

Ogden College of Science and Engineering
Western Kentucky University
Office of the Dean
745-6371

REPORT TO THE GRADUATE COUNCIL COMMITTEE

DATE: November 13, 2013

FROM: Ogden College of Science and Engineering

The Ogden College of Science and Engineering submits the following items for consideration at the November meeting:

Action	Proposal to Create a New Course PSYS 525, Cognitive Neuroscience Contact: Sharon Mutter, sharon.mutter@wku.edu , 5-4389
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Members Present: Dr. Michael Smith, Dr. David Keeling, Dr. Zhonghang Xia, Dr. Ferhan Atici, Dr. Raja Dakshinamurthy, Dr. Daniel Jackson, Dr. Shane Palmquist, Ngoc Nguyen (guest)

Cathleen Webb, Chair

OLD BUSINESS

Keeling/Jackson moved approval of the minutes from the October 25, 2013. Motion approved.

NEW BUSINESS

Consent Agenda

Keeling/Palmquist moved approval of the Consent Agenda. Motion approved.

Action Agenda

Department of Math

Keeling/Palmquist moved approval of the proposal to create a new course, STAT 550, Statistical Methods II. Motion passed with suggested amendments.

Jackson/Dakshinamurthy moved approval to Revise Graduate Program 085, Master of Science in Mathematics. Motion passed with suggested amendments.

Ogden College of Science and Engineering
Department of Psychological Sciences
Proposal to Create a New Course
(Action Item)

Contact Person: Sharon A. Mutter, email: sharon.mutter@wku.edu, phone: 5-4389

1. Identification of proposed course:

- 1.1 Course prefix (subject area) and number: PSYS 525
- 1.2 Course title: Cognitive Neuroscience
- 1.3 Abbreviated course title: Cog Neuro
- 1.4 Credit hours and contact hours: 3 credit hours
- 1.5 Type of course: Lecture/Seminar
- 1.6 Prerequisites/corequisites: Graduate standing or permission of the instructor
- 1.7 Course catalog listing: Graduate level introduction to the functional role of brain structure and activity in cognition and behavior.

2. Rationale:

- 2.1 Reason for developing the proposed course: The study of the functional role of brain structure and activity in cognition and behavior has become increasingly important in the field of psychology. Students in the Psychological Science M.A. program currently take PSY 500 Trends and Scientific Approaches in Psychological Thinking to acquire knowledge of the neuroscience of cognition and behavior. PSY 500 was originally developed to allow faculty to present new developments and special topics in psychological research, but the actual topic of the course is not listed on students' transcripts. The proposed course will more clearly show on students' transcripts that they have covered cognitive neuroscience in their graduate program. This course will provide broad coverage of the cognitive and neural processes that underlie perception, attention, learning, memory, language, social cognition, decision-making, and judgment. It will also help students acquire knowledge of methodology in cognitive neuroscience that will support their ability to conduct neuroscience research in a laboratory setting. As such, the proposed course contributes to the WKU mission and strategic plan by providing the knowledge and tools that allow students to engage in high quality research, and scholarly activity at the university.
- 2.2 Projected enrollment in the proposed course: Based on current enrollment levels in PSY 500, the proposed course is expected to enroll an average of 15 psychology graduate students each time it is offered (every other year).
- 2.3 Relationship of the proposed course to courses now offered by the department: This course will integrate content offered in other psychology graduate courses. It is therefore recommended, but not required, that students take the course after PSY 523 Advanced Cognition and/or after PSY 580 Advanced Physiological Psychology.
- 2.4 Relationship of the proposed course to courses offered in other departments: There are no other departments at WKU that offer courses that are similar to the proposed course.

2.5 Relationship of the proposed course to courses offered in other institutions: Many psychology departments now have separate graduate programs in Cognitive Neuroscience and all of these programs include at least one course that focuses on cognitive neuroscience. In addition, several of our current and former benchmark universities with graduate programs similar to our own have courses that are either specifically devoted to cognitive neuroscience or have a strong focus on cognitive neuroscience. (For examples, see: Bowling Green State University PSYC 7100, Florida Atlantic University ISC 54653, Indiana State University PSY 654 & 654b, Middle Tennessee State University PSY 5240, Montclair State University PSYC 573, University of North Carolina – Charlotte PSYC 5316, Northern Arizona University PSY650, Oakland University PSY 521, University of Central Missouri PSY 5140.)

3 Discussion of proposed course:

- 3.1 Course objectives: At the conclusion of this course students will
- Appreciate the link between brain structure and cognitive function.
 - Identify the neuroanatomy associated with cognitive systems.
 - Understand and critically evaluate research in sub-disciplines of cognitive neuroscience (e.g., cognitive neuroscience of memory).
 - Understand the strengths and weaknesses of different cognitive neuroscience tools and methods.
 - Critically evaluate the coverage of cognitive neuroscience in the media.
- 3.2 Content outline: The course will consist of bi-weekly lectures and seminar presentations including, at a minimum, the following topics: Neurons: Structure, Function, & Connections, Gross and Functional Anatomy of the Brain, Measuring Neural Activity, Consciousness and Attention, Memory: From Cells to Systems, Learning, Decision Making & Judgment, Language, Emotion, Executive Function.
- 3.3 Student expectations and requirements: Students will be graded on their knowledge of course content via examination, seminar presentation and written summary, written review paper, and participation in seminar discussions.
- 3.4 Tentative texts and course materials:
- Baars, B. J., & Gage, N. M. (2010). *Cognition, brain, and consciousness: Introduction to cognitive neuroscience*, 2nd edition. Burlington, MA: Academic Press.
 - Purves, D, et al. (2013). *Principles of cognitive neuroscience*, 2nd edition. Sunderland, MA: Sinauer Associates.
 - American Psychological Association (2010). *Publication manual of the American Psychological Association*, 6th Edition, Washington, DC: APA.

4. Resources:

- 4.1 Library:
- Psychology indexing/abstracting/full-text services offered by the WKU library will provide adequate access to journal articles needed for this course.
 - Monographic reference works maintained by the library (e.g., Guide to Publishing in Psychology Journals; Mental Measurements Yearbook; Tests in Print) are adequate for this course.

4.2 Instructional technology: WKU's web-based instructional tools (i.e., Blackboard) will be used for this course. This technology is adequate for the needs of the professor and the students.

5. Budget implications:

- 5.1 Proposed method of staffing: Existing staff
- 5.2 Special equipment needed: None
- 5.3 Expendable materials needed: None
- 5.4 Laboratory materials needed: None

6. Proposed term for implementation: Fall 2014

7. Dates of prior committee approvals:

Department of Psychological Science: November 22, 2013

OCSE Curriculum Committee _____

Graduate Council _____

University Senate _____

Attachment: Bibliography, Library Resources Form, Course Inventory Form