work without identifying the source and trying to pass off such work as one's own. Any student who fails to give full credit for ideas or materials taken from another has plagiarized. This includes all discussion board posts, journal entries, wikis, and other written and oral presentation assignments. If in doubt, cite your source.

ATTENDANCE POLICY

Attendance for all labs is required. Students are expected to come to lab prepared and on time. Students arriving late will be docked attendance points. Experiments are performed during lab time and collection of data is required for laboratory reports. Students that have a university-approved excused absence may make up the lab during open lab hours. Students that do not make up the laboratory or miss lab for a non-university approved absence will receive a zero for lab participation and the associated laboratory report.

Students observing religious holidays must inform the instructor at the beginning of the semester. Students will not be provided accommodation to make up lab time if notice of the religious observance is not provided to the instructor.

Students are expected to participate in all parts of an experiment and gain experience in all techniques. While lab partners may be used for sections of the course, each lab partner is expected to participate in all procedures and perform all techniques. Any student found not participating in a particular technique or procedure, will be docked attendance points.

NETIQUETTE

Due to the casual communication common in the laboratory environment over the course of the semester, students are sometimes tempted to relax their grammar, spelling, and/or professionalism. Please remember that you are adult students and professionals—your

communication should be appropriate. For more in-depth information, please see the [FAU statement on netiquette](#).

CLASSROOM ETIQUETTE/DISRUPTIVE BEHAVIOR POLICY STATEMENT

Disruptive behavior is defined in the FAU Student Code of Conduct as “... activities which interfere with the educational mission within classroom.” Students who disrupt the educational experiences of other students and/or the instructor’s course objectives in a face-to-face or online course are subject to disciplinary action. Such behavior impedes students’ ability to learn or an instructor’s ability to teach. Disruptive behavior may include but is not limited to non-approved use of electronic devices (including cellular telephones); cursing or shouting at others in such a way as to be disruptive; or, other violations of an instructor’s expectations for classroom conduct.

Please remember you are in a laboratory that has expensive technical equipment. Students are expected to be aware of their surroundings at all times and act in a professional manner. Failure to do so could result in the damage of equipment or harm to students or instructors. Failure to conduct yourself in such a manner will result in the removal of the student from the laboratory.

For more information, please see the [FAU Office of Student Conduct](#).

COMMUNICATION POLICY

EXPECTATIONS FOR STUDENTS

Announcements

You are responsible for reading all announcements posted by the instructor. Check the course announcements each time you log in.

Email/Video Conferencing

You are responsible for reading all your course email and responding in a timely manner.

Course-Related Questions

Post course-related questions to the FAQ discussion board. This allows other participants with the same question to benefit from the responses. Also, make sure you review this forum prior to posting a question. Someone may have already asked and answered the question in previous posts.

INSTRUCTOR'S PLAN FOR CLASSROOM RESPONSE TIME & FEEDBACK

Email/Video Conferencing Policy

Except for weekends and holidays, the instructor will typically respond to email (Canvas inbox or FAU email) within 48 hours. You should ask course-related questions in the FAQ discussion board. If you have questions of a personal nature, you should email the instructor.

Assignment Feedback Policy

The instructor will provide feedback on submitted assignments within one week of the submission date. Some assignments may require a longer review period, which the instructor will communicate to you.

Assignment Feedback Method

Feedback will be provided in the form of rubrics, Speed Grader instructor comments or automatic grading or quizzes.

Course-Related Questions Policy

Except weekends and holidays, the instructor will generally answer questions within 48 hours.

Electronic Communication Policy

In addition to the University's policy, please consider the following:

- Privacy, confidentiality, and security in all electronic communications.
- All electronic communication resources must be used for the course and in alignment with to the University mission.
- Prohibited use of false identity, false identity pseudonyms, or anonymous (sender's name or electronic identification is hidden).
- Access without consent.
- Disruption of services including introducing computer contaminants (viruses).
- Harassment of any kind.

Please see the Office of Information Technology's policies on [Cyber Security Awareness](#).

SUPPORT SERVICES & ONLINE RESOURCES

- [Center for eLearning and Student Success](#)
- [Counseling and Psychological Service \(CAPS\)](#)
- [FAU Libraries](#)
- [Freshmen Academic Advising Services](#)
- [Math Learning Center](#)

- [Office of Information Technology Helpdesk](#)
- [Office of International Programs and Study Abroad](#)
- [Office of Undergraduate Research and Inquiry](#)
- [Student Accessibility Services](#)
- [University Center for Excellence in Writing](#)

CAPS STATEMENT

Life as a university student can be challenging mentally, emotionally, and physically. Students who find stress negatively affecting their ability to achieve academic or personal goals may wish to consider utilizing FAU's Counseling and Psychological Services (CAPS) Center. CAPS provides FAU students a range of services to help improve and maintain well-being. For CAPS services, students need to be currently enrolled, have paid the health fee, be physically located in Florida when services are provided, have phone or videoconferencing capabilities, and have access to a safe/private location for sessions. For those outside of Florida, CAPS will assist students in getting connected to services/providers in your area for ongoing support. For more information, go to [FAU's Counseling and Psychological Services](#) (CAPS) Center or call 561-297-3540.

FACULTY RIGHTS & RESPONSIBILITIES

Florida Atlantic University respects the rights of instructors to teach and students to learn. Maintenance of these rights requires classroom conditions that do not impede their exercise.

To ensure these rights, faculty members have the prerogative to:

- Establish and implement academic standards.
- Establish and enforce reasonable behavior standards in each class.
- Recommend disciplinary action for students whose behavior may be judged as disruptive under the *Student Code of Conduct*.

One of the objectives of this course is to facilitate critical thinking and debate around topics, theories, and concepts where disagreement is not only anticipated, but encouraged. The ability to think critically, express your ideas clearly, and respond to the professor and other students civilly are the keystones of the academic experience. In this course, the professor will provide instruction in an objective manner and will remain open to a wide variety of viewpoints, so long as those viewpoints are evidence-based and presented in a respectful way.

SELECTED UNIVERSITY & COLLEGE POLICIES

ACCESSIBILITY POLICY STATEMENT

In compliance with the Americans with Disabilities Act (ADA), students who require special accommodations to properly execute coursework due to a disability, must register with Student Accessibility Services (SAS) located in the Boca Raton, Davie, and Jupiter campuses and follow all SAS procedures. For additional information, please consult [Student Accessibility Services](#).

Contact

- **Boca Raton:** (561) 297-3880
Fax: (561) 297-2184, TTY: 711
- **Davie:** (954) 236-1222
Fax: (954) 236-1123, TTY: 711
- **Jupiter:** (561) 799-8721
Fax: (561) 799-8721, TTY: 711

GRADE APPEAL PROCESS

You may request a review of the final course grade when you believe that one of the following conditions apply:

- There was a computational or recording error in the grading.
- The grading process used non-academic criteria.
- There was a gross violation of the instructor's own grading system.

[Chapter 4 of the University Regulations](#) contains information on the grade appeals process.

ATTENDANCE POLICY

Students are expected to attend all of their scheduled University classes and to satisfy all academic objectives as outlined by the instructor. The effect of absences upon grades is determined by the instructor, and the University reserves the right to deal at any time with individual cases of non-attendance. Students are responsible for arranging to make up work missed because of legitimate class absence, such as illness, family emergencies, military obligation, court-imposed legal obligations or participation in University-approved activities. Examples of University-approved reasons for absences include participating on an athletic or scholastic team, musical and theatrical performances and debate activities. It is the student's responsibility to give the instructor notice prior to any anticipated absences and within a reasonable amount of time after an unanticipated absence, ordinarily by the next scheduled class meeting. Instructors must allow each student who is absent for a University-approved reason the opportunity to make up work missed without any reduction in the student's final course grade as a direct result of such absence.

RELIGIOUS ACCOMMODATION POLICY STATEMENT

In accordance with rules of the Florida Board of Education and Florida law, students have the right to reasonable accommodations from the University in order to observe religious practices and beliefs regarding admissions, registration, class attendance, and the scheduling of examinations and work assignments. For further information, please see [Academic Policies and Regulations](#).

UNIVERSITY APPROVED ABSENCE POLICY STATEMENT

In accordance with rules of the Florida Atlantic University, students have the right to reasonable accommodations to participate in University approved activities, including athletic or scholastics teams, musical and theatrical performances and debate activities. It is your responsibility to notify the instructor at least one week prior to missing any course assignment.

DROPS/WITHDRAWALS

You are responsible for completing the process of dropping or withdrawing from a course. Please click on the following link for more information on dropping and/or withdrawing from a course. Please consult the [FAU Registrar Office](#)<http://www.fau.edu/registrar/registration/faqs.php> for more information.

IMPORTANT DATES

The instructor reserves the right to make changes to this schedule at any time. Changes may be announced via Canvas and/or verbally in class. This schedule also includes dates based upon the current university academic calendar. You are responsible for checking the academic calendar on the university website for any changes during the academic term.

UNIVERSITY-SET DATES

The instructor reserves the right to make changes to this schedule at any time. Any changes will be announced via Canvas and reflected on the schedule below. This schedule also includes dates based upon the current university academic calendar. You are responsible for checking the academic calendar on the university website for any changes during the academic term.

SCHEDULE OF COURSE TOPICS

Week	Topic	Pre-lab Assignments (due at 11:59am) Homework (due Sundays at 11:59pm)
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		See specific Module for due date
1	Start Here Module Module One: Neurons in Action Simulation	<ul style="list-style-type: none"> • Read syllabus, complete syllabus quiz • Take the pre-course assessment test. This is an ungraded quiz. • Complete the lab partner contract. • Complete the Informed Consent and Pre-Course Reflection Survey
		<ul style="list-style-type: none"> • Take the sample quiz (ungraded quiz) • Complete Lab 1 NIA • Submit NIA1: Intro and membrane tutorials
2	Module Two: Equipment and Calibration	<ul style="list-style-type: none"> • Complete the pre-quiz • Complete the Equipment and Calibration lab • Submit the Equipment and Calibration assignment
3 & 4	Module Five: Threshold Lab	<ul style="list-style-type: none"> • Complete the Pre-reflection survey for the threshold lab • Complete the pre-quiz • Submit the NIA2: Na Action Potential assignment • Complete NIA3: Threshold tutorial • Complete the Threshold lab • Submit the threshold lab report • Complete the post-reflection survey
5 & 6	Module Six: Conduction Velocity	<ul style="list-style-type: none"> • Complete the pre-reflection survey • Complete the pre-quiz • Complete NIA4: unmyelinated axon tutorial • Complete the conduction velocity lab • Submit the conduction velocity lab report • Complete the post-reflection survey
7 & 8	Module Seven: Temperature	<ul style="list-style-type: none"> • Complete the pre-reflection survey • Complete the pre-quiz • Complete NIA5: voltage-clamping cells • Complete the Temperature lab • Submit your independent project proposal literature review • Submit the temperature lab report • Complete the post-reflection survey
9 & 10	Module Eight: Refractory Period	<ul style="list-style-type: none"> • Complete the pre-reflection survey • Complete the pre-quiz • Complete NIA6: Na & K channel kinetics • Complete the Refractory Period lab • Submit your independent project experimental design • Submit the refractory period lab report • Complete the post-reflection survey
11 & 12	Module Nine: Drugs and Ions Mini Independent Project	<ul style="list-style-type: none"> • Complete the pre-reflection survey • Complete the pre-quiz • Complete the Drugs and Ions Project

		<ul style="list-style-type: none"> • Submit your independent project proposal • Submit the drugs and ions poster Complete the post-reflection survey
13 & 14	Module Ten: Independent Project	<ul style="list-style-type: none"> • Use your proposal to conduct your independent project and collect data during lab hours and open lab hours.
15	Module Ten: Independent Project	<ul style="list-style-type: none"> • Create an independent project poster. • Present your poster as an oral presentation in class. • Actively participate in Q&A for at least two student presentations with thoughtful questions. • Answer questions from other students on your presentation.
	Module Eleven: Final Exam	<ul style="list-style-type: none"> • Report Resubmissions • Virtual final exam. Respondus and Lockdown Browser required.

The instructor reserves the right to adjust this syllabus as necessary.

**Please see the [FAU Final Exam Schedule](#) for updates and changes.*