Code # ED02(Rev)

**New/Special Course Proposal-Bulletin Change Transmittal Form**

**Undergraduate Curriculum Council** - Print 1 copy for signatures and save 1 electronic copy.

**Graduate Council** - Print 1 copy for signatures and send 1 electronic copy to [mmcginnis@astate.edu](mailto:mmcginnis@astate.edu)

|  |
| --- |
| **New Course or**  **Special Course (Check one box)**  *Please complete the following and attach a copy of the catalogue page(s) showing what changes are necessary.* |

|  |  |
| --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date… **Department Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **COPE Chair (if applicable)** |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date… **Department Chair:** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **General Education Committee Chair (If applicable)** |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date… **College Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Undergraduate Curriculum Council Chair** |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date… **College Dean** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Graduate Curriculum Committee Chair** |
|  | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Vice Chancellor for Academic Affairs** |

1. Proposed Course Prefix and Number (For variable credit courses, indicate variable range.)

PSY 3214

2. Course Title – if title is more than 30 characters (including spaces), provide short title to be used on transcripts. Title cannot have any symbols (e.g. slash, colon, semi-colon, apostrophe, dash, and parenthesis). Please indicate if this course will have variable titles (e.g. independent study, thesis, special topics).

Introduction to Neuroscience

3. Will this course be lecture only, lab only, lecture and lab, activity, dissertation, experiential learning, independent study, internship, performance, practicum, recitation, seminar, special problems, special topics, studio problems, student exchange, occupational learning credit, or course for fee purpose only (e.g. an exam)? Please choose one.

Lecture and Lab

4. What is the grade type (i.e. standard letter, credit/no credit, pass/fail, no grade, developmental)?

Standard Letter

5. Is this course dual listed (undergraduate/graduate)?

No

6. Is this course cross listed? (If it is, all course entries must be identical including course descriptions. It is important to check the course description of an existing course when adding a new cross listed course.)

No

7. Brief course description (40 words or fewer) as it should appear in the bulletin.

~~I~~ntroduction to the normal structure and function of the nervous system in relation to behaviors and experiences in humans and nonhumans with an integrated laboratory component. Topics include brain structure, physiology, development, drugs of abuse, bodily senses, and behavior. Prerequisites, MATH 1023; PSY 2013; BIOL 1003 and BIOL 1001; or permission of instructor. Special course fees may apply. Fall.

8. Indicate all prerequisites and if this course is restricted to a specific major, which major. (If a student does not have the prerequisites or does not have the appropriate major, the student will not be allowed to register).

a. Are there any prerequisites?

Yes. PSY 2013; BIOL 1003 and BIOL 1001; or permission of instructor.

b. Why?

Basic math skills and basic levels of understanding of the disciplines of psychology, and biology, as well as basic laboratory skills are required for mastering concepts and applications in the proposed course However, certain exceptions may apply. For instance, a student did not take BIOL 1003 and BIOL 1001 but a different life science gen education lecture and lab yet this student has also taken a more advanced biology course. In such cases, permission from the instructor to enroll may be requested.

9. Course frequency(e.g. Fall, Spring, Summer). Not applicable to Graduate courses.

Fall.

10. Contact Person (Name, Email Address, Phone Number)

Dr. Amy R. Pearce, Associate Professor of Psychology, Department of Psychology & Counseling, Arkansas State University, PO BOX 1560, St. University, AR 72467, [apearce@astate.edu](mailto:apearce@astate.edu), 870-972-3282

11. Proposed Starting Term/Year

Fall 2014

12. Is this course in support of a new program? No

If yes, what program?

No, but this course will support a new emphasis area in neuroscience to be offered within the Bachelor of Science in Psychology degree program.

13. Does this course replace a course being deleted? No

If yes, what course?

N/A

Has this course number been used in the past? No

*Submit Course Deletion Proposal-Bulletin Change Transmittal Form.*

14. Does this course affect another program? No, but initial concerns were raised by the Biological Sciences program. These concerns have been addressed.

If yes, provide contact information from the Dean, Department Head, and/or Program Director whose area this affects.

Dr. Tom Risch, Chair, Department of Biological Sciences, 870-972-3082, [trisch@astate.edu](mailto:trisch@astate.edu)

15. Justification should include:

a. Academic rationale and goals for the course (skills or level of knowledge students can be expected to attain)

Neuroscience is the discipline devoted to understanding the nervous system and its functional relation to the other systems of the body. Neuroscience is a growing interdisciplinary field encompassing a vast array of topics and disciplines. An introductory neuroscience course embedded within our psychology program would provide background for students interested in obtaining advanced degrees in neuroscience, psychology, biology, medical and health professions. It would also provide background for students interested in careers that involve rehabilitation, counseling, treatment of brain damage, neurological disorders, and working with the aging. Students will have the opportunity to learn content knowledge of this dynamic discipline and gain basic, yet relevant, hands-on technical and laboratory skills.

b. How does the course fit with the mission established by the department for the curriculum? If course is mandated by an accrediting or certifying agency, include the directive.

A recent survey of our student population revealed interest in a neuroscience course and emphasis area to be housed within our psychology program. Further, this course will increase the number of courses offered in our current ‘Psychology As a Natural Science’ grouping in our B.S. curriculum from 4 to 5. Historically, students have been required to select 2 courses from this grouping (or 50% of the offerings) and we are witnessing increased difficulty in accommodating students. This course will expand this grouping and provide students with another option.

c. Student population served.

Undergraduate students of junior or senior classification will be served, particularly students majoring or minoring in psychology, or students majoring in interdisciplinary studies who have selected an academic area in psychology. This course may also be counted as an upper-level general elective for any undergraduate student and is likely to appeal to students with an interest in neuroscience.

d. Rationale for the level of the course (lower, upper, or graduate).

This course is appropriate for an upper-level undergraduate course. Students will be required to conduct library searches, read empirical and technical reports, engage in laboratory activities, interpret research findings, master complex concepts, and effectively express themselves in oral and written form.

16. Outline (The course outline should be topical by weeks and should be sufficient in detail to allow for judgment of the content of the course.)

Week 1: Introduction to neuroscience: The brain and behavior

Week 2: Nerve cells and behavior

Week 3: The cell membrane and action potential: *Electrical signaling lab with cockroaches or earthworms.*

Week 4: Communication at synapses

Week 5: Neurotransmitters: Locations, functions, and associated human disorders

Week 6: Drugs of abuse: *Virtual psychopharmacology lab.*

Week 7: Exam 1

Week 8: Human brain Imaging and other techniques in neuroscience

Week 9: The human and nonhuman brain: *Sheep brain dissection lab.*

Week 10: Blood brain barrier and cranial nerves

Week 11: Development of the human nervous system

Week 12: Vision: Anatomy, image processing, visual attention and conscious awareness: C*ow eye dissection lab.*

Week 13: Taste: Pathways and flavor sensations

Week 14: Touch: Pathways and the behavioral relevance of a stimulus

Week 15: Oral and poster presentations on lab results and Exam 2.

17. Course requirements (e.g. research papers, projects, interviews, tests, etc.)

Exams 2 x 20% = 40% Lab reports 4 x 10% = 40% Quizzes = 10% Presentation = 10%

18. Special features (e.g. labs, exhibits, site visitations, etc.)

Hands-on neuroscience labs integrated within the lecture meetings.

19. Department staffing and classroom/lab resources (Will this require additional faculty, supplies, etc.?)

Yes. A designated teaching assistant is required who will be assigned to facilitate the lecture and lab, which is standard practice for undergraduate psychology courses with co-requisite labs. Further, a modest materials and supplies budget will be necessary for the purchase of expendable laboratory supplies such as sheep brains, cockroaches, earthworms, cow eyes, gloves, electrodes, etc. For this reason, a lab fee of $7 per credit hour (4 hours x $7 = $28) is proposed.

20. What is the primary intended learning goal for students enrolled in this course?

The primary learning goal for this course is for students to learn our current scientific understanding of the basic normal structure and function of the human brain in relation to behavior. This proposed course embedded within the bachelor of science in psychology degree program will contribute to the same student learning outcomes as those of the overall program. However, more specifically, students in this course will be able to 1) demonstrate an understanding of psychology in relation to natural sciences (e.g., biology, ethology, **neuroscience**), 2) demonstrate knowledge and understanding of learning, **behavior**, cognition, and **biological and physiological bases of behavior,** 3)under appropriate supervision, collect, analyze, and report data designed to answer a behavioral or psychological question, 4) Apply APA ethical guidelines in the design, data collection, analysis, interpretation, and reporting of behavioral or psychological research, 5) demonstrate understanding of APA guidelines for the ethical treatment of human and nonhuman research participants/subjects.

21. Reading and writing requirements:

a. Name of book, author, edition, company and year

Kalat, Biological Psychology, Wadsworth Cengage Learning, latest edition and/or Bear, Connors, Paradiso, *Neuroscience: Exploring the Brain,* Lippincott Williams, & Wilkins, latest edition

Kolb, B., & Gibb, R. (2011). Brain plasticity and behavior in the developing brain. *Journal of Canadian Adolescent Psychiatry, 20*(4), 265-276.

Gage, G. Backyard brains: Neuroscience for everyone! [www.backyardbrains.com](http://www.backyardbrains.com)

The Mind Project: Virtual neuroscience lab #1: Cocaine study. <http://www.mind.ilstu.edu/curriculum/modOverview.php?modGUI=255>

Sheep brain dissection: The anatomy of memory. <http://www.exploratorium.edu/memory/braindissection/index.html>

Cow’s eye dissection. <http://www.exploratorium.edu/learning_studio/cow_eye/>

b. Number of pages of reading required per week: ~30

c. Number of pages of writing required over the course of the semester: ~15, students will write 4 lab reports, each will be 3-5 pages in length

22. High-Impact Activities (Check all that apply)

Collaborative assignments

Research with a faculty member

Diversity/Global learning experience

Service learning or community learning

Study abroad

Internship

Capstone or senior culminating experience

Other Explain: Enter text...

23. Considering the indicated primary goal (in Box #20), provide up to three outcomes that you expect of students after completion of this course.

**Outcome #1:** (For example, what will students who meet this goal know or be able to do as a result of this course?)

Students will gain a solid understanding of electrical signaling of neurons in relation to normal brain function and behavior.

Learning Activity:(For example, what instructional processes do you plan to use to help students reach this outcome?)

Students will attend lectures, read the assigned texts, and then participate in a lab activity in which they record electrical signals from an invertebrate organism.

Assessment Tool: (For example, what will students demonstrate, represent, or produce to provide evidence of their learning?)

Students will correctly place electrodes in a cockroach or earthworm and record electrical signals.

*(Repeat if needed for additional outcomes 2 and 3)*

**Outcome #2:**

Students will gain a solid understanding of the anatomy and function of the human and nonhuman brain.

Learning Activity:

Students will attend lectures, read the assigned texts, and then participate in a lab activity in which they dissect a sheep brain.

Assessment Tool:

Students will correctly identify neural structures and their functions on a sheep brain that they will dissect.

**Outcome #3**:

Students will gain a solid understanding of the basic structure and function of the visual system.

Learning Activity:

Students will attend lectures, read the assigned texts, and then participate in a vision lab activity in which they identify the structure and function of the eye and how images are consciously perceived.

Assessment Tool:

Students will correctly identify the anatomical structures and functions of the eye by dissecting a cow eye.

24. Please indicate the extent to which this course addresses university-level student learning outcomes:

* 1. Global Awareness

Minimally  
Indirectly  
Directly

* 1. Thinking Critically

Minimally  
Indirectly  
Directly

* 1. Using Technology

Minimally  
Indirectly  
Directly

**From the most current electronic version of the bulletin, copy all bulletin pages that this proposal affects and paste it to the end of this proposal.**

**To copy from the bulletin:**

1. Minimize this form.
2. Go to <http://registrar.astate.edu/bulletin.htm> and choose either undergraduate or graduate.
3. This will take you to a list of the bulletins by year, please open the most current bulletin.
4. Find the page(s) you wish to copy, click on the “select” button and highlight the pages you want to copy.
5. Right-click on the highlighted area.
6. Click on “copy”.
7. Minimize the bulletin and maximize this page.
8. Right-click immediately below this area and choose “paste”.
9. For additions to the bulletin, please change font color and make the font size larger than the surrounding text. Make it noticeable.
10. For deletions, strike through the text, change the font color, and enlarge the font size. Make it noticeable.

From p 165 of the UGB

**Major in Psychology**

**Bachelor of Science**

**Emphasis in Neuroscience**

A complete 8-semester degree plan is available at <http://registrar.astate.edu>

|  |  |
| --- | --- |
| **University Requirements:** |  |
| See University General Requirements for Baccalaureate degree (p.40) |  |
| **First Year Making Connections Course:** | Sem. Hrs. |
| PSY 1013, Making Connections: Psychological Wellness | 3 |
| **General Education Requirements:** | Sem. Hrs. |
| See General Education Curriculum for Baccalaureate Degree (p.82)  **Students with this major** and emphasis area **must take the following:**  *MATH 1023 College Algebra*  *Six hours of Humanities* *(Required Departmental Gen. Ed. Option)*  BIOL 1003 Biological Science AND BIOL 1001 Biology Laboratory | 35 |
| **Major Requirements:** | Sem. Hrs. |
| PSY 2013, Introduction to Psychology  *Required ONLY if not taken as part of the General Education Requirements.* | 0-3 |
| PSY 2023, Psychology as a Science and a Profession | 3 |
| PSY 3103, **AND** PSY 3101, Quantitative Methods for Behavioral Sciences and Laboratory | 4 |
| PSY 3113, Research Design in Psychology | 3 |
| PSY 3123 **AND** PSY 3121, Experimental Methods in Psychology and Laboratory | 4 |
| **Psychology as a Natural Science ~~(select two of the following):~~**  Required: PSY 3214 Introduction to Neuroscience  PSY 4323 Physiological Psychology  Select two of the following:  PSY 3303, Motivation  ~~PSY 4323, Physiological Psychology~~  PSY 4343, Learning Processes  PSY 4363, Cognitive Psychology  PSY 4383 Introduction to Behavior Analysis | ~~6~~  13 |
| **Psychology as a Social Science (select three of the following):**  *Only two of the three following courses may be used to satisfy the requirements for this category: PSY 3403, PSY 3413, and PSY 3453*  Select three of the following:  ~~PSY 3403, PSY 3413 and PSY 3453~~  PSY 3403, Child Psychology  PSY 3413, Adolescent Psychology  PSY 3453, Developmental Psychology  PSY 3523, Introduction to Social Psychology  PSY 3823, History of Psychology  PSY 4533, Abnormal Psychology  PSY 4543, Personality Development | 9 |
| **Integrative Psychology (select ~~twelve~~ six hours from the following):**  *PSY courses from Psychology as a Natural Science or Psychology as a Social Science may be substituted for courses in the category.*  PSY 3603, Positive Psychology  PSY 3613, Cultural Psychology  PSY 3703, Educational Psychology  PSY 380V, Special Problems  PSY 4053, Today’s Families  PSY 4173, Introduction to Psychological Tests and Measurements  PSY 4723, Organizational Psychology  PSY 4853, Psychological Seminar | ~~12~~  6 |
| **Sub-total** | ~~41-44~~  42-45 |
| **Minor or Area of Concentration (as approved by advisor):** | Sem. Hrs. |
| **Sub-total** | 18-24 |
| **Electives:** | Sem. Hrs. |
| Electives | ~~14-23~~  13-22 |
| **Total Required Hours:** | 120 |

From p 428 of the UGB

**DEPARTMENT OF PSYCHOLOGY AND COUNSELING**

**Psychology (PSY)**

**PSY 1013. Making Connections Psychological Wellness** Required course for first semester freshmen. Core content includes transition to college, academic performance skills, problem solving, critical thinking, self management, group building skills, and university policies. Content related to the departmental majors is also included. Fall.

**PSY 2013. Introduction to Psychology** Study of the important scientific, principles of individual human behavior from biological, cognitive, social, and behavioral perspectives. Fall, Spring, Sum­mer.

**PSY 2023. Psychology as a Science and a Profession** An overview of psychology as a sci­ence and as a profession encompassing psychological research methods, an exploration of the major and skills required for successful completion, areas of specialization, careers in psychology, and post-graduate opportunities. Fall, Spring.

**PSY 3101. Quantitative Methods Laboratory** Laboratory for Quantitative Methods Laboratory associated with PSY 3103. Two hours per week. Corequisite, PSY 3103. Fall, Spring, Summer.

**PSY 3103. Quantitative Methods for Behavioral Sciences** Introduction to basic statistical techniques and methodology applicable to research problems in the behavioral sciences. Prereq­uisite, MATH 1023 or a more advanced mathematics course. Corequisite, PSY 3101. Fall, Spring, Summer.

**PSY 3113. Research Design in Psychology** An introduction to psychological research with emphasis on the critical functions and limitations of both experimental and non-experimental designs, ethics, measurement, and statistical analyses of relevance. Prerequisites, PSY 2023 and PSY 3103. Fall, Spring.

**PSY 3121. Experimental Methods in Psychology Laboratory** Laboratory for Experimental Psychology Laboratory associated with PSY 3123. Two hours per week. Corequisite, PSY 3123. Fall, Spring.

**PSY 3123. Experimental Methods in Psychology** An indepth consideration of the ethical ap­plication of experimental design and methods toward a causal analysis of behavior. Emphasis is on ethical issues directly relevant to control procedures and researcher conduct and bias and developing skills necessary to recognize and utilize the components of experimental design and to interpret and evaluate results. Prerequisite, PSY 3113; Corequisite, PSY 3121. Fall, Spring.

**PSY 3214. Introduction to Neuroscience.** Introduction to the normal structure and function of the nervous system in relation to behaviors and experiences in humans and nonhumans with an integrated laboratory component. Topics include brain structure, physiology, development, drugs of abuse, bodily senses, and behavior. Prerequisites, MATH 1023; PSY 2013; BIOL 1003 and BIOL 1001; or permission of instructor. Special course fees may apply. Fall.

**PSY 3303. Motivation** Survey of animal and human research in motivation. Topics include instincts, biological drives, acquired drives, incentive, secondary reinforcement, frustration, and theories of motivation. Fall, Summer.

**PSY 3403. Child Psychology** Principles and patterns of mental, social, emotional, and physi­cal development. No more than 6 credit hours from the following courses may be used to satisfy the requirements for a major or minor in psychology, PSY 3403, PSY 3413, and PSY 3453. Fall, Summer.

**PSY 3413. Adolescent Psychology** The influence of factors including cognition, motivation, perception, learning, emotion, and personality on development during adolescence. No more than 6 credit hours from the following courses may be used to satisfy the requirements for a major or minor in psychology, PSY 3403, PSY 3413, and PSY 3453. Spring, Summer.

**PSY 3453. Developmental Psychology** Study of the life cycle from prebirth through death including an examination of the major methods, theories, and empirical findings. No more than 6 credit hours from the following courses may be used to satisfy the requirements for a major or minor in psychology, PSY 3403, PSY 3413, and PSY 3453. Fall.

**PSY 3523. Introduction to Social Psychology** Analysis of the situational factors which influ­ence various behaviors including aggression, altruism, and interpersonal attraction. Fall, Summer.

**PSY 3603. Positive Psychology** Scientific study of happiness, psychological well-being, and character strengths. Spring.

**PSY 3613. Cultural Psychology** This course focuses on issues of how human culture impacts the individuals behavior, attitudes, and mental health. Fall.

**PSY 3703. Educational Psychology** Survey of principles as they apply to education. Fall, Spring, Summer.

**PSY 380V. Special Problems in Psychology** Individual problems in psychology arranged in consultation with the instructor and the department chairman. May be repeated for credit but no more than 6 credit hours may be applied toward psychology major requirements. Demand.

**PSY 3823. History of Psychology** Overview of the history of psychology and recent systematic developments. Fall, Spring, Summer.

**PSY 4053. Today’s Families: Interdisciplinary Approaches** An interdisciplinary course de­signed to promote a critical approach to examining the family and its role in society. Prerequisite, 12 hours of coursework in Interdisciplinary Family Minor OR Instructors Permission. Demand.

**PSY 4173. Introduction to Psychological Tests and Measurements** Overview of theoretical and practical aspects of the assessment and prediction of human behavior. Includes principles and application of group and individual standardized measures as well as investigator made measures. Prerequisites, Three hours of statistics or permission of instructor. Spring.

**PSY 4323. Physiological Psychology** Physiological bases of psychological constructs such as memory, reinforcement, attention, sleep, and motivation as each applies to humans and infrahuman species. Spring.

**PSY 4343. Learning Processes** The study of behavioral adaptation at the level of the individual. Includes empirical and theoretical issues related to classical and instrumental conditioning, complex learning, memory, and the neural bases of learning and memory. Human and infrahuman data are considered. Fall.

**PSY 4363. Cognitive Psychology** The study of human thinking, emphasizing empirical knowledge on processes involved in information processing, memory, knowledge representation, language, and problem solving. Spring.

**PSY 4383. Introduction to Behavior Analysis** Introduction to the basic philosophy, methodology, and methods and principles that underlie the science of behavior analysis both experimental and applied. Spring.

**PSY 4533. Abnormal Psychology** An introduction to various mental disorders, including their origins and characteristics. Fall, Spring, Summer.

**PSY 4543. Personality Development** Principles of development and organization of personality, with emphasis on influencing agents. Spring, Summer.

**PSY 4723. Organizational Psychology** Provides an understanding of leadership, motivation, job satisfaction, communication, decision making, stress, and group process as related to organi­zational development, maintenance, and productivity. Demand.

**PSY 480V. Special Topics Workshop** Study of selected professional topics. May not be used to satisfy any degree requirements. May be repeated for credit. Demand.

**PSY 4853. Psychological Seminar** Provides intensive coverage of contemporary psychological topics. Prerequisite, 12 hours of psychology and permission of instructor. May be repeated for credit. Demand.