

PSYCH203 : Physiological Psychology Lab

General Information

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| Author: | <ul style="list-style-type: none">Michelle Stonis |
| Course Code (CB01) : | PSYCH203 |
| Course Title (CB02) : | Physiological Psychology Lab |
| Department: | PSYCH |
| Proposal Start: | Fall 2024 |
| TOP Code (CB03) : | (2001.00) Psychology, General |
| CIP Code: | (42.0101) Psychology, General. |
| SAM Code (CB09) : | Non-Occupational |
| Distance Education Approved: | Yes |
| Will this course be taught asynchronously?: | No |
| Course Control Number (CB00) : | CCC000532475 |
| Curriculum Committee Approval Date: | 06/12/2024 |
| Board of Trustees Approval Date: | 07/16/2024 |
| Last Cyclical Review Date: | 10/01/2018 |
| Course Description and Course Note: | PSYCH 203 is an introductory science laboratory course that surveys structure and function of the nervous system, neurological correlates of behavior, psychophysiological research methodology, and scientific research investigation. Main topics include neuroanatomy, behavioral neuroscience, consciousness, emotion, stress, sensation and perception of vision, audition, touch, olfaction, and gustation. |
| Justification: | Mandatory Revision |
| Academic Career: | <ul style="list-style-type: none">Credit |
| Mode of Delivery: | |
| Author: | |
| Course Family: | |

Academic Senate Discipline

| | |
|-----------------------|--|
| Primary Discipline: | <ul style="list-style-type: none">Psychology |
| Alternate Discipline: | No value |
| Alternate Discipline: | No value |

Course Development

Basic Skill Status (CB08)

Course is not a basic skills course.

Allow Students to Gain Credit by Exam/Challenge

Course Special Class Status (CB13)

Course is not a special class.

Pre-Collegiate Level (CB21)

Not applicable.

Grading Basis

- Grade with Pass / No-Pass Option

Course Support Course Status (CB26)

Course is not a support course

General Education and C-ID

General Education Status (CB25)

Not Applicable

Transferability

Transferable to both UC and CSU

Transferability Status

Approved

IGETC Area

5C-Science Laboratory

Area

Science Laboratory

Status

Approved

Approval Date

09/04/2012

Comparable Course

No Comparable Course defined.

CSU GE-Breadth Area

B3-Laboratory Activity

Area

Laboratory Activity

Status

Approved

Approval Date

09/04/2012

Comparable Course

No Comparable Course defined.

Units and Hours

Summary

Minimum Credit Units (CB07)

1

Maximum Credit Units (CB06)

1

Total Course In-Class (Contact) Hours

54

Total Course Out-of-Class Hours

0

Total Student Learning Hours

54

Credit / Non-Credit Options

Course Type (CB04)

Credit - Degree Applicable

Noncredit Course Category (CB22)

Credit Course.

Noncredit Special Characteristics

No Value

Course Classification Code (CB11)

Credit Course.

Funding Agency Category (CB23)

Not Applicable.

Cooperative Work Experience
 Education Status (CB10)

Variable Credit Course

Weekly Student Hours

| | In Class | Out of Class |
|------------------|----------|--------------|
| Lecture Hours | 0 | 0 |
| Laboratory Hours | 3 | 0 |
| Studio Hours | 0 | 0 |

Course Student Hours

| | |
|--|----|
| Course Duration (Weeks) | 18 |
| Hours per unit divisor | 0 |
| Course In-Class (Contact) Hours | |
| Lecture | 0 |
| Laboratory | 54 |
| Studio | 0 |
| Total | 54 |
| Course Out-of-Class Hours | |
| Lecture | 0 |
| Laboratory | 0 |
| Studio | 0 |
| Total | 0 |

Time Commitment Notes for Students

No value

Units and Hours - Weekly Specialty Hours

| Activity Name | Type | In Class | Out of Class |
|---------------|----------|----------|--------------|
| No Value | No Value | No Value | No Value |

Pre-requisites, Co-requisites, Anti-requisites and Advisories

Co-Requisite

PSYCH103 - Physiological Psychology

(PSYCH 103 may be taken concurrently)

OR

Prerequisite

PSYCH103 - Physiological Psychology

Objectives

- Define and use basic biological, physiological, and psychological terminology of the neurosciences.
- Differentiate among specialty areas within biological psychology and the related disciplines within the neurosciences and the types of research that characterize the biopsychological approach.
- Summarize the major issues in human evolution, genetics, and behavioral development that underlie the "biology of behavior."
- Generate and explicate concrete examples of invasive vs. noninvasive research methods and the general principles of research ethics for the study of animals and human beings, including the research safeguards and the peer-review process in science.
- Explain scientific approaches used in methodologies for the study of brain-behavior relationships.
- Explain the general anatomy and physiology of the nervous system and its relationship to behavior.
- Describe neural conduction and synaptic transmission.
- Discuss the role of the neuroendocrine system as it relates to behavior.

- Summarize examples of various brain-behavior relationships including ingestive behavior, motivation, sexual behavior, sleep, learning, memory, stress, drug dependence, and psychiatric disorders such as affective disorders and schizophrenia.

Entry Standards

Entry Standards

Course Limitations

Cross Listed or Equivalent Course

Specifications

Methods of Instruction

Methods of Instruction

Lecture

Methods of Instruction

Laboratory

Methods of Instruction

Discussion

Methods of Instruction

Multimedia

Methods of Instruction

Collaborative Learning

Methods of Instruction

Demonstrations

Methods of Instruction

Field Activities (Trips)

Methods of Instruction

Guest Speakers

Methods of Instruction

Presentations

Out of Class Assignments

- Homework assignment (e.g., diagram and label facial muscles recorded for electromyography)
- Short papers or essays demonstrating application of concepts and critical thinking skills (e.g., written critique of a journal article's conclusions)
- Research paper (e.g., final project report regarding student's experimental hypothesis, rationale, methods, results, and interpretation)
- Individual projects (e.g., design experiment to compare levels of stress hormone)
- Group project (e.g., present results on experiment regarding electrodermal activation)

Methods of Evaluation**Rationale**

Activity (answering journal prompt, group activity)

Answering journal prompt on class activities

Exam/Quiz/Test

Practical examination

Presentation (group or individual)

Oral presentation

Exam/Quiz/Test

Examinations requiring demonstration of course exit standards

Other

Peer review or critique of student work

Evaluation

Instructor evaluation of in-class assignments

Presentation (group or individual)

Instructor evaluation of in-class presentations

Evaluation

Evaluation of technical skills

Textbook Rationale

No Value

Textbooks**Author****Title****Publisher****Date****ISBN**

Pinel, John

Biopsychology

Pearson

2018

978-0134203690

Other Instructional Materials (i.e. OER, handouts)

No Value

Materials Fee

No value

Learning Outcomes and Objectives**Course Objectives**

Apply procedures of psychophysiological research methods.

Test hypotheses regarding psychophysiological mechanisms that underlie behavior by designing experiments and evaluating the results.

Analyze the neurological correlates of behavior.

SLOs

Explain the structure and function of the nervous system.

Expected Outcome Performance: 70.0

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| <i>ILOs</i> Core ILOs | Communicate clearly, ethically, and creatively; listen actively and engage respectfully with others; consider situational, cultural, and personal contexts within or across multiple modes of communication. |
|--------------------------|--|

| | |
|------------------------------------|---|
| <i>SOC S</i> Social Sciences | Demonstrate critical thinking skills and a basic understanding of the complex interrelationships between human kind and the biophysical environment |
|------------------------------------|---|

Assess and critically analyze procedures of psychophysiological research methods.

Expected Outcome Performance: 70.0

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|-----------------------------|--|
| <i>ILOs</i> Core ILOs | Analyze and solve problems using critical, logical, and creative thinking; ask questions, pursue a line of inquiry, and derive conclusions; cultivate creativity that leads to innovative ideas. |
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Additional SLO Information

Does this proposal include revisions that might improve student attainment of course learning outcomes?

No

Is this proposal submitted in response to learning outcomes assessment data?

No

If yes was selected in either of the above questions for learning outcomes, explain and attach evidence of discussions about learning outcomes.

No Value

SLO Evidence

No Value

Course Content

Lecture Content

No value

Laboratory/Studio Content

The Research Process (3 hours)

- Research articles and scientific journals
- Databases and literature searches
- Scientific writing and manuscript fundamentals

Scientific Method (3 hours)

- Research methods: descriptive vs. experimental studies
- Independent, dependent, and confounding variables
- Hypotheses testing
- Statistical inference

Anatomy and Physiology of the Nervous System (8 hours)

- Structure, function, and neurotransmitters of the nervous system

- Neural communication
- Neuropsychological assessment

Psychophysiological Techniques (10 hours)

- Electroencephalogram
- Event-related potentials
- Electro-oculogram
- Electromyogram and startle response
- Skin response
- Heart rate

Consciousness (6 hours)

- Sleep and wakefulness
- Psychophysiological correlates of states of consciousness

Emotion and Stress (6)

- The hormone system
- Autonomic nervous system

Sensation and Perception: Vision and Audition (2 hours)

Sensation and Perception: Touch, Olfaction, and Gustation (2 hours)

Learning and Memory (5 hours)

- Brain structures and memory
- Biochemical mechanisms in memory
- Memory consolidation

Psychiatric Disorders (5 hours)

- Mood disorders
- Schizophrenia
- Anxiety disorders

Current Topics in Behavioral Neuroscience (4 hours)

- Neuroscience of decision-making
- Regeneration of neurons
- Infections as a cause of Alzheimer's

Total Hours: 54

Additional Information

Is this course proposed for GCC Major or General Education Graduation requirement? If yes, indicate which requirement in the two areas provided below.

Yes

GCC Major Requirements

No Value

GCC General Education Graduation Requirements

Social Sciences

Repeatability

Not Repeatable

Justification (if repeatable was chosen above)

No Value

Resources

Did you contact your departmental library liaison?

No

If yes, who is your departmental library liaison?

No Value

Did you contact the DEIA liaison?

No

Were there any DEIA changes made to this outline?

No

If yes, in what areas were these changes made:

No Value

Will any additional resources be needed for this course? (Click all that apply)

- No

If additional resources are needed, add a brief description and cost in the box provided.

No Value