# **PSY R105: INTRODUCTION TO PHYSIOLOGICAL PSYCHOLOGY**

Originator Ichaparro

College

Oxnard College

Discipline (CB01A) PSY - Psychology

Course Number (CB01B) R105

Course Title (CB02) Introduction to Physiological Psychology

Banner/Short Title Intro to Physiological Psych

Credit Type Credit

Start Term Fall 2021

#### **Catalog Course Description**

The course provides exploration of physiological bases of behavior. Topics include: neural impulses and sensory processes, neural basis of reinforcement, electrical stimulation of the brain, memory, learning, emotion, biofeedback, split-brain studies, and research on right and left hemispheres. Emphasis is on current research findings as well as ethical standards and implications.

Taxonomy of Programs (TOP) Code (CB03) 2001.00 - Psychology, General

#### Course Credit Status (CB04)

D (Credit - Degree Applicable)

Course Transfer Status (CB05) (select one only)

A (Transferable to both UC and CSU)

## **Course Basic Skills Status (CB08)**

N - The Course is Not a Basic Skills Course

#### SAM Priority Code (CB09)

E - Non-Occupational

Course Cooperative Work Experience Education Status (CB10)

N - Is Not Part of a Cooperative Work Experience Education Program

#### Course Classification Status (CB11)

Y - Credit Course

Educational Assistance Class Instruction (Approved Special Class) (CB13)

N - The Course is Not an Approved Special Class

# Course Prior to Transfer Level (CB21)

Y - Not Applicable

# **Course Noncredit Category (CB22)**

Y - Credit Course

#### Funding Agency Category (CB23)

Y - Not Applicable (Funding Not Used)

# Course Program Status (CB24)

1 - Program Applicable

#### **General Education Status (CB25)** Y - Not Applicable

Support Course Status (CB26) N - Course is not a support course

# Field trips

May be required

# Grading method

Letter Graded

Does this course require an instructional materials fee? No

#### **Repeatable for Credit**

No

Is this course part of a family? No

# **Units and Hours**

Carnegie Unit Override No

# **In-Class**

Lecture Minimum Contact/In-Class Lecture Hours 52.5 Maximum Contact/In-Class Lecture Hours 52.5

Activity

Laboratory

# **Total in-Class**

Total in-Class Total Minimum Contact/In-Class Hours 52.5 Total Maximum Contact/In-Class Hours 52.5

**Outside-of-Class** 

Internship/Cooperative Work Experience

Paid

Unpaid

# **Total Outside-of-Class**

Total Outside-of-Class Minimum Outside-of-Class Hours 105 Maximum Outside-of-Class Hours 105

# **Total Student Learning**

Total Student Learning Total Minimum Student Learning Hours 157.5 Total Maximum Student Learning Hours 157.5

Minimum Units (CB07) 3 Maximum Units (CB06)

3

Prerequisites PSY R101

# **Entrance Skills**

#### Entrance Skills

Fundamental understanding of the field of psychology, behavior, and perception. This course will be build on that knowledge and study the underlying neurological functions that cause the behavior described in introductory psychology.

#### **Prerequisite Course Objectives**

PSY R101-Demonstrate familiarity with the major concepts, theoretical perspectives, research methods, core empirical findings, and historic trends in psychology.

PSY R101-Recognize and understand the impact of diversity on psychological research, theory and application, including (but not limited to): age, race, ethnicity, culture, gender, socio-economic status, disability, and sexual orientation.

PSY R101-Demonstrate critical thinking skills and information competence as applied to psychological topics.

PSY R101-Demonstrate knowledge and understanding of the following nine general domains: (1) biological bases of behavior and mental processes, (2) sensation and perception, (3) learning and memory (4) cognition, consciousness, (5) individual differences, psychometrics, personality, (6) social processes (including those related to socio-cultural and international dimensions), (7) developmental changes in behavior and mental processes that occur across the lifespan, (8) psychological disorders, and (9) emotion and motivation

# **Requisite Justification**

**Requisite Type** Prerequisite

Requisite PSY R101

Requisite Description Course in a sequence

Level of Scrutiny/Justification Content review

Student Learning Outcomes (CSLOs)			
	Upon satisfactory completion of the course, students will be able to:		
1	Students will be able to identify parts of the brain.		
2	Students will be able to identify parts of the nervous system.		
3	Students will be able to describe the functions of the frontal lobe.		
4	Students will be able to identify technology used to examine and record functions of the brain (Functional Magnetic Resonance Imaging, etc.)		
5	Students will identify mental illnesses as a result of irregularities in the brain.		
Course Objectives			
	Upon satisfactory completion of the course, students will be able to:		
1	Define basic biological, physiological and psychological terms.		
2	Summarize primary concepts related to human evolution, genetics, behavior, and the "biology of behavior"		
3	Explain nerve cells and nerve impulses		
4	Describe neural conduction and synaptic transmission.		
5	Explain general anatomy and its relation to the nervous system and behavior		
6	Describe scientific approaches and methods applied to the study of brain and behavior.		
7	Define plasticity of the brain		
8	Explain vision processes in psychology		
9	Explain the other sensory systems		
10	Define reproductive behaviors		
11	Explain the brain-behavior relationship between learning and memory, motivation, stress, sleep, among other physiologically-influenced behavior/s		
12	Define lateralization of the brain		
13	Sumaarize psychological disorders such as affective disorders and schizophrenia		
14	Identify examples of invasive and non-invasive research methods and explain principles of ethics in the study of humans and animals		

# **Course Content**

# Lecture/Course Content

- 1. Biological Psychology as a Course of Study
- 2. Genes and Behavior and Human Evolution
- 3. Research Methods and Ethical Considerations of Biological Psychology and Neuroscience
  - a. Invasive vs Non-invasive
  - b. Research Ethics Applied to Animals and Humans
- 4. The Nervous System:
  - a. Anatomy
  - b. Development and Plasticity
  - c. Communication within the Nervous System
- 5. The Effects of Psychoactive Drugs
- 6. Mechanisms of Perception, Conscious Awareness, and Attention, Wakefulness and Sleep
- 7. Motivation
- 8. Ingestive Behavior
- 9. Hormones, Sexual Development, and Sexual Behavior
- 10. Learning and Memory
- 11. Emotion and Stress
- 12. Biological Bases of Psychological Disorders, Including Affective Disorders and Schizophrenia

## Laboratory or Activity Content

None

# **Methods of Evaluation**

Which of these methods will students use to demonstrate proficiency in the subject matter of this course? (Check all that apply): Written expression

Methods of Evaluation may include, but are not limited to, the following typical classroom assessment techniques/required assignments (check as many as are deemed appropriate):

Essay exams Essays Oral presentations Quizzes Research papers

# Instructional Methodology

#### Specify the methods of instruction that may be employed in this course

Class activities Class discussions Case studies Distance Education Group discussions Instructor-guided interpretation and analysis Instructor-guided use of technology Internet research Lecture

#### Describe specific examples of the methods the instructor will use:

- 1. The instructor will lecture on the historical contributions of biological psychology such as the study of the brain and spinal cord
- 2. Students will view three dimensional video on the structure, activity of the brain and communication with the rest of the nervous system

In small groups, students will explore types of research used in biological psychology and most recent of those techniques such as DARPA, to study the interface with computers

# **Representative Course Assignments**

#### Writing Assignments

- 1. Research paper about physiological determinants of behavior, such as "The relation of Vision to other Sensory Systems" (in APA format)
- 2. Midterm essay, for example, on "Research Ethics and Safeguards Related to the Study of Humans and Animals"
- 3. Narrative/self-reporting/observation on: sleep, memory, motivation, etc.
- 4. Write a short essay defining and using basic biological, physiological, and psychological terminology of the neurosciences .
- 5. Create a chart differentiating among specialty areas within Biological Psychology and the related disciplines within the Neurosciences and the types of research that characterize the biopsychological approach.
- 6. In an essay.summarize the major issues in human evolution, genetics, and behavioral development that underlie the "biology of behavior."
- 7. Develop a class presentation to 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.
- 8. Create a poster to explain scientific approaches used in methodologies for the study of brain-behavior relationships.
- 9. Make a model to explain the general anatomy and physiology of the nervous system and its relationship to behavior.
- 10. Create a lesson for other students to describe neural conduction and synaptic transmission.
- 11. develop a discussion the role of the neuroendocrine system as it relates to behavior.
- 12. Prepare to teach other students to exemplify with concrete examples 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.

#### **Critical Thinking Assignments**

1. In follow up to the research on recent techniques, students will explore the advantages and disadvantages of these new form of research based on previous research "success" and "failures."

2. Students will seek out techniques in the literature to treat schizophrenia that caused harmful side-effects such as tardive dyskinesia and explore what may prevent those same side effects

#### **Reading Assignments**

- 1. Chapters from the designated textbook on topics related to physiological determinants of psychology, such as "Anatomy and Physiology of the Nervous System and its Relation to Behavior"
- 2. Selected periodicals about physiological psychology, eg., Journal of Orthopsychiatry, for examples, about synapses in the brain; Journal of Neuropsychology on, for example, "Scientific Methodologies Applied to Brain-Behavior Relationships"
- 3. Selections from the Diagnostic and Statistical Manual of the American Psychiatric Association on such concrete behaviors as: ingestive behavior; aberrant sexual behavior, drug dependence; etc.

#### Other assignments (if applicable)

- 1. Internet research, such as a publisher site and/or research institution page on the functions of the brain and their association/s with behavior
- 2. As mentioned above, research on drug/pharmaceutical development resources which are marketed or in process which may be used for brain based disorders
- 3. Research paper/literature review on legal protections afforded to humans and/or animals regarding invasive and noninvasive research and treatments for brain anomalies

# **Outside Assignments**

#### **Representative Outside Assignments**

- 1. Weekly readings in the textbook such as on genetics, types of research contributing to this body of knowledge, brain and nervous system, axons, dendrites, myelin sheath, neurotransmitters, synapses, and other parts of the brain
- 2. Preparation of a 10 page literature review on an appropriate topic such as the sensory system, lateralization of the brain, or how the coronavirus effects the nervous system
- 3. An academic search/literature review regarding Pharmaceuticals that are directed to childhood mental illness such as Hyperactivity, Mood Disorder or psychosis and their counter indications

# Articulation

#### **C-ID Descriptor Number**

PSY 150

Status

Approved

#### **Comparable Courses within the VCCCD**

PSY M02 - Intro Behav Neuroscien PSY M02H - Honors: Introduction Behavioral Neuroscience PSY V03 - Introduction to Biological Psychology

# **District General Education**

#### **A. Natural Sciences**

# **B. Social and Behavioral Sciences**

C. Humanities

# D. Language and Rationality

D2. Communication/Analytical Thinking Approved

# E. Health and Physical Education/Kinesiology

# F. Ethnic Studies/Gender Studies

CSU Baccalaureate List effective term: Fall 1995

# **CSU GE-Breadth**

Area A: English Language Communication and Critical Thinking

Area B: Scientific Inquiry and Quantitative Reasoning

B2 Life Science Approved

Area C: Arts and Humanities

Area D: Social Sciences

Area E: Lifelong Learning and Self-Development

Area F: Ethnic Studies

# CSU Graduation Requirement in U.S. History, Constitution and American Ideals:

# **UC TCA**

UC TCA Approved

# **IGETC**

**Area 1: English Communication** 

Area 2A: Mathematical Concepts & Quantitative Reasoning

Area 3: Arts and Humanities

**Area 4: Social and Behavioral Sciences** 

**Area 5: Physical and Biological Sciences** 

Area 5B: Biological Science Approved

Area 6: Languages Other than English (LOTE)

#### Textbooks and Lab Manuals Resource Type

Textbook

**Description** Kalat, J.W (2015). *Biological Psychology*. United States Thompson.

Resource Type Textbook

**Description** Pinel, J.P (2017). *Biopsychology*. Pearson .

#### **Resource Type**

Other Resource Type

#### Description

American Psychiatric Association, (latest edition) Diagnostic and Statistical Manual, Washington, DC, American Psychiatric Association.

#### **Resource Type**

Other Resource Type

**Description** Journal of Orthopsychiatry.

# **Distance Education Addendum**

# **Definitions**

#### **Distance Education Modalities**

Hybrid (51%–99% online) Hybrid (1%–50% online) 100% online

# **Faculty Certifications**

Faculty assigned to teach Hybrid or Fully Online sections of this course will receive training in how to satisfy the Federal and state regulations governing regular effective/substantive contact for distance education. The training will include common elements in the district-supported learning management system (LMS), online teaching methods, regular effective/substantive contact, and best practices.

Yes

Faculty assigned to teach Hybrid or Fully Online sections of this course will meet with the EAC Alternate Media Specialist to ensure that the course content meets the required Federal and state accessibility standards for access by students with disabilities. Common areas for discussion include accessibility of PDF files, images, captioning of videos, Power Point presentations, math and scientific notation, and ensuring the use of style mark-up in Word documents.

Yes

# **Regular Effective/Substantive Contact**

#### Hybrid (1%-50% online) Modality:

Method of Instruction	Document typical activities or assignments for each method of instruction
Asynchronous Dialog (e.g., discussion board)	Students will respond on a discussion board on the most effective way to research genetics in Biological psychology and respond substantively to another student
Video Conferencing	Students will attend and contribute to every regular video session to a lecture on human evolution and behavior and Neuroplasticity
Other DE (e.g., recorded lectures)	Students will view a recorded session on brain anomalies that lead to mental disorder such as pedophilia
Asynchronous Dialog (e.g., discussion board)	Regular use of asynchronous discussion boards encourages various types of interaction and critical thinking skills among all course participants. Questions and topics posed will allow students to discuss, compare and contrast, identify, and analyze elements of the course outcomes. Students will be required to respond to one another with substantive comments with the intent of creating a dialog. Other discussion boards may be used for Q&A and general class discussion by students and instructor to facilitate student success and strengthen student learning outcomes.

E-mail	E-mail, class announcements and various learning management system tools such as "Message Students Who" and "Assignment Comments", will be used to regularly communicate with all students on matters such as clarification of class content, reminders of upcoming assignments and/or course responsibilities, to provide prompt feedback to students on coursework to facilitate student learning outcomes, or to increase the role of an individual educator in the academic lives of a student. Students will be given multiple ways to email instructor through both the learning management system inbox and faculty provided email accounts.
Face to Face (by student request; cannot be required)	The instructor will hold weekly, scheduled office hours either in person or via-web conferencing, for students to be able to meet and discuss course materials or individual progress. Students can request additional in-person or web conferencing meetings with faculty member as needed. Faculty may encourage online students to form "study groups" in person or online.
Other DE (e.g., recorded lectures)	<ul> <li>Faculty will use a variety of ADA compliant tools and media integrated within the learning management system to help students reach SLO competency. Tools may include:</li> <li>Recorded Lectures, Narrated Slides, Screencasts</li> <li>Instructor created content</li> <li>OC Online Library Resources</li> <li>Canvas Peer Review Tool</li> <li>Canvas Student Groups (Assignments, Discussions)</li> <li>3rd Party (Publisher) Tools (MyOpenMath)</li> <li>Websites and Blogs o Multimedia (YouTube, Films on Demand, 3CMedia, Khan Academy, etc.)</li> </ul>
Synchronous Dialog (e.g., online chat)	Instructor will provide a set time each week where they will be available for synchronous chat and be available in the discussion board and can answer questions in live time.
Video Conferencing	Video tools such as ConferZoom can be used to provide live synchronous or asynchronous sessions with students. ADA compliance will be upheld with Closed Captioning during the session or of the recorded session. Recordings of all live sessions will be made available within the LMS. Video Conferences will be used to facilitate SLOs and student-to-student group meetings will also be encouraged.
Hybrid (51%–99% online) Modality:	
Method of Instruction	Document typical activities or assignments for each method of instruction
Asynchronous Dialog (e.g., discussion board)	Regular use of asynchronous discussion boards encourages various types of interaction and critical thinking skills among all course participants. Questions and topics posed will allow students to discuss, compare and contrast, identify, and analyze elements of the course outcomes. Students will be required to respond to one another with substantive comments with the intent of creating a dialog. Other discussion boards may be used for Q&A and general class discussion by students and instructor to facilitate student success and strengthen student learning outcomes.
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Telephone	Students can request for instructor to call or vice versa in order to answer one-on-one questions about course material or student progress
100% online Modality:	
Method of Instruction	Document typical activities or assignments for each method of instruction
Asynchronous Dialog (e.g., discussion board)	Regular use of asynchronous discussion boards encourages various types of interaction and critical thinking skills among all course participants. Questions and topics posed will allow students to discuss, compare and contrast, identify, and analyze elements of the course outcomes. Students will be required to respond to one another with substantive comments with the intent of creating a dialog. Other discussion boards may be used for Q&A and general class discussion by students and instructor to facilitate student success and strengthen student learning outcomes.
E-mail	E-mail, class announcements and various learning management system tools such as "Message Students Who" and "Assignment Comments", will be used to regularly communicate with all students on matters such as clarification of class content, reminders of upcoming assignments and/or course responsibilities, to provide prompt feedback to students on coursework to facilitate student learning outcomes, or to increase the role of an individual educator in the academic lives of a student. Students will be given multiple ways to email instructor through both the learning management system inbox and faculty provided email accounts.
Face to Face (by student request; cannot be required)	The instructor will hold weekly, scheduled office hours either in person or via-web conferencing, for students to be able to meet and discuss course materials or individual progress. Students can request additional in-person or web conferencing meetings with faculty member as needed. Faculty may encourage online students to form "study groups" in person or online.
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Synchronous Dialog (e.g., online chat)	Instructor will provide a set time each week where they will be available for synchronous chat and be available in the discussion board and can answer questions in live time.

answer one-on-one questions about course material or student progress

Video ConferencingVideo tools such as ConferZoom can be used to provide live synchronous<br/>or asynchronous sessions with students. ADA compliance will be upheld<br/>with Closed Captioning during the session or of the recorded session.<br/>Recordings of all live sessions will be made available within the LMS.<br/>Video Conferences will be used to facilitate SLOs and student-to-student<br/>group meetings will also be encouraged.TelephoneStudents can request for instructor to call or vice versa in order to

# **Examinations**

**Hybrid (1%–50% online) Modality** Online On campus

Hybrid (51%–99% online) Modality Online On campus

Primary Minimum Qualification PSYCHOLOGY

# **Review and Approval Dates**

Department Chair 09/12/2020

**Dean** 09/14/2020

**Technical Review** 10/28/2020

Curriculum Committee 10/28/2020

DTRW-I MM/DD/YYYY

Curriculum Committee 12/09/2020

Board MM/DD/YYYY

**CCCCO** 12/18/2020

Control Number CCC000156453

**DOE/accreditation approval date** MM/DD/YYYY