

CHANGE UNDERGRADUATE DEGREE PROGRAM

PLEASE NOTE: To ensure that a series of changes to an existing degree program does not essentially create a new program, the Southern Association for the Accreditation of Colleges and Schools (SACS) requires submission of its Substantive Change Checklist for every program change. Prior to college-level review, you must fill out and submit the [SACS Substantive Change Checklist](#) to the Office of Institutional Effectiveness. Contact Institutional Effectiveness (OSPIE@uky.edu) for assistance.

Once approved at the college level, your college will send the proposal to the appropriate Senate academic council (HCCC and/or UC) for review and approval. Once approved at the academic council level, the academic council will send your proposal to the Senate Council office for additional review and then a 10-day posting online, during which senators review on their own and have an option to register an objection if they so desire. If no objection is raised to the Senate Council Office within ten days of the posting the proposal, then the program change is approved. The Senate Council Office will report approvals to the Provost, Registrar and other appropriate entities, including the contact person.

For every proposed change, you MUST also include the existing requirement.

SUMMARY OF CHANGES			
Check all that apply.			
<input checked="" type="checkbox"/> Courses	<input type="checkbox"/> Program name	<input type="checkbox"/> Total required credit hours	<input type="checkbox"/> Student learning outcomes
<input type="checkbox"/> Criteria for admissions/progression/termination	<input type="checkbox"/> Certificate assessment	<input type="checkbox"/> Other	
1. General Information			
1a	Date of contact with Institutional Effectiveness (IE) ¹ : 9-20-17		
	<input checked="" type="checkbox"/> Appended to the end of this form is a PDF of the reply from Institutional Effectiveness.		
1b	College ² : Arts and Sciences	Department ² : Biology	
1c	CIP code ³ : 26.1501	Today's Date:	12-9-17
1d	Current major name: (Biology, Design, etc.) Neuroscience	Proposed major name:	
1e	Current Degree (BA, BFA, etc.): B.S.	Proposed degree:	
1f	Will there be any changes regarding a track(s) for the program?		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
1g	Accrediting agency, if applicable:		
1h	Date of most recent periodic program review for this degree:	10-31-17	
1i	Requested effective date:	<input checked="" type="checkbox"/> Fall semester following approval.	OR <input type="checkbox"/> Specific Date ⁴ : Fall 20

¹ Prior to college-level review, you must fill out and submit the SACS Substantive Change Checklist to the Office of Institutional Effectiveness. You can reach Institutional Effectiveness by phone or email (257-1962 or OSPIE@uky.edu).

² It is not possible to change the home academic unit of a degree program via this form. To change the home unit, visit <https://www.uky.edu/universitysenate/forms> and look for the heading, "Forms Related to Academic Organizational Structure."

³ The CIP code is provided by Institutional Effectiveness. If a different CIP code is necessary, the program may undergo a review similar to the new program approval process.

⁴ No program change(s) will be effective until all approvals are received.

1j Contact person name: Robin Cooper, Ph.D. Phone / Email: 257-5950 / rlcoop1@uky.edu

2. Overview of Changes

2a Describe the rationale for the changes, including results from the most recent program review if applicable. (450 word limit)

The rationale for proposing the changes noted in this document is to provide students with a sufficient number of elective courses and sufficient flexibility in scheduling so as to reasonably assure that students are able to graduate in four years. These proposals will: (1) add several elective options (by adding 3 courses and moving two courses from core courses to electives; (2) remove a 6 credit hour independent research requirement; (3) reduce the length of BIO 305 to be consistent with other BIO lab formats (4) remove the requirements to take a second organic chemistry and physics courses with laboratories; (5) collapse four elective categories into two categories.

2b Use the fields below, as applicable, to identify the areas in which changes will be made.

	Current	Proposed
i. Credit Hours of Premajor Courses:	25	25
ii. Credit Hours of Preprofessional Courses:		
iii. Credit Hours of Major Core Course Requirements	38-41	22-25
iv. Minimum Credit Hours of Guided Electives:	12-14	27
v. Minimum Credit Hours of Free Electives:	6	6
vi. Credit Hours for Track 1 (name):		
vii. Credit Hours for Track 2 (name):		
viii. Credit Hours for Track 3 (name):		
ix. Credit Hours for Track 4 (name):		
x. Credit Hours for Track 5 (name):		
xi. Credit Hours for Required Minor:		
xii. Total Credit Hours Required by Level:		
	100-level: 50	50
	200-level: 17	17
	300-level: -	-
	400-level: -	-
	500-level: -	-
	TOTAL CREDIT HOURS REQUIRED FOR GRADUATION: 120	120

xv. If the total hours required for graduation have changed, explain below. (150 word limit)

2c Will the requested change(s) result in the use of courses from another educational unit? Yes No

If "Yes," describe generally the courses and how they will used.

If "Yes," two pieces of supporting documentation are required.

Check to confirm that appended to the end of this form is a letter of support from the appropriate chair/director⁵ of each unit from which individual courses will be used.

Check to confirm that appended to the end of this form is verification that the chair/director of each affected unit has consent from the faculty members of the unit. This typically takes the form of meeting minutes.

2d Will the proposed change(s) affect an associated minor? Yes No
 If "Yes," the department must also submit a change form to change the minor.

3. Course Sharing

3a. Will the requested changes result in the use of courses from another unit? Yes No
 If "Yes," describe generally the courses and how they will used.
 see Appendix 5e
 If "Yes," two pieces of supporting documentation are required.

Check to confirm that appended to the end of this form is a letter of support from the other units' chair/director⁶ from which individual courses will be used.

Check to confirm that appended to the end of this form is verification that the chair/director of the other unit has consent from the faculty members of the unit. This typically takes the form of meeting minutes.

3. UK Core Courses

3a Are there any proposed changes to the UK Core requirements for the program? (If "Yes," indicate and proceed to next question. If "No," indicate and proceed to 4a.) Yes No
 If "Yes," note the specific changes in the grid below.

UK Core Area	Current Course	Current Credits	Proposed Course	Proposed Credits
I. Intellectual Inquiry				
Arts and Creativity				
Humanities				
Social Sciences				
Natural/Physical/Mathematical				
II. Composition and Communication				
Composition and Communication I	CIS/WRD 110	3	CIS/WRD 110	3
Composition and Communication II	CIS/WRD 111	3	CIS/WRD 111	3
III. Quantitative Reasoning				
Quantitative Foundations				
Statistical Inferential Reasoning				
IV. Citizenship (one course in each area)				
Community, Culture & Citizenship in USA				
Global Dynamics				

⁵ A dean may submit a letter only when there is no educational unit below the college level, i.e. there is no department/school.
⁶ A dean may submit a letter only when there is no educational unit below the college level, i.e. there is no department/school

	Total UK Core Hours	
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3b Provide the Bulletin language about UK Core.

4. Graduation Composition and Communication Requirement

4a Will the Graduation Composition and Communication requirement be changed? (If "Yes," indicate and proceed to next question. If "No," indicate and proceed to 5a.) Yes No

If "Yes," note the specific changes below, including changes to credit hours.

If the course(s) used are from outside the home unit, one piece of supporting documentation is required.

Check to confirm that appended to the end of this form is a letter of support from the other units' chair/director⁷ from which individual courses will be used.

	Current	Proposed
i.	<input type="checkbox"/> Single course in home unit:	<input type="checkbox"/> <i>Single course in home unit:</i>
ii.	<input type="checkbox"/> Multiple courses in home unit.	<input type="checkbox"/> <i>Multiple courses in home unit.</i>
iii.	<input type="checkbox"/> Single course outside home unit.	<input type="checkbox"/> <i>Single course outside home unit.</i>
iv.	<input type="checkbox"/> Multiple courses outside home unit.	<input type="checkbox"/> <i>Multiple courses outside home unit.</i>
v.	<input type="checkbox"/> Course(s) inside & outside home unit.	<input type="checkbox"/> <i>Course(s) inside & outside home unit.</i>

4b Provide the Bulletin language about GCCR below.

5. Other Course Changes

5a Will the college-level requirements change? (If "Yes," indicate and note the specific changes in the grid below. If "No," indicate and proceed to question 5c.) Yes No

		Current			Proposed	
		<input type="checkbox"/> Standard college requirement			<input type="checkbox"/> <i>Standard college requirement</i>	
		<input type="checkbox"/> Specific course			<input type="checkbox"/> <i>Specific course</i>	
Prefix & Nbr	Credit Hrs	Title	Prefix & Nbr	Credit Hrs	Title	Course Status ⁸
						Select one....
						Select one....
						Select one....

5b Will the existing language in the Bulletin about college-level requirements change? Yes No
If "Yes," provide the new language below.

5c Will the pre-major or pre-professional course requirements change? (If "Yes," Yes No

⁷ A dean may submit a letter only when there is no educational unit below the college level, i.e. there are no departments/schools.

⁸ Use the drop-down list to indicate if the course is a new course ("new"), an existing course that will change ("change"), or if the course is an existing course that will not change ("no change").

CHANGE UNDERGRADUATE DEGREE PROGRAM

5g Will the guided electives change? (If "Yes," indicate and note the specific changes in the grid below. If "No," indicate and proceed to question 5i.) Yes No

Current			Proposed			
Prefix & Nmbr	Credit Hrs	Title	Prefix & Nmbr	Credit Hrs	Title	Course Status ¹¹
		please see Appendix 5e				Select one....
						Select one....
						Select one....
						Select one....
						Select one....

5h Provide the Bulletin language for guided electives.
Please see Appendix 5h.

5i Will the free electives change? (If "Yes," indicate and note the specific changes in the space below. If "No," indicate and proceed to question 5j.) Yes No

5j Does the proposed change affect any track(s)? (If "Yes," note the specific changes using the grid below. If "No," proceed to question 6.)
If more than one track is affected, click [HERE](#) for a template. Append a PDF for each affected track to the end of this form.

Track Name: New Track Changed Track Deleted Track

Current			Proposed			
Prefix & Nmbr	Credit Hrs	Title	Prefix & Nmbr	Credit Hrs	Title	Course Status ¹²
						Select one....
						Select one....
						Select one....
						Select one....
						Select one....

5k Provide the Bulletin language for the track.

6. Semester by Semester Program

¹¹ Use the drop-down list to indicate if the course is new, exists but will change, or exists but will not change.

¹² Use the drop-down list to indicate if the course is new, exists but will change, or exists but will not change.

CHANGE UNDERGRADUATE DEGREE PROGRAM

List below the typical semester-by-semester program for the major. If multiple tracks are available, click [HERE](#) for a template for additional tracks and append a PDF of each track's courses to the end of this form.

YEAR 1 – FALL: (e.g. "BIO 103; 3 credits")	please see Appendix 6	YEAR 1 – SPRING:
YEAR 2 - FALL :		YEAR 2 – SPRING:
YEAR 3 - FALL:		YEAR 3 - SPRING:
YEAR 4 - FALL:		YEAR 4 - SPRING:

7. Approvals/Reviews

Information below does not supersede the requirement for individual letters of support from educational unit administrators and verification of faculty support (typically takes the form of meeting minutes).

In addition to the information below, attach documentation of department and college approval. This typically takes the form of meeting minutes but may also be an email from the unit head reporting department- and college-level votes.

	Reviewing Group Name	Date Approved	Contact Person Name/Phone/Email
7a	(Within College)		
	Faculty of Biology	10/6/17 11/17/17	Ann Morris / 7-8823 / ann.morris@uky.edu
	Faculty of Record in Neuroscience	12/4/17 12/15/17	Mark Prendergast / 7-6120 / mark.prendergast@uky.edu
	A&S EPC	2/20/18	Rynetta Davis / / rynetta.davis@uky.edu
	A&S Assoc. Dean	2/20/18	Anna Bosch / / bosch@uky.edu
7b	(Collaborating and/or Affected Units)		
	College of Medicine Associate Dean for Biomedical Education	12/12/17	Becky Dutch / 3-1795 / rdutc2@uky.edu
	Chair of Physiology	11/30/17	Alan Daugherty / 3-3512 / Alan.Daugherty@uky.edu
	Chair of Entomology	11/29/17	Subba Reddy Palli / 7-4962 / rpalli@uky.edu
			/ /
			/ /
7c	(Senate Academic Council)	Date Approved	Contact Person Name
	Health Care Colleges Council (if applicable)		
	Undergraduate Council	5/8/18	Joanie Ett-Mims




Appendix 5e

Current

Major Core Courses

BIO 302 (3)
BIO 305 (4)
ANA 394 OR BIO 394 OR PSY 393 (6)
BIO 315 OR BCH 401G OR CHE 550/552 (3-6)
BIO 426 (1)
CHE 230 (3)
CHE 231 (1)
CHE 232 (3)
CHE 233 (1)
PHY 211/213 OR PHY 231/232 AND PHY 241/242 (10)
WRD 204 (3)

38-41 credit hours

Guided Electives

Students will choose at least one course from each of the four thematic areas below. Some courses are listed in more than one area. However, the same course cannot be used to satisfy two thematic requirements.

A. Cellular/Molecular

ANA 442 Molecular and Cellular Neurobiology 3
CHE 556 Elements of Neurochemistry 3
*BIO 510 Recombinant DNA
Techniques Laboratory 4

B. Physiology

BIO 446 Neurophysiology Laboratory 3
*BIO 535 Comparative Neurobiology and Behavior 3

C. Neuroanatomy

BIO 440 Comparative and Functional Anatomy 4
ANA 417G Functional Human Neuroanatomy 3
PSY 312 Brain and Behavior 3
ANA 209 Principles of Human Anatomy 3

D. Integrated

PSY 312 Brain and Behavior 3
BIO 375 Behavioral Ecology and Sociobiology 3
ANA 410G Neurobiology of Brain
and Spinal Cord Disorders 3
*ANA 516 Selected Topics
in Advanced Neuroscience 3
*BIO 507 Biology of Sleep and Circadian Rhythms 3
CGS 500 Cognitive Science in Theory and Practice 3
*CSD 571 Neural Bases of Speech,
Language, and Hearing 3
PSY 459 Neuropharmacology: Drugs and Behavior 3
BIO 447 Animal Senses 3

Other neuroscience-related courses at the 200-level or above,
as approved by DUS in Neuroscience.

*Requires consent of instructor

12-14 credit hours

Proposed

Major Core Courses

BIO 302 (3)
BIO 305 (3)
BIO 315 OR BCH 401G OR CHE 550/552 (3-6)
BIO 426 (1)
CHE 230 (3)
CHE 231 (1)
PHY 211 (5) OR PHY 231/PHY 241 (5)
WRD 204 (3)

22-25 credit hours

Guided Electives

Students must complete 27 credits hours of guided electives. At least 12 of the 27 credit hours must come from group one. Students may choose from the remaining courses in group one or group two to equal the 27 credit hours of guided electives. Students cannot enroll in more than 3 credit hours of research courses in one semester even if under different prefix (i.e. ANA 394, BIO 394, PSY 393, PGY 394) and no more than 6 total credit hours of research may be used towards the major.

Group One (12ch)

ANA 410G (3)
ANA 442 (3)
ANA 417G (3)
BIO 410 (3)
BIO 446 (3)
*BIO 535 (3)
CHE 556 (3)
PSY 459 (3)
PGY 431 (3)

Group Two

ANA 394 (1-3)
BIO 394 (1-3)
PSY 393 (1-3)
PGY 394 (1-3)
*ANA 516 (3)
BIO 375 (3)
BIO 440 (4)
BIO 447 (3)
BIO 507 (3)
*BIO 510 (4)
**BIO 315 (3)
**BCH 401G Fundamentals of Biochemistry (3)
**CHE 550/552 Biological Chemistry I/II (6)
BIO 550 (3)
CHE 232 (3)
CHE 233 (1)
*CSD 571 (3)
PHY 213 OR PHY 232(4) and PHY 242 (1)
PGY 412G
PGY 502/BIO 502 (5)
PSY 312 (3)

Total Guided Electives: 27 credit hours

* requires consent of instructor

** may only be used as electives if course is not used to satisfy program core requirements.

Appendix 5h.

Students must complete 27 credits hours of guided electives. At least 12 of the 27 credit hours must come from group one. Students may choose from the remaining courses in group one or group two to equal the 27 credit hours of guided electives. Students cannot enroll in more than 3 credit hours of research courses in one semester even if under different prefix (i.e. ANA 394, BIO 394, PSY 393, PGY 394) and no more than 6 total credit hours of research may be used towards the major.

Bachelor of Science in Neuroscience

YEAR 1			
FALL		SPRING	
¤Foreign language 101	4	¤Foreign language 102	4
^UK Core QFO (MA 137 or MA 113)	4	‡UK Core CC1 (WRD 110)	3
^ UK Core NPM (CHE 105 + CHE 111)	4 + 1	^CHE 107	3
^BIO 148	3	^CHE 113	2
		^BIO 152	3
		^BIO 155	1
Total Credits: 16		Total Credits: 16	
YEAR 2			
FALL		SPRING	
¤Foreign language 201	3	UK Core HUM	3
UK Core SSC (PSY 100)	4	CHE 232/233 OR <i>Elective</i>	3-4
BIO 302	3	UK Core SIR (STA 296)	3
CHE 230	3	BIO 305	3
CHE 231	1	A&S SS (SOC 255)	3
UK Core CC2 (WRD 111)	3		
Total Credits: 17		Total Credits: 15-16	
YEAR 3			
FALL		SPRING	
UK Core GDY	3	✓GCCR (WRD 204)	3
PHY 211 or PHY 231/241	5	^PHY 213 or PHY 232/242 (group 2)	5
BCH 401G or BIO 315 or CHE 550/552	3	Group 1 or 2 Elective	3
Group 1 Elective	3	Group 1 or 2 Elective	3
Total Credits: 14		Total Credits: 14	
YEAR 4			
FALL		SPRING	
A&S HUM	3	UK Core ACR	3
UK Core CCC	3	BIO 426	1
Group 1 or 2 Electives	6	Group 1 or 2 Electives	6
◇ Free Elective	3	◇ Free Elective	3
Total Credits: 15		Total Credits: 13	

- ‡ Incoming Students are strongly encouraged to take WRD 112 to fulfill the CC1 and CC2 requirements if they have any of the following: an ACT English score of 32 or higher, an SAT Verbal score of 720 or higher, or an AP English Composition score of 4 or 5. If the student has been accepted into the University Honors Program, the student is required to take WRD 112 to fulfill CC1 and CC2.
- ¤ Students who have taken at least 2 years of a language in high school can complete the A&S Foreign Language Requirement with 3 college semesters of a different language. Students choosing this option should replace the 4th semester of language with electives. Also note that if you take a foreign language placement exam, you may be exempt from 1 or more of the beginning semesters of that language. In this case, replace the by-passed language courses with electives. Any language sequence may be used to satisfy the foreign language requirements.
- ◇ 6 hours of 'free' electives - that do not count toward any other requirement - must be taken. Additional electives may be required to reach the required minimum of 120 hours. Consider pursuing a 2nd major or minor.
- ^ Counted toward 60 credit hours in the physical, biological and/or mathematical sciences.
- ✓ Counted toward 50 credit hours in the major.

UK Core Abbreviations		CC1= Composition and Communication I
HUM =Intellectual Inquiry in the Humanities		CC2= Composition and Communication II
NPM=Intellectual Inquiry in the Natural/Physical/Mathematical Sciences		QFO= Quantitative Foundations
SSC=Intellectual Inquiry in Social Sciences		SIR= Statistical Inferential Reasoning
ACR=Intellectual Inquiry in Arts & Creativity		CCC= Community, Culture and Citizenship in U.S.A.
GCCR = Graduation Composition and Communication Requirement		GDY= Global Dynamics
College of Arts & Sciences Abbreviations	SS: Social Sciences	NS: Natural Sciences
		HUM: Humanities

Author: Dr. Mark Prendergast, Director of Neuroscience B.S. Program

Date: 1/17/18

Topic: Summary of motions to revise the NEUR curriculum:

1. Add new elective courses to the curriculum:

PGY 412G Human Physiology
PGY 502 Systems Physiology
PGY 431 Introduction to Neuroendocrinology
BIO 550 Comparative Physiology
BIO 410 Vertebrate Endocrinology

Rationale: These classes provide more breadth in the elective structure for both pre-med and non-pre-med students.

* BIO 315, CHEM 550/CHE 552 and BCH401G are options to be used to satisfy Program Core requirements. Include these courses in Group 2 electives so that those who do not use one or more of these to satisfy Program Core requirements may still use one or more of these courses as an elective.

* these courses may only count as electives if they are not used to satisfy Program Core requirements.

Rationale: These 3 courses can be used, as options, to satisfy Program Core Requirements. Adding them to the elective structure provides more flexibility for students wishing to focus their coursework on these areas IF they do not use these courses to satisfy Program Core Requirements.

2. Remove the requirement of 6 credit hours of independent research in neuroscience. Independent research in neuroscience is moved to the electives list. A maximum of 6 credit hours of independent research (regardless of prefix) may be used as electives.

Rationale: we have ~70 neuroscience faculty and more than 300 majors, as well as, the expectation that we will have 500 majors in two years. Like our benchmarks, we do not have enough labs to meet this requirement. Only 1 of our 11 benchmark institutions requires research. Research is an elective, however, and we encourage students seeking this opportunity to do so with vigor.

3. Change BIO 305 Introduction to Neuroscience Techniques to a 3 credit course by making lab 2.5 hrs (from 4 hrs) and lecture 50 min per week (from 2hrs per week).

Rationale: This proposed change will make BIO 305 (a required “hands-on” techniques class) more similar to other 300-level STEM lecture/labs. This change will also significantly increase the flexibility that majors have in scheduling courses as the extensive time-commitment of the present structure has created difficulties in doing so.

4. Remove the requirements of completing a second lecture/lab sequence in organic chemistry and physics. Options for a second organic and physics lecture/lab sequence is moved to the electives list. Pre-med students will use those courses as electives to satisfy UK/UL pre-med requirements.

Rationale: 75% of neuroscience majors at UK, and Nationally, self-identify as “pre-med” at the start of their freshman year. Less than 10% will go to medical school. While a second organic and physics class are required by most medical schools at this point, removing the requirement of a second organic and physics class will allow the large major of neuroscience majors to keep this major once it becomes apparent that medical school is not their preferred next step. We have many non-pre-med majors (pre-pharmacy/nursing/physical therapy/physicians assistant/graduate school), who do not need to take the second sequence of organic or physics courses with labs.

As part of the Program Core, students must take PHY 211 (5 credit hours with lab) or PHY 231 (4 credit hour lecture) and PHY 241 (1 credit hour lab).

Pre-med students will chose either PHY 213 (5 credit hours with lab) OR PHY 232 (4 credit hour lecture) and PHY 242 (1 credit hour lab) from the electives list to satisfy pre-med requirements.

5. Collapse the four elective categories currently available into two elective groups. Require that 12 credit hours be taken from elective Group 1, which has more neuroscience-specific courses listed.

Rationale: The University does not offer enough courses that fit, specifically by discipline, into the elective categories labeled “cellular/molecular”; “physiology”; “neuroanatomy”. Thus, we propose to create only two elective course groupings with non-specific titles. Doing so allows the program to group courses by relative importance of the content area, rather than by the specific discipline. The proposed structure requires that more elective courses from Group 1 are taken because those courses contain the content that is most representative of the discipline of neuroscience. Group 2 electives are clearly relevant to the discipline, but are less specific in content.

This new structure will allow student significantly more flexibility in both: (1) identifying electives that fit into their schedules and (2) tailoring their coursework to satisfy their own, individual interests in neuroscience.

Harmon, Camille

From: Mathews, Alice
Sent: Thursday, January 4, 2018 1:11 PM
To: OSPIE; Prendes, Mark A; Harmon, Camille
Subject: Program Change

Mark,

Thank you for your emails regarding the proposed program change(s) to the **Bachelor of Science in Neuroscience (26.1501)**.

My email will serve 2 purposes: 1.) Next steps for SACSCOC, and 2.) Verification and notification that you have contacted the Office of Strategic Planning and Institutional Effectiveness (OSPIE)—a Senate requirement for proposal approval.

1. **Next steps for SACSCOC:** None required
2. **Verification that OSPIE has reviewed the proposal:** Based on the proposal documentation presented and Substantive Change Checklist, the proposed program changes (refer to list below) are not substantive changes as defined by University or SACSCOC, the university's regional accreditor. Therefore, no additional information is required by the Office of Strategic Planning & Institutional Effectiveness at this time. The proposed program change(s) may move forward in accordance with college and university-level approval processes.

List of Proposed Change(s):

1. Add three more electives
2. Remove 6 credit hour independent research requirement
3. Reduce length of BIO 305 to resemble other BIO lab formats
4. Remove requirements to take a second organic chemistry and physics course with lab
5. Change four categories of electives into two
6. Create honors designation

Should you have questions or concerns about UK's substantive change policy and its procedures, please do not hesitate contacting me.

Alice Mathews



Substantive Change Checklist¹

Substantive change, according to the Commission on Colleges of the Southern Association of Colleges and Schools (SACSCOC or SACS), is “a significant modification or expansion of the nature and scope of an accredited institution.”² Substantive change is a federal concept, based in the regulations of the U.S. Department of Education,³ which regional accreditors are required to enforce.

The University is required to submit any substantive change to SACS for review, and in some cases approval, prior to implementation of such substantive change. As noted by SACS:

“if an institution fails to follow the substantive change policy and procedures of the Commission on Colleges, it may lose its Title IV funding or be required by the U.S. Department of Education to reimburse it for money received by the institution for programs related to the unreported substantive change. In addition, the institution’s case may be referred to the Commission for the imposition of a sanction or for removal from membership.”⁴

Checklist Instructions: To ensure substantive change compliance, individuals should complete the checklist on the following pages in the early stages of any proposal (e.g. new degree program, new certificate program, etc.) or curricular revision. Upon completion, the form must be submitted to the associate provost for institutional effectiveness or designee by e-mail to InstitutionalEffectiveness@uky.edu. A determination as to whether the proposed program or changes to the existing program constitutes a substantive change will be made within seven (7) business days of receipt and next steps will be communicated accordingly.

Questions concerning substantive change are to be directed to Dr. GT Lineberry, associate provost for faculty advancement and institutional effectiveness (gt.lineberry@uky.edu) and Dr. Mia Alexander-Snow, director of planning and institutional effectiveness (mia.alexander-snow@uky.edu).

¹ Adapted, with appreciation, from University of Virginia’s “Substantive Change Checklist.”

² See *Substantive Change for Accredited Institutions of the Commission on Colleges: Policy Statement*, p. 1.

³ See 34 C.F.R. § 602.22.

⁴ See *Substantive Change for Accredited Institutions of the Commission on Colleges: Policy Statement*, p. 9.

University of Kentucky

Substantive Change Checklist

Instructions: Email completed form to: InstitutionalEffectiveness@uky.edu, Subject line: SACSCOC Sub Change
 Questions concerning substantive change are to be directed to Dr. GT Lineberry, associate provost for faculty advancement and institutional effectiveness (gt.lineberry@uky.edu) and Dr. Mia Alexander-Snow, director of planning and institutional effectiveness (mia.alexander-snow@uky.edu).

Name of Proposed Program/Action: Neuroscience B.S. Program

Total number of Credit hours for Degree Completion (if applicable): 120

Total number of Credit Hours for Program Major (if applicable):

Sponsoring College: Arts and Sciences

College/Department Contact: Robin Cooper/Mark Prendergast

Date: 12-17-17

SACSCOC Substantive Change Items	Yes	No	Don't Know	Provide brief explanation (if necessary)
The proposed program or existing program requires a <u>number of new faculty.</u>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<u>More than 25 percent of the required courses</u> for the proposed or existing program <u>are new.</u>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<u>More than 50 percent of the required courses</u> for the proposed or existing program <u>are new.</u>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
The proposed or existing program requires new library or other learning resources.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

SACSCOC Substantive Change Items	Yes	No	Don't Know	Provide brief explanation (if necessary)
The proposed or existing program requires new equipment or facilities.		X		
The proposed or existing program requires a new resource base.		X		
The proposed or existing program will initiate a <u>branch campus</u> .		X		
The proposed or existing program will initiate a <u>dual degree program with another institution</u> .		X		
The proposed or existing program will initiate a <u>joint degree program with another institution</u> .		X		
The proposed or existing program will initiate a <u>certificate program</u> ? (if yes, answer the following)		X		
<ul style="list-style-type: none"> Will the proposed certificate program utilize existing courses? 				
<ul style="list-style-type: none"> Will the proposed certificate program be offered at a new off-Grounds site? 				
<ul style="list-style-type: none"> Does the proposed certificate program represent a significant departure from previously approved programs? 				
The proposed or existing program will be initiated <u>at a new off-Grounds site</u> ? (if yes, answer the following)		X		
<ul style="list-style-type: none"> Will a student be able to earn 50 percent or more of program credits <u>at the site</u>? 				
<ul style="list-style-type: none"> Will a student be able to earn 25 to 49 percent of program credits <u>at the site</u>? 				

SACSCOC Substantive Change Items	Yes	No	Don't Know	Provide brief explanation (if necessary)
<ul style="list-style-type: none"> Will a student be able to earn 24 percent or less of program credits <u>at the site</u>? 				
The proposed or existing program will be at an <u>existing off-Grounds site</u> ? <i>(if yes, answer the following)</i>		x		
<ul style="list-style-type: none"> Does the proposed program represent a significant departure from previously approved programs [at the existing site]? 				
The proposed or existing program will be offered via distance education. <i>(if yes, answer the following)</i>		x		
<ul style="list-style-type: none"> Will more than 50 percent of the program be offered via distance education? 				
<ul style="list-style-type: none"> Will 25-49 percent of the program be offered via distance education? 				
<ul style="list-style-type: none"> Will less than 25 percent of the program be offered via distance education? 				
The proposed or existing program or courses will be initiated through contractual agreement or consortium.		x		
The proposed or existing program will relocate an existing off-Grounds site.		x		
The change to the existing program will <u>significantly alter the length of the currently approved program</u> .		x		
The proposed or existing program will initiate a degree completion program.		x		
The proposed program will close an existing program.		x		

February 20, 2018

Dear Undergraduate Council,

On behalf of the faculty of the College of Arts and Sciences, the Education Policy Committee discussed and approved the BIO Neuroscience undergraduate program change 6:0:3 on Tuesday, February 20, 2018.

Sincerely,



Rynetta Davis
Chair, Education Policy Committee

Prendergast, Mark

From: Morris, Ann
Sent: Thursday, January 4, 2018 3:47 PM
To: Prendergast, Mark; Cooper, Robin
Cc: Gibson, Jaclyn
Subject: Documentation of motions passed by BIO faculty

Dear Mark,

The BIO faculty met on October 20, 2017 and again on November 17, 2017, and approved, by majority, the following motions presented by Dr. Robin Cooper.

#1. Remove the requirement of 6 hours of independent research and allow this to be chosen as an elective with group 2 courses. However, if a student takes research hours these can count as upper electives.

#2. Add the following new courses to the NEUR elective structure:
PGY 412G- Human Physiology
PGY 431 Introduction to Neuroendocrinology
PGY 502 Systems Physiology to the NEUR elective structure.
BIO550 Advanced Physiology
BIO 410 Vertebrate Endocrinology

#3. Change Bio 305 from the current ~ 2 hour lecture /week and a 4 hour lab to one 50 min lecture and a 2:50 min lab once a week.

#4 Require only 1st semester organic chemistry and 1st semester physics and place the 2nd semester of organic chemistry in the NEUR curriculum elective structure.

#5 Place BIO315, CHEM550, and BCH401G in NEURO curriculum elective structure. As part of the Program Core, they can choose to take 1 of these. They will then have the option to take the other 2 courses as Group 2 electives

#6 Collapse electives into Group 1 (previously A, B, C) and Group 2 (previously D) Friendly Amendment to motion in Groups 1 & 2: Remove Psych 312 from Group 1 and place into Group 2

Best wishes,
Ann

Ann C. Morris, Ph.D.
Department of Biology
215 T.H. Morgan Building
University of Kentucky
Lexington, KY 40506-0225
859-257-8823



College of Arts and Sciences
Department of Psychology
125 Kastle Hall
Lexington, KY 40506-0044
859 257-9640
fax 859 323-1979
www.uky.edu

January 3, 2018

Dear Colleagues,

I am writing this letter as Director of the Undergraduate Neuroscience Program in the College of Arts and Sciences. On December 8th, 2017 and December 15th, 2017, the Faculty of Record of this program reviewed and approved each of the proposed changes to the NEUR curriculum outlined in this document.

Should you have any questions regarding these proposed changes, please contact either me or Dr. Robin Cooper at your convenience.

Sincerely,

Mark A. Prendergast, Ph.D.
University Research Professor
Director, Undergraduate Neuroscience Program

Prendergast, Mark

From: Dutch, Rebecca
Sent: Monday, December 11, 2017 9:01 PM
To: Prendergast, Mark
Subject: RE: undergraduate neuroscience program revision proposals
Attachments: image001.jpg; image002.png; image003.jpg; image004.png

Mark,

I am writing to indicate the support of the College of Medicine for the proposed modifications to the Neuroscience major. As you know, this major has been a very successful collaboration between three departments and two colleges, and the enthusiasm of students has resulted in very rapid growth. The proposed changes will allow more flexibility for the many students in the major while still keeping the rigorous nature of the program, and thus are fully warranted.

We look forward to continuing to work with you on this important major,

Becky Dutch

Rebecca Dutch
Professor and Interim Chair, Department of Molecular and Cellular Biochemistry Associate Dean for Biomedical Education University of Kentucky College of Medicine

From: Prendergast, Mark
Sent: Monday, December 04, 2017 12:55 PM
To: Dutch, Rebecca
Subject: RE: undergraduate neuroscience program revision proposals

Dear Becky,

Thank you for taking the time to meet with Robin Cooper, Michael Kilgore and I this morning, to discuss proposed changes to the undergraduate neuroscience program curriculum. We value your input and that of other College of Medicine colleagues.

As we discussed, I believe that a letter or email response from you demonstrating your support for all of the proposed changes would be valuable as these changes are reviewed at the college and university level. An email response to this will suffice.

Regards,
Mark

Mark A. Prendergast, Ph.D.
University Research Professor
Director, Neuroscience B.S. Program
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[Home][cid:image002.png@01D101A2.6A331F40]

From: Prendergast, Mark
Sent: Saturday, December 02, 2017 4:18 PM
To: Dutch, Rebecca <rebecca.dutch@uky.edu>
Subject: undergraduate neuroscience program revision proposals

Hi Becky,

Attached, you will find the motions describing proposed revisions to the undergraduate neuroscience program. All of these have been approved by the BIO faculty and several friendly amendments have been added.

I apologize for the lateness of sending to you. Robin Cooper and I had hoped to distribute to you yesterday, but were waiting for our College to confirm some details. We received that feedback late yesterday and have finalized the document today.

College of Medicine/Arts and Sciences faculty have been sent this list of motions, as well. I discussed these in detail with Bret Smith, Jim Geddes. Also, Melinda Wilson and Luke Bradley are on the executive committee of our program and have been discussing the proposed changes with other COM faculty.

Alan Daugherty has given me written confirmation of his agreement to have the PGY courses added to the elective structure (as have other Chairs).

Robin and I will see you at 11 am Monday, to provide more detail and to hear any feedback that you may have. As a reminder, the faculty of record have been invited to open forum this coming Monday, at 4 pm in room 321 of JSB so that Robin and I can answer any questions that they may have.

Regards,
Mark

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Prendergast, Mark

From: Al Shapere <shapere@g.uky.edu>
Sent: Wednesday, January 17, 2018 4:20 PM
To: Prendergast, Mark
Cc: Shapere, Alfred; Cooper, Robin; Harmon, Camille
Subject: Re: FW: supporting documentation for NEUR curriculum change proposal

Dear Mark,

On behalf of the Department of Physics and Astronomy I support moving PHY 213 or PHY 232 and PHY 242 from the program core of the NEUR curriculum to the curriculum's elective structure.

Best regards,

Al

On Wed, Jan 17, 2018 at 2:09 PM, Prendergast, Mark <mark.prendergast@uky.edu> wrote:

> Dear Dr. Shapere,

>

> As part of a proposed restructuring of the neuroscience curriculum, the College of Arts and Sciences requires a note from you stating, verbatim, that you "support moving PHY 213 or PHY 232 and PHY 242 from the program core of the NEUR curriculum to the curriculum's elective structure" ?

> The College needs this in an email reply to this email by tomorrow.

> Would you kindly reply to this email stating what is in bold above ?

>

> I am cc'ing our program's DUS, Robin Cooper

>

> Regards,

>

> Mark

> Mark A. Prendergast, Ph.D.

> University Research Professor

> Director, Neuroscience B.S. Program

> Spinal Cord and Brain Injury Research Center University of Kentucky

> B449 BBSRB

> 741 South Limestone St.

> Lexington, KY 40536

> telephone: (859) 257-6120

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> <http://psychology.as.uky.edu/users/prender><https://exchange.uky.edu/owa/redir.aspx?C=W0qFw6jNgUGlSyEO24mVuGMloQWultEIS4ltnKrWbHY--_lyf47OGgjRFPyGHh12sWm-84b8Vps.&URL=http%3a%2f%2fpsychology.as.uky.edu%2fusers%2fprender> [Home][cid:image002.png@01D2DFA3.COCD5E0]

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>

>

> From: Prendergast, Mark

> Sent: Thursday, January 4, 2018 3:06 PM

> To: Shapere, Alfred <alfred.shapere@uky.edu>

> Cc: Cooper, Robin <rlcoop1@uky.edu>

> Subject: supporting documentation for NEUR curriculum change proposal

>
>
> Dear Dr. Shapere,
>
> The Faculty of Record for the undergraduate Neuroscience program have been working on proposed revision to the program's curriculum, with the aim of enhancing the flexibility in our student's course scheduling and addressing the need for more breadth in course offerings.
> One of these proposals, approved by both the faculty of Biology and the more broad Faculty of Record for the undergraduate Neuroscience program, is to move PHY 213, PHY 232 and PHY 242 from the required program core category (they are optional core courses) to the curriculum elective structure.
> The College of Arts and Sciences will soon be reviewing these approved proposals and is requesting a specific endorsement from all Chairs who have courses in the proposal.
>
> To note, those NEUR majors who intend on taking the MCAT and apply to medical school will be advised to take either PHY 213 or PHY 232 and PHY 242 so as to meet UK and UL medical school requirements. Those not aiming for medical school may opt to take other electives.
>
> Would you please provide me with an email response indicating you "support moving PHY 213 or PHY 232 and PHY 242 from the program core of the NEUR curriculum to the curriculum's elective structure" ?
>
> The College requests that you include the bolded language above, in your reply to this email.
>
> If you have any questions regarding this proposal, I would be happy to discuss.
>
> Regards, and thank you for your support Mark
>
>
>
> Mark A. Prendergast, Ph.D.
> University Research Professor
> Director, Neuroscience B.S. Program
> Spinal Cord and Brain Injury Research Center
> University of Kentucky
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> <http://psychology.as.uky.edu/users/prendergast><https://exchange.uky.edu/owa/redir.aspx?C=W0qFw6jNgUGIsyEO24mVuGMloQWultEIS4ltnKrWbHY--_lyf47OGgjRFPyGHh12sWm-84b8Vps.&URL=http%3a%2f%2fpsychology.as.uky.edu%2fusers%2fprendergast>
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>

--
Prof. Alfred D. Shapere, Chair
Department of Physics and Astronomy
University of Kentucky

Prendergast, Mark

From: Daugherty, Alan
Sent: Monday, January 22, 2018 10:30 AM
To: Prendergast, Mark
Subject: Agreement to participate in the Neurosciences program

Dear Dr. Pendergast

After consulting with the faculty in the Department of Physiology, I am writing to approve the inclusion of the following courses as elective courses in the Neuroscience degree program in the College of Arts and Sciences.

PGY 412G- Human Physiology
PGY 502 Systems Physiology
PGY 431 Introduction to Neuroendocrinology
PGY 394 Independent Research in Neurobiology
and Neuroscience

Best wishes

Alan

Alan Daugherty, Ph.D., D.Sc., F.A.H.A
Associate Vice President for Research
Senior Associate Dean for Research, [College of Medicine](#)
Chair, [Department of Physiology](#)
Director, [Saha Cardiovascular Research Center](#)
Gill Foundation Chair of Preventive Cardiology
Professor of Physiology and Medicine
Editor-in-Chief, [ATVB](#)

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P | 859-323-3512 F | 859-257-3235
Skype - alandaugherty
e-mail - alan.daugherty@uky.edu
WEB SITE - <http://SahaCVRC.uky.edu>

Prendergast, Mark

From: Lorch, Robert
Sent: Thursday, January 4, 2018 5:15 PM
To: Prendergast, Mark
Subject: Re: supporting documentation for NEUR curriculum changes

Dear Mark:

I support moving PSY 393 from the core curriculum for Neuroscience majors to elective status.

Bob

Robert F. Lorch, Jr.
Professor & Chair
Department of Psychology
University of Kentucky
859-257-6826
rlorch@email.uky.edu

From: Prendergast, Mark
Sent: Thursday, January 4, 2018 2:52:17 PM
To: Lorch, Robert
Subject: supporting documentation for NEUR curriculum changes

Dear Bob,

I apologize for the many emails related to our proposed changes in the undergraduate Neuroscience curriculum. The College of Arts and Sciences has reviewed our proposal and is requesting more specific endorsement from all Chairs who have courses in the proposal.

Would you please provide me with an email response indicating you support moving PSY 393 from the program core of the NEUR curriculum to the curriculum's elective structure ?

Regards, and thank you for your support
Mark

Mark A. Prendergast, Ph.D.
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<http://psychology.as.uky.edu/users/prender>

Prendergast, Mark

From: Smith, Bret
Sent: Thursday, January 4, 2018 3:40 PM
To: Prendergast, Mark
Subject: RE: supporting documentation for NEUR curriculum changes

Dear Mark,

Per the proposed changes to the undergraduate Neuroscience Major curriculum that were approved by the Faculty in the major, I support moving ANA 394 from the Program Core of the Neuroscience major to the curriculum's elective structure.

Sincerely,

Bret N. Smith, Ph.D.
Interim Chair, Department of Neuroscience
Univ. of Kentucky College of Medicine

From: Prendergast, Mark
Sent: Thursday, January 04, 2018 2:52 PM
To: Smith, Bret
Subject: supporting documentation for NEUR curriculum changes

Dear Brett

I apologize for the many emails related to our proposed changes in the undergraduate Neuroscience curriculum. The College of Arts and Sciences has reviewed our proposal and is requesting more specific endorsement from all Chairs who have courses in the proposal.

Would you please provide me with an email response indicating that you support moving ANA 394 from the program core of the NEUR curriculum to the curriculum's elective structure ?

Thank you for your support
Mark

Mark A. Prendergast, Ph.D.
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Prendergast, Mark

From: Meier, Mark
Sent: Wednesday, January 10, 2018 10:50 AM
To: Prendergast, Mark
Subject: Re: supporting documentation for NEUR curriculum revision proposal

Hi Mark - The Department of Chemistry supports moving CHE 232 and CHE 233 from the required program core of the NEUR curriculum to the elective part of the curriculum. This Department will continue to make these courses available to all NEUR students who wish to have a deeper understanding of the structure and reactivity of organic molecules, as needed for advanced courses in biochemistry or other disciplines.

Mark Meier
Professor and Chair
Department of Chemistry

Brothers, Sheila

From: Prendergast, Mark
Sent: Friday, September 14, 2018 1:03 PM
To: Brothers, Sheila
Subject: FW: one more letter, sorry

Hi Sheila,

Interim Chair Ann Morris provided confirmation that she and BIO approved adding BIO 410 and 550 to the neuroscience curriculum in the email below (in highlights)

The ENT course was removed from the proposal, but we forgot to delete mention of it.

Are these two issues now resolved ?

thanks

Mark

From: Morris, Ann
Sent: Monday, December 11, 2017 9:14 AM
To: Prendergast, Mark <mark.prendergast@uky.edu>
Subject: Re: one more letter, sorry

Dear Mark,

I am happy to confirm that the Biology faculty approved each of the eight motions listed below at our last two faculty meetings.

Best,
Ann

Ann C. Morris, Ph.D.
Associate Professor
Interim Chair
Department of Biology
215 T.H. Morgan Building
University of Kentucky
Lexington, KY 40506-0225
859-257-8823

From: Prendergast, Mark
Sent: Monday, December 11, 2017 9:06 AM
To: Morris, Ann
Subject: one more letter, sorry

Hi Ann,

Would you please reply to this email indicating that the BIO faculty approved each of the 8 motions to change the Neuroscience undergraduate curriculum below ? Mark

Motions for the Faculty of Record (all passed by Biology Dept in 2 separate faculty meetings)

#1. Remove the requirement of 6 hours of independent research and allow this to be chosen as an elective with group 2 courses. However, if a student takes research hours these can count as upper electives. Only up to 6 hours may count toward the major. Can only take 3 hours of research within a semester.

#2. Add new courses available for the major and minor

PGY 412G- Human Physiology (every semester and summer) (4)

PGY 502 Systems Physiology (5) (Fall)

PGY 431 Introduction to Neuroendocrinology (3) (Fall)

PHA 425G: PHA 425G: Neuropharmacology: Treating Disorders of the Brain

ENT 509 Brains & Buds: Neuroscience of pollination (3) (Spring 2018 1st time)

BIO550 Advanced Physiology (3) (FALL)

BIO 410 Vertebrate Endocrinology (3) (Spring)

#3. Change Bio 305 from the current ~ 2 hour lecture /week and a 4 hour lab to one 50 min lecture and a 2:50 min lab once a week (there are multiple lab sections and 1 lecture sections)

BIO 305 would require an official course change as this would be dropping from 4 to 3 credits.

#4. To increase the current list of courses for the minor to all courses in electives Group 1 and Group 2 of the newly proposed listings.

#5. To establish a Neuroscience Scholars as listed below for the requirements.

Any student working toward the requirements below is considered a Neuro Scholar.

The student needs to be a DECLARED neuro major to earn departmental scholars in neuroscience.

Any student who completes the below requirements earns Neuro Departmental Honors.

The Scholars program in the Neuroscience major will consists of these requirements:

Obtaining a minimum GPA of 3.5

A 6 credit hour independent research experience

A scientific presentation at a conference, including one on campus or nationally.

Complete two scholars courses or two 400G*,500 or 600** level or a

combination of a scholars course and a 400G/ 500/600 BIO course.

The list of courses that fulfill this requirement can be found below.

Complete 6 hours of BIO 394, PSY 393 and ANA 394 (Independent Research)

Publically present your research results or write a thesis.

Presentations can take many forms such as a talk or poster at a professional meeting or to some other group larger than a research lab. The

University hosts an undergraduate research poster session late in each

spring semester. A thesis is also acceptable (see UK thesis guidelines); contact DUS for more information on the thesis.

Group 1

ANA 442 Molecular and Cellular Neurobiology (3) (Spring)

Prereq: BIO 152 or an equivalent; BIO 302 or PSY 312, or consent of course director.

ANA 417G Functional Human Neuroanatomy (3) (Every Spring)

Prereq: BIO 302 Introduction to Neuroscience.

BIO 410: Vertebrate Endocrinology (3) (Every Spring)

Prereq: one of the following courses: BIO302, BIO350, BIO315.

***BIO 510 Recombinant DNA Techniques Laboratory (4) (every Fall)**

Prereq: BIO 315 or BCH 401G or equivalent and consent of instructor. (Same as MI 515.)

BIO 440 Comparative and Functional Neuroanatomy (4) (Every other spring)

Prereq: BIO 302 or consent of instructor.

BIO 446 Neurophysiology Lab (3) (Fall)

Prereq: BIO 302 or BIO 350 or consent of instructor.

BIO 535 Comparative Neurobiology and Behavior (3) (Spring)

Prereq: BIO 350 or consent of instructor. (Same as PGY 535.)

CHE 556 Elements of Neurochemistry (3) (Spring)

Prereq: CHE 232 and a biological chemistry course, or consent of instructor.

PSY 312 Brain and Behavior (3) (Fall and Spring)

Prereq: PSY 100 or equivalent and PSY 215 or PSY 216 or STA 296 and declared major or minor in psychology or neuroscience. Registration is open only to psychology and neuroscience majors during the priority registration window.

PGY 502 Systems Physiology (5) (Fall)

Prereq: One year each, physics, general chemistry;PGY 206 or its equivalent. (Same as BIO 502.)

PGY 431 Introduction To Neuroendocrinology (3) (Fall)

Prereq: PGY 206, BIO 302, or BIO 350 or instructor approval.

Group 2

ANA 394 Independent Research in Neurobiology and Neuroscience

or

BIO 394 Research in Neuroscience

or

PSY 393 Research in Neuroscience

or

PGY 394 Research in Neuroscience Up to 6 hours

..... (can only take 3 hrs per semester)

ANA 410G Neurobiology of Brain and Spinal Cord Disorders (3) (Spring)

Prereq: For undergraduate students: BIO 302 or PSY 312 or consent of course directors. For graduate students: Enrollment in a graduate program in biomedical sciences, gerontological sciences or consent of one of the course directors.

ANA 4XX Brain, Body and Mind (3) (Spring)

[This course is in the process of being converted to a 400 level course]

HON 301-002: Brain, Body and Mind (Don Gash) (Fall past syllabus)

Prereq: At least two Honors colloquia and membership instructor. in good standing in Honors Program or consent of instructor.

*ANA 516 Selected Topics in Advanced Neuroscience (3)

*ANA 605 Neurobiology of CNS Injury and Repair (3)
(not to be listed in UK bulletin but could be used for major)

BIO 375 Behavioral Ecology and Sociobiology (3) (Fall)
Prereq: A year of introductory biology (BIO 150/152).

BIO 447 Animal Senses (3) (Given intermittently)
Prereq: BIO 350 or PGY 412G or permission of instructor.

BIO 507 Biology of Sleep and Circadian Rhythms (3) (Spring)
Prereq: BIO 304 or BIO 302 or consent of instructor.

BIO550 Advanced Physiology (3) (FALL)
Prereq: One year college chemistry, BIO 350 or equivalent, one year college physics or consent of instructor.

*BIO 638 Developmental Neurobiology..... 3
(not to be listed in UK bulletin but could be used for major)

CGS 500 Cognitive Science in Theory and Practice (3) (Fall)
Prereq: Upper-class standing.

CHE 232 Organic Chemistry II.....3
CHE 233 Organic Chemistry Laboratory II..... 1
Prereq: 1st semester of Organic Chemistry

CSD 571 Neural Bases of Speech, Language, and Hearing (3) (Fall)
Prereq: CSD 378 or permission of the instructor.

ENT 509 Brains & Buds: Neuroscience of pollination (3) (Spring 2018 1st time)
Prereq: A 300+ level course in Biology, Neuroscience, Chemistry, Biochemistry, Psychology, Entomology, Horticulture, Plant & Soil Sciences, or permission from instructor

PHA 425G Neuropharmacology: Treating Disorders of the Brain (TBA semster) (3)
PHA 421G or consent of the course director.

PHY 213 General Physics..... 5

or

PHY 242 General University Physics Laboratory
Prereq: 1st semester of Physics

PGY412G Human Physiology (4) (Fall, Spring, Summer-online)
Prereq: One year biology or PGY 206.

PSY 459 Neuropharmacology: Drugs and Behavior (3) (Fall and Spring)
Prereq: PSY 215 and PSY 312, or BIO 148 or equivalent.

Note that permission of the Dean of the Graduate School is required to register for these courses:

***BIO 638 Developmental Neurobiology (3) (Fall)**

Prereq: BIO 535 or consent of instructor. (Same as ANA/PGY/PSY 638.)

***ANA 605 Neurobiology of CNS Injury and Repair (3) (Fall)**

However, a background in neuroanatomy and neurophysiology is highly recommended. Prereq: Permission of instructor. (Same as PGY 605.)

List potential study abroad courses as they appear:

PSY 459 Neuropharmacology: Drugs and Behavior (an elective for the NEUR majors/minors).
Summer 2018 (UK Course)

* Permission of instructor required.

Mark A. Prendergast, Ph.D.
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