REQUEST FOR NEW COURSE

1. General Information.

a. Submitted by the College of: A&S | Today's Date: September 1, 2011

b. Department/Division: Biology

c. Contact person name: Ruth E. Beattie | Email: rebeat12uky.edu | Phone: 257-7647

d. Requested Effective Date: ☐ Semester following approval OR ☒ Specific Term/Year[1]: Fall 2011

2. Designation and Description of Proposed Course.

a. Prefix and Number: BIO 302

b. Full Title: Introduction to Neuroscience

c. Transcript Title (if full title is more than 40 characters): Introduction to Neuroscience

d. To be Cross-Listed[2] with (Prefix and Number): _____

e. Courses must be described by at least one of the meeting patterns below. Include number of actual contact hours[3] for each meeting pattern type.

3 Lecture	_____ Laboratory[1]	_____ Recitation	_____ Discussion	_____ Indep. Study
_____ Clinical	_____ Colloquium	_____ Practicum	_____ Research	_____ Residency
_____ Seminar	_____ Studio	_____ Other – Please explain:	_____	

f. Identify a grading system: ☒ Letter (A, B, C, etc.) ☐ Pass/Fail

g. Number of credits: 3

h. Is this course repeatable for additional credit? YES ☐ NO ☒

If YES: Maximum number of credit hours: _____

If YES: Will this course allow multiple registrations during the same semester? YES ☐ NO ☐

i. Course Description for Bulletin: This introductory course is designed to provide students with a basic understanding, at the physiological, cellular and molecular levels, of how the nervous system functions to create behavior. It will also introduce students to the consequences of abnormal system functioning brought about by either disease or injury..
Prereq: BIO 152 or equivalent or permission of Instructor

j. Prerequisites, if any: BIO 152 or equivalent or permission of Instructor

k. Will this course also be offered through Distance Learning? YES[4] ☐ NO ☒

l. Supplementary teaching component, if any: ☐ Community-Based Experience ☐ Service Learning ☐ Both

3. Will this course be taught off campus? YES ☐ NO ☒

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[1] Courses are typically made effective for the semester following approval. No course will be made effective until all approvals are received.

[2] The chair of the cross-listing department must sign off on the Signature Routing Log.

[3] In general, undergraduate courses are developed on the principle that one semester hour of credit represents one hour of classroom meeting per week for a semester, exclusive of any laboratory meeting. Laboratory meeting, generally, represents at least two hours per week for a semester for one credit hour. (from *SR 5.2.1*)

[4] You must *also* submit the Distance Learning Form in order for the proposed course to be considered for DL delivery.

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4.	**Frequency of Course Offering.**			
a.	Course will be offered (check all that apply):	☒ Fall	☐ Spring	☐ Summer
b.	Will the course be offered every year?		YES ☒	NO ☐
	If NO, explain:	_____		
5.	**Are facilities and personnel necessary for the proposed new course available?**		YES ☒	NO ☐
	If NO, explain:	_____		
6.	**What enrollment (per section per semester) may reasonably be expected?**	50		
7.	**Anticipated Student Demand.**			
a.	Will this course serve students primarily within the degree program?		YES ☐	NO ☒
b.	Will it be of interest to a significant number of students outside the degree pgm?		YES ☒	NO ☐
	If YES, explain:	BIO302 is intended to serve as a gateway to upper level neuroscience courses with a mechanistic and/or medical focus. Neuroscience is an increasing area of emphasis of the National Institutes of Health (NIH) and is likely to remain so for some time as our country struggles to administer to the increasing percentages of our population dealing with central nervous system injury and/or disease. This course would be expected to be of use to students anticipating careers in the health professions, research, and/or public policy. In addition, either this course (open to everyone regardless of major) or PSY312 Brain and Behavior (only open to psychology majors) will serve as the one required course in the new proposed Neuroscience minor. Paperwork for the new minor has been submitted.		
8.	**Check the category most applicable to this course:**			
	☒ Traditional – Offered in Corresponding Departments at Universities Elsewhere			
	☐ Relatively New – Now Being Widely Established			
	☐ Not Yet Found in Many (or Any) Other Universities			
9.	**Course Relationship to Program(s).**			
a.	Is this course part of a proposed new program?		YES ☒	NO ☐
	If YES, name the proposed new program:	Minor in Neuroscience		
b.	Will this course be a new requirement[5] for ANY program?		YES ☐	NO ☒
	If YES[5], list affected programs:	_____		
10.	**Information to be Placed on Syllabus.**			
a.	Is the course 400G or 500?		YES ☐	NO ☒
	If YES, the *differentiation for undergraduate and graduate students must be included* in the information required in ***10.b***. You must include: (i) identification of additional assignments by the graduate students; and/or (ii) establishment of different grading criteria in the course for graduate students. (See *SR 3.1.4*.)			

[5] In order to change a program, a program change form must also be submitted.

b.	☒	The syllabus, including course description, student learning outcomes, and grading policies (and 400G-/500-level grading differentiation if applicable, from ***10.a*** above) are attached.

REQUEST FOR NEW COURSE

Signature Routing Log

General Information:

Course Prefix and Number: BIO 302

Proposal Contact Person Name: Ruth E Beattie Phone: 257-7647` Email: rebeat1@uky.edu

INSTRUCTIONS:

Identify the groups or individuals reviewing the proposal; note the date of approval; offer a contact person for each entry; and obtain signature of person authorized to report approval.

Internal College Approvals and Course Cross-listing Approvals:

Reviewing Group	Date Approved	Contact Person (name/phone/email)	Signature
Biology Faculty	9/16/11	Dr. Vincent Cassone / 257-6766 / vincent.cassone@uky.edu	
DUS Biology	9/16/11	Dr. Ruth Beattie / 257-7647 / rebeat1@uky.edu	
		/ /	
A&S Dean	10/25/11	Anna Bosch, Associate Dean / 7-6689 / bosch@uky.edu	
		/ /	

External-to-College Approvals:

Council	Date Approved	Signature	Approval of Revision[6]
Undergraduate Council	1/19/2012	Sharon Gill	
Graduate Council			
Health Care Colleges Council			
Senate Council Approval		University Senate Approval	

Comments:

[6] Councils use this space to indicate approval of revisions made subsequent to that council's approval, if deemed necessary by the revising council.

REQUEST FOR NEW COURSE

Introduction to Neuroscience
BIO 302-001 (3 credits)

Fall 2011
DEPT. OF BIOLOGY

Bulletin Course Description/Content/objectives: This introductory course is designed to provide students with a basic understanding, at the physiological, cellular and molecular levels, of how the nervous system functions to create behavior. It will also introduce students to the consequences of abnormal system functioning brought about by either disease or injury.

Text: *Neuroscience: Exploring the Brain* by Mark Bear, Mark F. Bear, Barry W. Connors, Michael A. Paradiso - Lippincott Williams & Wilkins (2007)

Time/Location: M,W,F 2.00pm – 2.50pm in BS 116

Prerequisite: BIO 152, Principles of Biology II, or equivalent

Professors: The course will be team taught by a number of faculty:
Dr. Jim Geddes (Dept. of Anatomy and Neurobiology)
Dr. Liz Debski (Dept of Biology)
Dr. Bruce O'Hara (Dept of Biology)

Contact Information / Office Hours:

Professor: Dr. Elizabeth Debski
Office: MDR#3, Room 201
E-mail: debski@uky.edu
Telephone #: 323-9537
Office Hours: By Appointment

Professor: Dr. Bruce O'Hara
Office: T.H. Morgan Biology Bldg., Rm. 334A
E-mail: bohara@uky.edu
Telephone #: 257-2805
Office Hours: By Appointment

Professor: Dr. Jim Geddes
Office: B477 Biomedical Biological Science Research Bldg. (BBSRB)
E-mail: jgeddes@uky.edu
Telephone #: 323-5135
Office Hours: By Appointment

Student Learning Outcomes: By the end of the course students will be able to

1) Describe the different regions of the human brain, spinal cord and peripheral nervous system as well as the pathways between them allowing for information exchange.
2) Describe the generation and conduction of nervous system signals.
3) Describe how neuronal function gives rise to behavior and illustrate using specific mechanistic strategies that allow for such things as vision, movement, learning, biological rhythms and drug addiction.
4) Explain how the nervous system develops, matures and maintains itself throughout life.
5) Describe current research approaches used to finding ways to prevent or cure some of the many devastating neurological injuries, diseases and psychiatric disorders prevalent in our society.

Reading Assignments: Students are responsible for all material presented in lecture sessions as well as reading assignments listed on the lecture outline. Reading assignments should be read before the relevant lecture.

Grading: Grades will be determined by performance on objective examinations. Three hourly examinations and a non-cumulative final will be given. Each exam will be graded out of 100 points and will contribute 25% of the student's final grade. The following grade scale will be applied:

A 100-90.0%
B 89.9-80.0%
C 79.9-70.0%
D 69.9-60.0%
E below 60.0%

Extra credit assignments are NOT available.
Midterm grades will be posted on XXX and will be based on the grading scheme above.
Exam dates are listed in the attached lecture schedule.

Test Format: Tests will be a mixture of multiple choice and short answer questions and will cover the material presented by one of the lecturers. The professor giving the lectures for that section of the course will also be responsible for composing the test and grading it.

Disabilities: If you have a documented disability that requires academic accommodations, please see me as soon as possible during scheduled office hours. In order to receive accommodations in this course, you must provide me with a Letter of Accommodation from the Disability Resource Center (Room 2, Alumni Gym, 257-2754, email address (jkarnes@email.uky.edu) for coordination of campus disability services available to students with disabilities.

Course Policy on Classroom civility and decorum: The university, college and department has a commitment to respect the dignity of all and to value differences among members of our academic community. There exists the role of discussion and debate in academic discovery and the right of all to respectfully disagree from time-to-time. Students clearly have the right to take reasoned exception and to voice opinions contrary to those offered by the instructor and/or other students (S.R. 6.1.2). Equally, a faculty member has the right -- and the responsibility -- to ensure that all academic discourse occurs in a context characterized by respect and civility. Obviously, the accepted level of civility would not include attacks of a personal nature or statements denigrating another on the basis of race, sex, religion, sexual orientation, age, national/regional origin or other such irrelevant factors.

Attendance: You are expected to attend all classes. If you miss a class, it is your responsibility to get any information, assignments, etc. missed. Contact other students in the course for the lecture notes. Any handouts you missed may be obtained from Instructor's office.

MISSED EXAMINATIONS

Make-up exams (for missed examinations) will only be given for **DOCUMENTED** excused absences **as defined by the University Senate Rules** and are scheduled for Monday December 5th 2011 from 6.00pm – 7.00pm in room BS 116. A missed exam will result in a score of zero for that exam, unless an acceptable written excuse is presented within one week of the missed examination. Make-up examinations will consist of short-answer questions and/or multiple-choice questions. **Unless there is a conflict with a regularly scheduled course, this is the ONLY time make-up exams will be administered so plan accordingly.**

Academic Offenses:

PLAGIARISM and CHEATING are serious academic offenses.

The following is an excerpt taken from the "Students Rights and Responsibilities Handbook, University of Kentucky" regarding cheating.

"***Cheating is defined by its general usage. It includes, but is not limited to, the wrongful giving, taking, or presenting any information or material by a student with the intent of aiding himself/herself or another on any academic work which is considered in any way in the determination of the final grade.***"

The following is an excerpt taken from the "Students Rights and Responsibilities Handbook, University of Kentucky" regarding plagiarism.

"***All academic work, written or otherwise, submitted by students to their instructors or other academic supervisors, is expected to be the result of their own thought, research, or self-expression.***

When students submit work purporting to be their own, but which in any way borrows ideas, organization, wording or anything else from another source without appropriate acknowledgment of the fact, the students are guilty of plagiarism.

Plagiarism includes reproducing someone else's work..... If the words of someone else are used, the student MUST put quotation marks around the passage in question and add an appropriate indication of its origin. Making simple changes while leaving the organization, content and phraseology intact is plagiaristic."

Charges of an academic offense will be made against any student that commits an academic offense. Penalties for such an offense will be assessed according to University Regulations regarding Academic Offenses. The most severe penalties include suspension or dismissal from the University. **I have a zero-tolerance policy regarding academic offenses.**
You can view the UK policy on cheating at: http://www.uky.edu/Ombud/acadoffenses/index.htm

Per university policy, students shall not plagiarize, cheat, or falsify or misuse academic records. Students are expected to adhere to University policy on cheating and plagiarism in all courses. The minimum penalty for a first offense is a zero on the assignment on which the offense occurred. If the offense is considered severe or the student has other academic offenses on their record, more serious penalties, up to suspension from the university may be imposed.

Plagiarism and cheating are serious breaches of academic conduct. Each student is advised to become familiar with the various forms of academic dishonesty as explained in the Code of Student Rights and Responsibilities. Complete information can be found at the following website: http://www.uky.edu/Ombud. A plea of ignorance is not acceptable as a defense against the charge of academic dishonesty. It is important that you review this information as all ideas borrowed from others need to be properly credited.

Day	Date	Lecture Topics	Chapter	Instructor
Wed	24Aug	Introduction	1	All
Fri	26Aug	Localization of Specific Functions	1	Debski
Mon	29Aug	Neurons and Glia	2	Debski
Wed	31Aug	Development of the Nervous System	7	Debski
Fri	2-Sep	The Prototypical Neuron	3	Geddes
Mon	5-Sep	Labor Day -- NO CLASS		
Wed	7-Sep	Chemical Synaptic Transmission	5	Geddes
Fri	9-Sep	Neurotransmitter Receptors and Ion Channels	6	Geddes
Mon	12Sep	EPSPs, IPSPs	5	Geddes
Wed	14Sep	The Action Potential 1	4	Geddes
Fri	16Sep	The Action Potential 2	4	Geddes
Mon	19Sep	Neuropharmacology	6	Geddes
Wed	21Sep	Vision--Eye and Retina	9	Debski
Fri	**23Sep**	**EXAM 1** (covers Intro/Organization & Neurons and Synaptic)	**Aug 24 - Sep19**	
Mon	26Sep	Phototransduction at the Retina	9	Debski
Wed	28Sep	Retinal Output--Parallel Processing	10	Debski
Fri	30Sep	Visual Pathways	10	Debski
Mon	3-Oct	Somatic Sensory Systems--Touch and Pain	12	Debski
Wed	5-Oct	Ascending and Descending Pathways	12	Debski
Fri	7-Oct	Regulation of Pain	15	Debski
Mon	10Oct	Endogenous Opiates vs. Drugs of Abuse	15	Debski
Wed	12Oct	Reciprocal Control of Contraction	13	Geddes
Fri	14Oct	Fine Tuning of Motor Systems--	13	Geddes
Mon	**17Oct**	**EXAM 2** (Sensor Systems and Intro to Motor)	**Sep 21 - Oct 12**	
Wed	19Oct	Motor Sys. Disorders--ALS, Parkinson's, Huntington's, Spinal Cord Inj.	14	Geddes
Fri	21Oct	Motor Systems--Organization of Motor Pathways	14	Geddes
Mon	24Oct	Imaging Brain Function	1	O'Hara
Wed	26Oct	Sympathetic, Parasympathetic NS	7	O'Hara
Fri	28Oct	Hypothalamus and Homeostasis	16	O'Hara
Mon	31Oct	Motivation and Dopamine	16	O'Hara
Wed	2-Nov	Sleep and Circadian Rhythms	19	O'Hara
Fri	4-Nov	Sex and the Brain	17	O'Hara
Mon	7-Nov	Language	20	O'Hara
Wed	9-Nov	Consciousness	18	O'Hara
Fri	11Nov	Perception-Ramanchandran	18	O'Hara
Mon	**14Nov**	**EXAM 3** (covers Motor Systems and Behavioral Output)	**Oct 14 – Nov 9**	
Wed	16Nov	Psychoactive Drugs	15	O'Hara
Fri	18Nov	How the Brain Adapts-Types of Plasticity	23	Debski
Mon	21Nov	Neurophysiology & long term potentiation	24	Debski
Wed	23Nov	THANKSGIVING BREAK		
Fri	25Nov	THANKSGIVING BREAK		
Mon	28Nov	Long term potentiation & memory	24	Debski
Wed	30Nov	Memory systems	25	Geddes
Fri	2-Dec	Alzheimer's disease	25	Geddes
Mon	5-Dec	Song birds and adult neurogenesis	23	O'Hara
Wed	7-Dec	Neural stem cells and Neurogenesis	23	O'Hara
Fri	9-Dec	Stem cells, neurogenesis, and CNS disorders	23	O'Hara
FRI	**16Dec**	**FINAL EXAM 8 a.m.**	**Nov 11 - Dec 9**	