

1. General Information

1a. Submitted by the College of: ARTS & SCIENCES

Date Submitted: 3/24/2015

1b. Department/Division: Biology

1c. Contact Person

Name: Ruth E Beattie

Email: rebeat1@uky.edu

Phone: 257-7647

Responsible Faculty ID (if different from Contact)

Name:

Email:

Phone:

1d. Requested Effective Date: Semester following approval

1e. Should this course be a UK Core Course? No

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OFFICE OF THE
SENATE COUNCIL**2. Designation and Description of Proposed Course**

2a. Will this course also be offered through Distance Learning?: No

2b. Prefix and Number: BIO 440

2c. Full Title: Comparative and Functional Anatomy

2d. Transcript Title: Comparative and Functional Anatomy

2e. Cross-listing:

2f. Meeting Patterns

LECTURE: 3

LABORATORY: 3

2g. Grading System: Letter (A, B, C, etc.)

2h. Number of credit hours: 4

2i. Is this course repeatable for additional credit? No

If Yes: Maximum number of credit hours:

If Yes: Will this course allow multiple registrations during the same semester?

2j. Course Description for Bulletin: Comparative and Functional Neuroanatomy explores the cellular bases for sensory, integrative and motor neuroscience from an evolutionary perspective, delineating common features of all nervous systems ranging from cnidarian nerve nets to ventral nerve cords of most invertebrates to the chordate/vertebrate central nervous systems. Discovery of the common features of nervous structure in model system organisms with the human brain will provide students a perspective on the value of model systems for future study. Functional analyses of nervous system structures will enable students to identify anatomical bases for neural function and behavior.

2k. Prerequisites, if any: BIO 302 or consent of Instructor

2l. Supplementary Teaching Component:

3. Will this course taught off campus? No

If YES, enter the off campus address:

4. Frequency of Course Offering: Fall,

Will the course be offered every year?: Yes

If No, explain:

5. Are facilities and personnel necessary for the proposed new course available?: Yes

If No, explain:

6. What enrollment (per section per semester) may reasonably be expected?: 24/section

7. Anticipated Student Demand

Will this course serve students primarily within the degree program?: Yes

Will it be of interest to a significant number of students outside the degree pgm?: Yes

If Yes, explain: This course is an elective for the BS and BA in Biology and for the new neuroscience major (paperwork for program approval has been submitted)

8. Check the category most applicable to this course: Traditional – Offered in Corresponding Departments at Universities Elsewhere,

If No, explain:

9. Course Relationship to Program(s).

a. Is this course part of a proposed new program?: Yes

If YES, name the proposed new program: neuroscience

b. Will this course be a new requirement for ANY program?: No

If YES, list affected programs:

10. Information to be Placed on Syllabus.

a. Is the course 400G or 500?: No

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: Yes

Distance Learning Form

Instructor Name:

Instructor Email:

Internet/Web-based: No

Interactive Video: No

Hybrid: No

1. How does this course provide for timely and appropriate interaction between students and faculty and among students? Does the course syllabus conform to University Senate Syllabus Guidelines, specifically the Distance Learning Considerations?

2. How do you ensure that the experience for a DL student is comparable to that of a classroom-based student's experience? Aspects to explore: textbooks, course goals, assessment of student learning outcomes, etc.

3. How is the integrity of student work ensured? Please speak to aspects such as password-protected course portals, proctors for exams at interactive video sites; academic offense policy; etc.

4. Will offering this course via DL result in at least 25% or at least 50% (based on total credit hours required for completion) of a degree program being offered via any form of DL, as defined above?

If yes, which percentage, and which program(s)?

5. How are students taking the course via DL assured of equivalent access to student services, similar to that of a student taking the class in a traditional classroom setting?

6. How do course requirements ensure that students make appropriate use of learning resources?

7. Please explain specifically how access is provided to laboratories, facilities, and equipment appropriate to the course or program.

8. How are students informed of procedures for resolving technical complaints? Does the syllabus list the entities available to offer technical help with the delivery and/or receipt of the course, such as the Information Technology Customer Service Center (<http://www.uky.edu/UKIT/>)?

9. Will the course be delivered via services available through the Distance Learning Program (DLP) and the Academic Technology Group (ATL)? NO

If no, explain how student enrolled in DL courses are able to use the technology employed, as well as how students will be provided with assistance in using said technology.

10. Does the syllabus contain all the required components? NO

11. I, the instructor of record, have read and understood all of the university-level statements regarding DL.

Instructor Name:

SIGNATURE|VCASS2|Vincent Cassone|BIO 440 NEW Dept Review|20141222

SIGNATURE|ACSI222|Anna C Harmon|BIO 440 NEW College Review|20150203

SIGNATURE|JMETT2|Joanie Ett-Mims|BIO 440 NEW Undergrad Council Review|20150331

Courses	Request Tracking
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New Course Form

<https://myuk.uky.edu/sap/bc/soap/rfc?services=>

[Open in full window to print or save](#)

Generate R

Attachments:

Upload File

ID	Attachment
Delete 4434	BIO 440 UGC Review Checklist.docx
Delete 4686	BIO 440 syllabus revised.doc

First 1 Last

Select saved project to retrieve...

(*denotes required fields)

1. General Information

- a. * Submitted by the College of: Submission Date:
- b. * Department/Division:
- c.
- * Contact Person Name: Email: Phone:
- * Responsible Faculty ID (if different from Contact): Email: Phone:
- d. * Requested Effective Date: Semester following approval OR Specific Term/Year ¹
- e.
- Should this course be a UK Core Course? Yes No
- If YES, check the areas that apply:
- Inquiry - Arts & Creativity Composition & Communications - II
- Inquiry - Humanities Quantitative Foundations
- Inquiry - Nat/Math/Phys Sci Statistical Inferential Reasoning
- Inquiry - Social Sciences U.S. Citizenship, Community, Diversity
- Composition & Communications - I Global Dynamics

2. Designation and Description of Proposed Course.

- a. * Will this course also be offered through Distance Learning? Yes ¹ No
- b. * Prefix and Number:
- c. * Full Title:
- d. Transcript Title (if full title is more than 40 characters):
- e. To be Cross-Listed ² with (Prefix and Number):
- f. * 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.
- | | | | |
|--|--|---------------------------------|---------------------------------|
| <input type="text" value="3"/> Lecture | <input type="text" value="3"/> Laboratory ¹ | <input type="text"/> Recitation | <input type="text"/> Discussion |
| <input type="text"/> Indep. Study | <input type="text"/> Clinical | <input type="text"/> Colloquium | <input type="text"/> Practicum |
| <input type="text"/> Research | <input type="text"/> Residency | <input type="text"/> Seminar | <input type="text"/> Studio |
| <input type="text"/> Other | If Other, Please explain: <input type="text"/> | | |
- g. * Identify a grading system:
- Letter (A, B, C, etc.)
- Pass/Fail
- Medicine Numeric Grade (Non-medical students will receive a letter grade)
- Graduate School Grade Scale
- h. * Number of credits:
- i. * 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

j. * Course Description for Bulletin:

Comparative and Functional Neuroanatomy explores the cellular bases for sensory, integrative and motor neuroscience from an evolutionary perspective, delineating common features of all nervous systems ranging from cnidarian nerve nets to ventral nerve cords of most invertebrates to the chordate/vertebrate central nervous systems. Discovery of the common features of nervous structure in model system organisms with the human brain will provide students a perspective on the value of model systems for future study. Functional analyses of nervous system structures will enable students to identify anatomical bases for neural function and behavior.

k. Prerequisites, if any:

BIO 302 or consent of Instructor

l. Supplementary teaching component, if any: Community-Based Experience Service Learning Both3. * Will this course be taught off campus? Yes No

If YES, enter the off campus address: _____

4. Frequency of Course Offering.

a. * Course will be offered (check all that apply): Fall Spring Summer Winter

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? 24/section

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: _____

This course is an elective for the BS and BA in Biology and for the new neuroscience major (paperwork for program approval 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: _____

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) Ident additional assignments by the graduate students; and/or (ii) establishment of different grading criteria in the course for graduate students. (See SR

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

⁵ Courses are typically made effective for the semester following approval. No course will be made effective until all approvals are received.
⁶ The chair of the cross-listing department must sign off on the Signature Routing Log.

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 hours per week for a semester for one credit hour. (from SR 5.2.1)

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

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

Rev 8/09

[Submit as New Proposal](#) [Save Current Changes](#)

General Course Information

- Full and accurate title of the course
- Departmental and college prefix
- Course prefix, number and section number
- Scheduled meeting day(s), time and place

Instructor Contact Information (if specific details are unknown, "TBA" is acceptable for one or more fields)

- Instructor name
- Contact information for teaching/graduate assistant, etc.
- Preferred method for reaching instructor
- Office phone number
- Office address
- UK email address
- Times of regularly scheduled office hours and if prior appointment is required

Course Description

- Reasonably detailed overview of the course (course description should match on syllabus and eCATS form)
- Prerequisites, if any (should match on syllabus and eCATS form)
- Student learning outcomes
- Course goals/objectives
- Required materials (textbook, lab materials, etc.)
- Outline of the content, which must conform to the Bulletin description
- Summary description of the components that contribute to the determination of course grade
- Tentative course schedule that clarifies topics, specifies assignment due dates, examination date(s)
- Final examination information: date, time, duration and location
- For 100-, 200-, 300-, 400-, 400G- and 500-level courses, numerical grading scale and relationship to letter grades for undergraduate students
- For 400G-, 500-, 600- and 700-level courses, numerical grading scale and relationship to letter grades for graduate students. (Graduate students cannot receive a "D" grade.)
- Relative value given to each activity in the calculation of course grades (Midterm=30%; Term Project=20%, etc.)
- Note that undergraduate students will be provided with a Midterm Evaluation (by the midterm date) of course performance based on criteria in syllabus
- Policy on academic accommodations due to disability. Standard language is below:
 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 Policies

- Attendance
- Excused absences
- Make-up opportunities
- Verification of absences
- Submission of assignments
- Academic integrity, cheating & plagiarism
- Classroom behavior, decorum and civility
- Professional preparations
- Group work & student collaboration

UGE Review () Comments
Committee Review () Comments

SYLLABUS

Comparative and Functional Neuroanatomy BIO 440 4 Credit Hours 3 Credit Hours Lecture; 1 Credit Hour (3 contact hours) Lab

Instructor: Vincent M. Cassone
Office: Thomas Hunt Morgan 101 E
Telephone: 859-257-6766
E-Mail: Vincent.Cassone@uky.edu
Office Hours: TBA
Class Time and Location: TBA

E-mail Communication:

Use and check your UK e-mail regularly. This is the only address that will be used to communicate with you. Do not forward your e-mail to another account. The anti-spam software for many e-mail accounts (yahoo, hotmail, etc) will not deliver mail that has been sent to multiple addresses. All class communications are sent to all students in the class and so are filtered out by yahoo, hotmail etc. You are responsible for all information sent out to the class through e-mail... so use your UK e-mail account and check it often (at least daily).

Textbook

Selected Journal Articles and
Comparative Vertebrate Neuroanatomy by Ann B. Butler and William Hodos

Pre-requisites: BIO 302 or consent of Instructor

Books may be purchased from the following stores.

- Kennedy Bookstore, 405 S. Limestone, (606) 252-0331 or 1-800-892-5165, or go to the website: <http://www.kennedys.com>
- Wildcat Text Books, 563 S. Limestone, (606) 225-7771, or go to the website: <http://www.wildcattext.com>
- UK Bookstore 106 Student Center Annex, phone (606) 257-6304 or 1-800-327-6141, or go to the website: <http://www.ukbookstore.com>
- Amazon.com

Course Description

Comparative and Functional Neuroanatomy explores the cellular bases for sensory, integrative and motor neuroscience from an evolutionary perspective, delineating common features of all nervous systems ranging from cnidarian nerve nets to ventral nerve cords of most invertebrates to the chordate/vertebrate central nervous systems. Discovery of the common features of nervous structure in model system organisms with the human brain will provide students a perspective on the value of model systems for future study. Functional analyses of nervous system structures will enable students to identify anatomical bases for neural function and behavior.

Student Learning Outcomes:

- **Recognition of the basic cellular structure shared by all nervous systems**
- **Compare and contrast invertebrate and vertebrate neural organization**
- **Demonstrate an understanding of the basic features shared among vertebrate groups**
- **Demonstrate an understanding of the evolutionary process of cephalization from lower to higher vertebrates**
- **Demonstrate an understanding of the unity of human nervous structure and other vertebrate groups**

Disabilities/ Medical Conditions:

If you have a documented disability that requires academic accommodations, please see me as soon as possible. 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.

Missed Classes: While attendance is not a component of your final grade, students are expected to attend all class meetings. 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 my office during my office hours.

If you have an excused absence from your laboratory section, you may attend another section with the approval of the professor and the TAs.

Students are expected to withdraw from the class if more than 20% of the classes scheduled for the semester are missed (excused or unexcused) per university policy.

You are expected to spend a MINIMUM of 6-9 hours per week interacting with the course material OUTSIDE of the classroom.

Reading Assignments:

Reading assignments are listed on the lecture outline. **All assigned readings are potential exam material whether covered in class or not.** This is a difficult course and it is imperative that you stay up-to-date with the lecture material. Do not procrastinate and leave material to the last minute.

Grading

Grades will be assigned as follows:

3 exams = 75% of final grade – each exam is worth 100 points – 25% of your final grade
3 lab exams = 25% of final grade – the first lab exam is worth 20 points (5% of your final grade), the second and third lab exams are worth 40 points each (10% each towards your final grade)

Final grades will be assigned as follows:

A = 90-100%
B = 80-89%
C = 70-79%
D = 60-69%
E = 59% and below

NOTE: There will be NO curving of scores

Midterm grades will be posted by the end of the ninth week of the semester.

Examination schedule: see Lecture Schedule at end of syllabus

MISSED EXAMINATIONS

Make-up examinations (for missed examinations) will only be given for **DOCUMENTED** excused absences **as defined by the University (Senate Rule V.2.4.2)**. Students are entitled to an excused absence for the following reasons:

- a. serious illness;
- b. illness or death of family member;
- c. University-related trips;
- d. major religious holidays;

A missed examination will result in a score of zero for that exam, unless an acceptable written excuse is presented within one week of the missed examination. Please contact the course Instructor to schedule a make-up examination.

Student who do not provide a documented excuse for any missed exam, within the allowed time frame, (1 week after the exam date) will receive an automatic zero on the exam.

Note: Problems associated with parking, traffic, library services, family commitments (including attending weddings), travel itineraries, procrastination, over-sleeping or forgetfulness are not acceptable excuses for missing an examination.

Course Policy on Classroom Civility and Decorum:

The university, college and department all have 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.

***** A Note Concerning Copyrighted Class Materials ((READ THIS INFORMATION CAREFULLY))**

The Instructor's lectures and course materials, including power point presentations, tests, outlines, and similar materials, are protected by copyright. You may take notes and make copies of course materials for your own use. You may not and may not allow others to reproduce or distribute lecture notes and course materials publicly whether or not a fee is charged without the express written consent of the Course Instructor

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 cheats or commits plagiarism. 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**

Sample LECTURE OUTLINE (2 x 75 minute meetings each week)

<u>WEEK:</u>	<u>TOPIC</u>	<u>READING</u>
1	Evolution and Organization of the Central Nervous System	Chapter 1
2	Cellular structure	Chapter 2
3	Nerve nets and cnidarians	reading TBA
4	Caenorhabditis elegans and other worms	reading TBA
5	Arthropod nervous systems	reading TBA
6	Principles of chordate nervous evolution	Chapters 3-5
6	MID-TERM EXAM 1	
7	Spinal cord	Chapters 7-9
8	Hindbrain	Chapters 10-14
9	Midbrain	Chapters 15-18
10	Diencephalon	Chapters 19-23
11	Telencephalon	Chapters 24-30
	MID-TERM EXAM 2	
12	Mammalian vs avian neural organization	reading TBA
13-15	Clinical disorders	reading TBA
16	FINAL EXAM – see final exam schedule	



Sample LABORATORY SCHEDULE (3 hour lab once each week)

<u>WEEK:</u>	<u>Topic</u>	<u>Laboratory Activity</u>
1	Familiarization with equipment	Learn microscope and microtome usage and safety
2	Cellular structure	Observation of previously stained material
3	Cnidarian and C elegans neuroanatomy	Live staining techniques and observation
4	Gross dissection of insects and crayfish	Dissection and observation
5		PRACTICAL #1
6	Gross dissection of frog nervous system	Dissection and fixation
7	Sectioning	Freezing Microtome usage and section
8	Staining	Staining of sections with cresyl violet and Luxol
9	Immunohistochemistry	Stain for neuropeptides
10		PRACTICAL #2
11, 12	Sheep Brain Dissection	
13	Human brain sections	
14		PRACTICAL #3