FLORIDA ATLANTIC UNIVERSITY™

Graduate Programs—NEW COURSE PROPOSAL[1]

UGPC APPROVAL _____
UFS APPROVAL _____
SCNS SUBMITTAL _____
CONFIRMED _____
BANNER POSTED _____
CATALOG _____

DEPARTMENT: DEPARTMENT OF BIOLOGICAL SCIENCES

COLLEGE: CHARLES E. SCHMIDT COLLEGE OF SCIENCE

RECOMMENDED COURSE IDENTIFICATION:

PREFIX BSC COURSE NUMBER 6389 LAB CODE (L or C) L

(*TO OBTAIN A COURSE NUMBER, CONTACT MJENNING@FAU.EDU*)

Course Number obtained from Nilce Maldonado

COMPLETE COURSE TITLE: ADVANCED NEUROPHYSIOLOGY LAB

EFFECTIVE DATE
(first term course will be offered)

SPRING 2015

CREDITS[2]: 3

TEXTBOOK INFORMATION:
(1.) FROM NEURON TO BRAIN (5TH EDITION) [OPTIONAL]
(2.) HANDOUTS PROVIDED VIA BLACKBOARD, AND ONLINE RESOURCES TO SUPPLEMENT
(3.) RESEARCH PAPERS AND REVIEW ARTICLES, MADE AVAILABLE BY FACULTY IN THE CONTENT FOLDER ON BLACKBOARD

GRADING (*SELECT ONLY ONE GRADING OPTION*): REGULAR R SATISFACTORY/UNSATISFACTORY _____

COURSE DESCRIPTION, NO MORE THAN THREE LINES:
Advanced neurophysiology will bring the students closer to understanding neurophysiological signaling at the cellular level and whole animal through the use of actual laboratory experiences. We will look at signaling from the perspective of single ion channels to cellular synaptic transmission and behavior. The electrical properties of neurons and their signaling is the basis for all neuronal function.

PREREQUISITES *:	COREQUISITES*:	REGISTRATION CONTROLS (MAJOR, COLLEGE, LEVEL)*:
Graduate-level student or Permission of Instructor.		Permission of Instructor

* *PREREQUISITES, COREQUISITES AND REGISTRATION CONTROLS WILL BE ENFORCED FOR ALL COURSE SECTIONS.*

MINIMUM QUALIFICATIONS NEEDED TO TEACH THIS COURSE: MEMBER OF THE GRADUATE FACULTY OF FAU AND HAS A TERMINAL DEGREE IN THE SUBJECT AREA (OR A CLOSELY RELATED FIELD).

Faculty contact, email and complete phone number:	Please consult and list departments that might be affected by the new course and attach comments.[3]
Ken Dawson-Scully, Ph.D. KEN.DAWSON-SCULLY@fau.edu (561) 297-0337 Boca Raton (561) 799-8051 Jupiter Robert W. Stackman, Ph.D RSTACKMA@fau.edu (561) 297-2270 Boca Raton (561) 799-8052 Jupiter	Psychology: Please see attached College of Medicine: Please see attached. Center for Complex Systems and Brain Sciences Please see attached.

Approved by:	*Date:*	
Department Chair:	10/30/14	1. **Syllabus** must be attached; see guidelines for requirements: *www.fau.edu/provost/files/course syllabus.2011.pdf*
College Curriculum Chair:	10/30/14	
College Dean:	10/30/14	2. Review **Provost Memorandum: Definition of a Credit Hour** *www.fau.edu/provost/files/Definition Credit_Hour_Memo_2012.pdf*
UGPC Chair:	11/5/14 4/12/14	
Graduate College Dean:	11/15/14	3. **Consent** from affected departments (attach if necessary)
UFS President:		
Provost:		

Email this form and syllabus to *UGPC@fau.edu* **one week before** the University Graduate Programs Committee meeting so that materials may be viewed on the UGPC website prior to the meeting.

Charles E. Schmidt College of Science
Department of Biological Sciences
777 Glades Road
Boca Raton, FL 33431
tel: 561.297-3320
fax: 561.297-2749

TO: University Graduate Programs Committee (UGPC)

FROM: Rodney Murphey, Ph.D.
Professor and Chair
Department of Biological Sciences

DATE: September 19,2014

RE: New Course Proposal Consent

To Whom It May Concern:

This note constitutes acknowledgement and consent of the Department of Biological Sciences for the creation of a new course within the department: BSC 6389L- Advanced Neurophysiology Lab.

Best Regards,

Rodney Murphey, Ph.D.
Chairman, Department of Biological Sciences
Director, Life Science Initiative, MacArthur Campus

BSC 6389L ADVANCED NEUROPHYSIOLOGY LAB
Spring 2015
FLORIDA ATLANTIC UNIVERSITY @ JUPITER CAMPUS

Professor/Instructor: *Ken Dawson-Scully*
Rod Murphey
Robert W. Stackman
Samuel Young

Office: Research Facility MC17, Rm 214
Phone: (561) 297-0337
email: ken.dawson-scully@fau.edu

Teaching Assistant: *Brian Orr*
Phone: (561) 799-8060

Period/Semester: January 2015 – May 2015
COURSE CREDITS: 3
ROOM: RF MC17 214
CLASS HOURS: FRIDAY, 10 AM – 4 PM
OFFICE HOURS: M and F 9A-10A

COURSE DESCRIPTION:

Advanced neurophysiology will bring the students closer to understanding neurophysiological signaling at the cellular level and whole animal through the use of actual laboratory experiences. We will look at signaling from the perspective of single ion channels to cellular synaptic transmission and behavior. The electrical properties of neurons and their signaling is the basis for all neuronal function. The students will learn through both theory and practical laboratory these principles and apply them in an experimental proposal which they will present and then execute resulting in a modular reports.

COURSE OBJECTIVES:

To expose students to the concept and principles of neurophysiological techniques:

[1] Synaptic circuits using the Drosophila nervous system
[2] Identified neurons through morphological and electrical correlation in the leech.
[3] Measurement of synaptic transmission and ion channel properties in a high-fidelity circuit.
[4] In vivo electrophysiological recording of hippocampal neurons correlated with behavior.

COURSE PREREQUISITES:

Graduate student or permission of instructor.

ARTICULATION TO UNIVERSITY MISSION: This course addresses both the university mission statement as well as the strategic plan. This is accomplished by offering a high quality academic curriculum in a caring environment, stimulating creative initiative utilizing some problem based learning, research reviews, critical thinking and the development of both written and oral competencies. With the knowledge that the world and human needs are constantly changing, this course fosters motivated, self-directed analytical thinking, discusses current research in field and stresses a sense of ethical and social responsibility. Students in this course will develop an awareness of the contributions of scientists and practitioners from diverse domestic and international backgrounds as well as biomedical and health issues that impact those living within and outside of our community. These goals are attained by providing quality instruction, class discussions or debates, discussions on various research topics, exams and written reports when applicable to help students attain their goals.

TEXT BOOK(S):

(1.) From Neuron to Brain 5th edition – optional

(2.) HANDOUTS PROVIDED VIA BLACKBOARD, AND ONLINE RESOURCES TO SUPPLEMENT

(3.) RESEARCH PAPERS AND REVIEW ARTICLES, MADE AVAILABLE BY FACULTY IN THE CONTENT FOLDER ON BLACKBOARD

EXAMINATIONS: There are no exams due to the practical nature of this course.

METHODS OF TEACHING:

Laboratory exercises
Lectures and students' discussions
Audio-visuals: power points and overhead transparencies

LECTURE ETIQUETTE:

Every effort will be made by the professor to begin lectures promptly. Students wishing to exit while the lecture is in progress are expected to leave discreetly. The instructor and students will conduct themselves in a professional manner during the course of the lecture. Questions from students will be recognized at the discretion of the lecturer in a manner that is minimally disruptive to the lecture. **Cell phones and pagers should be shut off during lectures.**

ACADEMIC DISHONESTY POLICY:

All students are bound by the Academic Dishonesty Policy. Any student(s) caught either cheating and/or giving or receiving assistance during a testing session will automatically receive an F grade (0%) on that test or examination. Furthermore, the individual(s) will be referred to the Academic Dishonesty Committee of the University and to the Chair of the Department of Biological Sciences for additional disciplinary action.

Student Honor Policy: Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty, including cheating and plagiarism, is considered 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 of 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
at http://www.fau.edu/ctl/4.001_Code_of_Academic_Integrity.pdf

STUDENT BEHAVIOR POLICY:

All FAU students are expected to behave according to accepted norms that ensure a climate wherein all can exercise their right to learn. Disruptive behavior is not acceptable in the classroom. Students engaging in such behavior may be asked to leave or may be moved from the class by security personnel. Actions such as violence, shouting, use of cell phones and/or beepers, using profanity, interrupting classes, and any other behavior that the instructor believes creates an unpleasant environment in the classroom will be grounds for withdrawal from the course, disciplinary/judicial proceedings, or failure of the course.

DISABILITY STATEMENT:

Students with documented special learning needs may want to inform the instructor so that accommodations may be made, or contact the FAU Office of Services for Students with Disabilities at (305) 899-3489.

Religious Accommodations:

Students who wish to be excused from coursework, class activities or examinations must notify the instructor at least three weeks in advance of their intention to participate in religious observation and request an excused absence. The instructor will work with the student to schedule a penalty-free make-up within reasonable limits of time

COURSE OUTLINE

Week 1 and 2

Introduction to the theory behind neurophysiological techniques taught in the course. Intracellular and extracellular recording, patch clamp, and behavior analysis.

Week 3 and 4

Instrumentation overview and analysis software training.

Week 4 and 5

The use of animals in research.

Week 6 – 8

Synaptic circuits using the Drosophila nervous system.

Week 9 - 12

Identified neurons through morphological and electrical correlation in the leech.

Week 11 - 13

Measurement of synaptic transmission and ion channel properties in a high fidelity circuit.

Week 12 - 15

In vivo electrophysiological recording of hippocampal neurons correlated with behavior.

NOTE: no cell phones allowed during classes

EVALUATION METHOD

dates and scores:

Lab Report 1	02/09/12	25%
Lab Report 2	03/23/12	25%
Lab Report 3	04/15/12	25%
Lab Report 4	05/15/12	25%

Grading scale: A=≥ 90%; B = 80-89%; C= 70-79%; D= 60-69; F=<60%.

From: Diane Baronas-Lowell
To: Michelle Cavallo
Subject: FW: BSC6930 Advanced Neurophysiology Lab
Date: Thursday, September 11, 2014 9:44:16 AM

Hi Michelle:

Please see Dr. Wolgin's approval below.

Thanks, Diane

Diane Baronas-Lowell, Ph.D.
Research Associate Professor
FAU-Neuroscience
Charles E. Schmidt College of Science
John D. MacArthur Campus
5353 Parkside Dr.
MC-19, RE Bldg., Room 107
Jupiter, FL 33458
561 799-8073 (work)
561 374-0469 (cell)

From: David Wolgin
Sent: Wednesday, March 26, 2014 2:19 PM
To: Diane Baronas-Lowell
Cc: Rodney Murphey
Subject: Re: BSC6930 Advanced Neurophysiology Lab

Diane,
The Department of Psychology supports the proposal to make BSC 6930 Advanced Neurophysiology Lab a permanent course. It will be of interest to graduate students in our department interested in Behavioral Neuroscience.
Best,
David

David L. Wolgin, Ph.D.
Professor and Chair
Department of Psychology
Florida Atlantic University
Boca Raton, FL 33431
E-mail: WOLGINDL@FAU.EDU
Phone: 561/297-3366
Fax: 561/297-2160

From: Diane Baronas-Lowell <dlowell@fau.edu>
Date: Wednesday, March 26, 2014 2:14 PM
To: David Wolgin <wolgindl@fau.edu>
Cc: Rodney Murphey <RMURPHEY@fau.edu>
Subject: BSC6930 Advanced Neurophysiology Lab

Hello Dr. Wolgin:

BSC6930 Advanced Neurophysiology Lab has been offered twice (Spring 2012 and Spring 2013, by Ken Dawson-Scully and Bob Stackman) and I would like to have it formerly recorded as a new graduate course.

In order to do so, I am filling out a new graduate course proposal form and under the "Please consult and list departments that might be affected by the new course and attach comments" box, Rod Murphey suggested I list Psychology. Charles Roberts instructed me to ask for an email from you stating that your department has no objections to this course.

Please be so kind to send me an email with your comments. Thank you very much for your time.

Regards, Diane

Diane Baronas-Lowell, Ph.D.
Research Associate Professor
FAU-Neuroscience
Charles E. Schmidt College of Science
John D. MacArthur Campus
5353 Parkside Dr.
MC-19, RE Bldg., Room 107
Jupiter, FL 33458
561 799-8073 (work)
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From:	Diane Baronas-Lowell
To:	Michelle Cavallo; ken.dawson-scully@fau.edu
Subject:	FW: Advanced Neurophysiology Lab (BSC6930), Practical Cell Neuroscience (BSC 6936), Human Neuroanatomy (BSC 6936), Neurophysiology (BSC 6936)
Date:	Monday, September 15, 2014 8:56:44 AM

Diane Baronas-Lowell, Ph.D.
Research Associate Professor
FAU-Neuroscience
Charles E. Schmidt College of Science
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5353 Parkside Dr.
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Jupiter, FL 33458
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561 374-0469 (cell)

From: Janet Blanks
Sent: Monday, September 15, 2014 8:37 AM
To: Diane Baronas-Lowell
Cc: Rodney Murphey; Brenda Claiborne; Robert Stackman
Subject: RE: Advanced Neurophysiology Lab (BSC6930), Practical Cell Neuroscience (BSC 6936), Human Neuroanatomy (BSC 6936), Neurophysiology (BSC 6936)

Hi Diane,

The Center faculty confirmed their approval of the new Neuroscience courses proposed by the Biology Deepartment. In fact, we will encourage our new students to take one or more of these courses as electives for our doctoral program.

I welcome the new courses, especially those that offer the students "hands on" experience in the lab where they can learn "state-of-the-art" techniques in Neurophysiology. Of course, I'm always happy to see students learn more Neuroanatomy!

My best,

Janet

From: Diane Baronas-Lowell
Sent: Friday, September 12, 2014 4:02 PM
To: Janet Blanks
Cc: Michelle Cavallo
Subject: FW: Advanced Neurophysiology Lab (BSC6930), Practical Cell Neuroscience (BSC 6936), Human Neuroanatomy (BSC 6936), Neurophysiology (BSC 6936)

Hi Janet:

Have you received any word from your faculty member about his thoughts on these courses? Does your center have any objections to these courses?

Thanks very much for your time. See you at the football game??

Best, Diane

Diane Baronas-Lowell, Ph.D.
Research Associate Professor
FAU-Neuroscience
Charles E. Schmidt College of Science
John D. MacArthur Campus
5353 Parkside Dr.
MC-19, RE Bldg., Room 107
Jupiter, FL 33458
561 799-8073 (work)
561 374-0469 (cell)

From: Janet Blanks
Sent: Thursday, September 11, 2014 8:41 AM
To: Diane Baronas-Lowell
Cc: Rodney Murphey
Subject: RE: Advanced Neurophysiology Lab (BSC6930), Practical Cell Neuroscience (BSC 6936), Human Neuroanatomy (BSC 6936), Neurophysiology (BSC 6936)

Hi Diane,

At the request of one of the Center faculty, would you please send me the syllabi for items #3 and #4 below. He wants to compare the topics in these two courses with Neuroscience 1 and 2 offered by the Center. I feel the "more Neuroscience the merrier"!

Saw Herb last night, he said he's almost ready to submit Arun's paper to PNAS - Yippee!

Jan

From: Diane Baronas-Lowell
Sent: Tuesday, September 09, 2014 4:48 PM
To: Janet Blanks
Cc: Rodney Murphey
Subject: Advanced Neurophysiology Lab (BSC6930), Practical Cell Neuroscience (BSC 6936), Human Neuroanatomy (BSC 6936), Neurophysiology (BSC 6936)

Dear Janet:

Hope all is well!

The Biology Department would like to have the following four courses formally recorded as new graduate courses:

1. BSC 6930 Advanced Neurophysiology Lab which has been offered twice (Spring 2012 and Spring 2013, by Ken Dawson-Scully and Bob Stackman).

2. BSC 6936 Practical Cell Neuroscience which has been offered each spring beginning in 2010 (by Ken Dawson-Scully).

3. BSC 6936 Human Neuroanatomy was offered in Summer 2014 and will be held

again in Spring 2015 (by Brenda Claiborne).

4. Ken has also recently developed an additional course titled Neurophysiology (BSC 6936) which is running during the current fall 2014 term.

In order to do so, I am filling out new graduate course proposal forms for each course and under the "Please consult and list departments that might be affected by the new course and attach comments" box, Rod Murphey suggested I include Center for Complex Systems. Charles Roberts instructed me to ask for an email from you stating that your center has no objections to these courses.

Please be so kind to send me an email with your comments. Thank you very much for your time!

Regards, Diane

Diane Baronas-Lowell, Ph.D.
Research Associate Professor
FAU-Neuroscience
Charles E. Schmidt College of Science
John D. MacArthur Campus
5353 Parkside Dr.
MC-19, RE Bldg., Room 107
Jupiter, FL 33458
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561 374-0469 (cell)

Michelle Cavallo

From: Carolina Clark
Sent: Monday, September 29, 2014 10:43 AM
To: William Brooks; Rodney Murphey
Cc: Keith Brew; Carolina Clark; Marc Kantorow; John Newcomer; David Bjorkman; Michelle Cavallo
Subject: Re: New Biology Course Proposals
Attachments: Spring 15 new course- Adv. Mol. Bio.pdf; Spring 15- New course- Hum. Gen..pdf; Spring 15- New course- Imm. Sem..pdf; Spring 15- New course- Neu.Add..pdf; Biology New Course Proposals.docx

Importance: High

Dear Dr. Brooks and Dr. Murphy,

We have reviewed your new biology course proposals and have no objections to the proposed courses (see attached letter). In turn, we are awaiting your approval/consent letters for our Biomedical Science Graduate Courses, as promised to us last Friday by Dr. Ivy. Could you please provide us the information no later then Wednesday, as we must submit all agenda items to UGPC by October 1st? For your convenience, I have attached the course proposals to this email.

Thanking you in advance for your assistance and understanding in this time-sensitive matter.

Sincerely,

Carolina Clark
Graduate Programs Coordinator
Charles E. Schmidt College of Medicine
777 Glades Road, Rm. 206-A
Boca Raton, FL, 33431-0991
561-297-4549
clarkc@fau.edu
www.med.fau.edu

From: Michelle Cavallo <MCAVALLO@fau.edu>
Date: Tuesday, September 23, 2014 at 12:52 PM
To: Keith Brew <KBREW@fau.edu>
Cc: William Brooks <wbrooks@fau.edu>, Carolina Clark <clarkc@fau.edu>
Subject: New Biology Course Proposals

Dear Dr. Brew,

The Biology Department is attempting to formalize a number of graduate and undergraduate level courses which have previously been offered under the special topics course code. Each course has been offered at least once and half of the courses on the list have run in excess of four times (the range being 1 to 8 semesters offered). Because these courses have been successful with our students (enrollment has been consistently high), we would like to have them formally recorded in the university catalog.

In order to do so, I am filling out new course proposal forms and under the "Please consult and list departments that might be affected by the new course and attach comments" box, Dr. Randy Brooks, as Chair of our Departmental Graduate Program Committee, suggested I list the Biomedical Science Department. He instructed me to contact you and request email confirmation that your department has no objections to the proposed courses.

The new course proposals and associated syllabi are attached for your review and listed below. Courses marked with an asterisk below are courses which we are proposing to dual list at both the graduate and undergraduate levels. All other courses on the list are proposed only at either the graduate (G) or the undergraduate (UG) level at this time and all courses are labeled by level.

1. (G) Computer Graphics for Biologists (BSC 6466)
2. (G) Methods in Biotechnology (BSC 6468L)
3. *(G) Advanced Plant Biotechnology and Lab (BSC 5467C)
4. *(UG) Genetics Lab (BSC 4007L)
5. *(G) Advanced Genetics Lab (BSC 5038L)
6. *(UG) Molecular Genetics of Aging (BSC 4022)
7. *(G) Advanced Molecular Genetics of Aging (BSC 5029)
8. (UG) Life of a Scientist
9. (UG) Introduction to Honors I
10. (UG) Introduction to Honors II
11. (G) Practical Cell Neuroscience
12. (G) Human Neuroanatomy
13. (G) Neurophysiology
14. (G) Advanced Neurophysiology

The Advanced Plant Biotechnology and Lab, Methods in Biotechnology, and Practical Cell Neuroscience courses listed above already exist as undergraduate level courses in the catalog and, in these two cases, we are simply adding a graduate version of each of the existing courses. (Methods in Biotechnology is the graduate level equivalent to undergraduate level Biotechnology I and II Laboratory courses combined).

In perusing the university catalog, we were not able to identify any apparent direct course conflicts within your department but we would appreciate it if you would respond an email with your comments and the comments of any faculty within your department who teach related courses. Thank you very much for your time.

Regards, Michelle

Michelle Cavallo
Administrative Assistant & Graduate Coordinator
Department of Biological Sciences
Florida Atlantic University
777 Glades Road
Boca Raton, FL 33431
PH: 561-297-0384

FAU
FLORIDA ATLANTIC UNIVERSITY

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777 Glades Road
Boca Raton, FL 33431
(561) 297-0706
Fax: (561) 297-2519

Monday, September 29th, 2014

To: Charles E. Schmidt College of Science
Biology Department

To Whom It May Concern,

The Biomedical Science Graduate Program in the Charles E. Schmidt College of Medicine has reviewed the new Biology course proposals, and does not have any objections to the proposed courses. The courses do not contain any material that could constitute a conflict with our program curriculum.

Sincerely,

Marc Kantorow

Marc Kantorow, Ph.D.
Professor and Director of Graduate Programs
Charles E. Schmidt College of Medicine
Florida Atlantic University
777 Glades Rd.
Boca Raton, FL 33431
561-297-2910