Wilkes University Curriculum Committee

PROPOSAL SUBMITTAL FORM

Directions:
- Use this set of forms for all proposals sent to the Curriculum Committee.
- Pages 1-3 of this document are required. Any unnecessary forms should be deleted from the packet before submissions. If multiple forms are needed (course addition, course deletion, etc), simply copy and paste additional forms into this packet.
- Note that all new programs (majors and minors), program eliminations, significant program revisions and all general education core revisions must be reviewed and approved by the Provost and Academic Planning Committee (APC) prior to submission to the Curriculum Committee. The Provost will make the decision if a program revision requires APC review.
- Completed and signed forms are due no later than the second Tuesday of every month. Submit one signed original hard copy and a scanned electronic copy with all signatures to the Chair of the Curriculum Committee.

1. Originator: Name Ed Schicatano
   Department Psychology
   Phone and email 570-408-4566 edward.schicatano@wilkes.edu

2. Proposal Title: Coursework for new B.S. major in Neuroscience

3. Check only one type of proposal: (double click on the appropriate check box and change default value to “checked”).

X New Program. (Major or Minor Degree Programs). This requires prior review and approval by the Provost and APC.

☐ Elimination of Program. (Major or Minor Degree Programs). This requires prior review and approval by the Provost and APC.

☐ Program Revision. Significant revisions to a program require review and approval by the Provost. The Provost determines if review and approval by APC is necessary.

☐ General Education Revision. Submissions only accepted from the General Education Committee (GEC). Must be reviewed and approved by the Provost.

☐ Creation of new departments, elimination of existing department. This requires prior review and approval by the Provost and APC.

☐ Course additions or deletions not affecting programs (such as elective courses, transition of “topics” courses to permanent courses).

☐ Change in course credit or classroom hours.

☐ Incidental Changes. Includes changes in course/program title, course descriptions, and course prerequisites. (Although these changes do require approval by the Curriculum Committee, they do not go before the full faculty for approval).

☐ Other (Specify)
4. Indicate the number of course modification forms that apply to this proposal:

0 Course Addition Form (plus syllabi)
0 Course Deletion Form
0 Course Change Form

5. Executive Summary of Proposal.
Briefly summarize this proposal. The breadth and depth of this executive summary should reflect the complexity and significance of the proposal. Include an overview of the proposal, background and reasoning behind the proposal and a description of how the proposal relates to the mission and strategic long-range plan of the unit and/or university. For incidental changes a one or two sentence explanation is adequate.

This proposal represents the creation of an interdisciplinary major in Neuroscience (specifically offering a B.S. in Neuroscience).

Neuroscience is the study of the structure and function of the central nervous system, with a special focus on the brain. Neuroscience is an interdisciplinary field, and is one of the fastest growing field in academia due to explosive growth of research and interest in the neural sciences in the past two decades. Wilkes has already established a successful Neuroscience minor. With research opportunities across the disciplines available, students will receive rigorous research training that will make them competitive for admission into top notch graduate programs.

The mission of the Neuroscience Program is to provide students with a comprehensive program that emphasizes a scientific approach to the study of the complex interactions between behavior, cognition and neurological processes. Inherent within this mission is a focus on understanding and thinking critically about research in the field of Neuroscience. The program’s goals emphasize effective oral and written communication skills, culminating in a capstone research experience.

The Neuroscience Program shares with the University a commitment to educate individuals in a manner that provides a breadth of experience common to all students. A rigorous curriculum with a strong scientific foundation will be followed to promote continuation of individual’s education at the graduate level.

The Neuroscience major will distinguish itself as one that: 1) Provides an outstanding, undergraduate experience that will prepare the individual for post-baccalaureate study in the fields of Neuroscience, and the Health and Life Sciences, 2) will foster critical thinking in the discipline of Neuroscience, and 3) requires that students, with a strong general science foundation, demonstrate a mastery of the scientific methods used to conduct Neuroscience research.

Because of its interdisciplinary nature, the Neuroscience Program will utilize the expertise of faculty from disciplines ranging from Psychology, Biology, Biochemistry, Chemistry, Physics, and Pharmacy. Students will become well versed in the methodology of the Sciences, and
employ these methods to facilitate research conducted with faculty from the areas mentioned. Throughout their academic experience, students will be encouraged to be involved in research with faculty in other disciplines, even if the research is not directly related to Neuroscience. Lastly, the program will serve as an academic and research bridge between these departments, with the students benefiting the most from a diverse perspective.

Dr. Ed Schicatano will handle the day-to-day operations of the program. Another faculty member in the area of Behavioral Neuroscience will be hired by the Department of Psychology, and in the area of Molecular/Cellular Neuroscience will be hired by the Department of Biology - for the program to teach additional research and seminar courses in the field.

Initially, the Neuroscience program will be part of the Dept. of Psychology, which is in the Division of Social and Behavioral Sciences, and so it will be housed with the Dept. of Psychology in Breseth Hall. The Neuroscience program will not require any additional secretarial support, as the program will be housed in the Division of Social and Behavioral Sciences.

The plan is to offer the Neuroscience major in the fall of 2015. Since all of the coursework is already in place at Wilkes, a repackaging of courses will allow for an expeditious creation of this new major. Note; A new “topics” course in Neuroscience may be introduced within the next two years.

The fall of 2015 will be the first semester in which Wilkes offers a B.S. in Neuroscience. Assessment and annual reporting of program performance will be accomplished yearly. Two new faculty members (two new lines will be created) will be added for the fall of 2016. Dr. Schicatano will receive a 1 course reduction/semester for his role as coordinator of the Neuroscience major.

6. Other specific information. (Not applicable for incidental changes.)

What other programs, if any, will be affected by this proposal? Describe what resources are available for this proposal. Are they adequate? What would be the effect on the curriculum of all potentially affected programs if this proposal were adopted? Include any potential effects to the curriculum of current programs, departments and courses.

A Neuroscience major will likely draw some current students from Biology and other Sciences, as well as Psychology. Since the Psychology and Biology Departments at Wilkes have some of the highest student enrollment numbers on campus, the effects of losing a few students will be minimal. Additionally, with a slight focus in training on the behavioral aspects of Neuroscience, our program will recruit students who are specifically interested in the Neural correlates of behavior/cognition (which is the majority of students looking to major in Neuroscience out of high school). Specifically, most high school students who consider majoring in Neuroscience are interested in the neural control of behavior in disorders such as; Parkinson's Disease, Addiction, Pain, Depression, etc., Thus, the Neuroscience major at Wilkes
(with its behavioral slant) addresses this niche, and will allow Wilkes University to offer an attractive program in Neuroscience.

The Neuroscience major will bring new students to Wilkes who will need to take the foundational science courses mentioned below. The impact of these courses on the related departments has been discussed.
Neuroscience Schedule

First Semester Credits
BIO 121 – Principles of Modern Biology I
CHM 113 – Elements & Compounds Lab
CHM 115 – Elements & Compounds
FYF 101 – First Year Foundations
PSY 101 – General Psychology

Second Semester Credits
CHM 114 – The Chemical Reaction Lab
CHM 116 – The Chemical Reaction
ENG 101 – Composition
MTH 111 – Calculus
Distribution Requirement

Third Semester Credits
CHM 231 – Organic Chemistry I
CHM 233 – Organic Chemistry Lab
PSY 257 – Neuropsychology
3 Distribution Requirements

Fourth Semester Credits
PSY 200 – Statistics
BIO 226 – Cellular & Molecular Biology
3 Distribution Requirements

Fifth Semester Credits
PHY 171 – Princ. of Class & Mod Physics
BIO 321 – Mammalian Physiology or Neurophysiology
PSY elective (required)
Free elective

Sixth Semester Credits
PHY 174 – App. Of Class & Mod Physics
BIO, PSY or CHM elective
PSY 300 – Research Methods
PSY 359 – Psychopharmacology

Seventh Semester Credits
PSY 311 – Behavioral Neuroscience
BIO elective (required)
2 Free electives
PSY 400 – Capstone or Free elective

Eighth Semester Credits
Free electives or PSY 400 Capstone
### Neuroscience Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 121</td>
<td>4 credits</td>
</tr>
<tr>
<td>BIO 226</td>
<td>4 credits</td>
</tr>
<tr>
<td>BIO 321 or Neurophysiology</td>
<td>4 credits</td>
</tr>
<tr>
<td>One upper level Bio course</td>
<td>4 credits</td>
</tr>
<tr>
<td>CHM 115</td>
<td>4 credits</td>
</tr>
<tr>
<td>CHM 116</td>
<td>4 credits</td>
</tr>
<tr>
<td>CHM 231</td>
<td>4 credits</td>
</tr>
<tr>
<td>PHY 171</td>
<td>4 credits</td>
</tr>
<tr>
<td>PHY 174</td>
<td>4 credits</td>
</tr>
<tr>
<td>MTH 111</td>
<td>4 credits</td>
</tr>
<tr>
<td>PSY 101</td>
<td>3 credits</td>
</tr>
<tr>
<td>PSY 200</td>
<td>4 credits</td>
</tr>
<tr>
<td>PSY 300</td>
<td>4 credits</td>
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<tr>
<td>PSY 400</td>
<td>3 credits</td>
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<tr>
<td>PSY 257</td>
<td>3 credits</td>
</tr>
<tr>
<td>PSY 359</td>
<td>3 credits</td>
</tr>
<tr>
<td>PSY 311</td>
<td>4 credits</td>
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<tr>
<td>PSY 398 (Neuro seminar)</td>
<td>3 credits</td>
</tr>
<tr>
<td>One 300 level PSY class</td>
<td>3 credits</td>
</tr>
<tr>
<td>BIO, CHM or PSY elective</td>
<td>3 or 4 credits</td>
</tr>
</tbody>
</table>

**73 or 74 credits required**
8. Signatures and Recommendations. (please date)
   • Signatures of involved Department chair(s) and Dean(s) indicate agreement with the proposal and that adequate resources (library, faculty, technology) are available to support proposal.
   • If a potential signatory disagrees with a proposal he/she should write “I disagree with this proposal” and a signed statement should be attached to this submission.

Print Name/Title:
Department chair(s) of all potentially affected programs

Signature:
Date: 2-12-15

Print Name/Title: Thomas J. Baldino
Signature: Thomas J. Baldino
Date: 2-12-15
Dean(s) of any potentially affected College/School.

Print Name/Title: Registrar
Signature:
Date: 2-13-15

Print Name/Title: Provost (For new programs, significant revisions and revisions to the General Education Program revisions only).
Signature:
Date: 2-13-15

Provost should check here if this proposal is a program revision AND the significance of the revision requires review and approval by APC prior to Curriculum Committee.

Print Name/Title: Jeffrey A. Stratford
Signature:
Date: 2-11-15
Chair, Academic Planning Committee. For new programs, program revisions sent via the provost. Signature indicates that the proposal has been reviewed and approved by APC.

Print Name/Title: Chair, General Education Committee. For revisions to General Education program only. (Signature indicates that the proposal has been approved by GEC).
Donald Wencer, Chem Dept Chair  
Department chair(s) of all potentially affected programs  

Michael A. Strake, Biology Dept Chair/Stat  
Department chair(s) of all potentially affected programs  

Barbara Brackenfield, Math CS  
Department chair(s) of all potentially affected programs  

See attached letter  
I do not support
2/12/15

To: The Curriculum Committee

From: Barbara Bracken, Chair, Mathematics and Computer Science

Subject: Curriculum Proposal: Neuroscience Major

While I support the proposed Neuroscience Major and the requirement of MTH 111, Calculus I, I cannot support the proposal. Our MTH 111 sections are filled to capacity. The majority of our faculty are carrying an overload. We do not have resources to add additional sections of MTH 111. I do not support offering a curriculum in which the students may not be able to register for their required classes because the classes are filled.

Barbara Bracken