

Course Number: PSY 3510

Course Title: Biopsychology

Course Description:

Introduction to the study of mental processes and their effects on behavior. Measurement of biological variables which affect the quantitative or qualitative changes of specific psychological or behavioral variables.

Prerequisites: PSY1700, BIO1110.

Credit hours: 3

Learning Outcomes:

Upon the successful completion of this course, students will be able to:

1. Define biopsychology.
2. Recognize the purpose and basic functions of neurons, areas of the brain and the impact of neurotransmission on behavior.
3. Explain the pathological challenges experienced by humans due to maladaptive development in the sensory, motor and perceptual systems of the brain.
4. Identify the biological bases of gender and sexual behaviors.
5. Recognize the biological underpinnings of emotions as well as the human body's typical response to stress.

Indiana Tech
College of Professional Studies

PSY 3510 Biopsychology

Online Syllabus Course Content

Instructor Information

Please see Professor Profile at the Blackboard instructional site.

Course Schedule

Please see Course Schedule in the Course Syllabus area of the Blackboard instructional site

Online Course Policies:

All online course-taking students are required to follow the policies posted online at <https://online.indianatech.edu/tech-policies/policies/>. Please review the posted policies carefully. If you are unable to abide by the policies listed, please contact the Warrior Information Network (WIN) at 888.832.4742 and request to withdraw from this course.

Textbook:

Kalat, J. W. (2013). *Biological psychology* (11th ed.). Belmont, CA: Wadsworth

GRADING EVENTS FOR EACH MODULE:

All assignments must be submitted via Blackboard

Module 1: Course Preparation Quiz (15 points)
Discussion Board Assignment #1 (10 points)
Discussion Board Assignment #2 (10 points)
Journal Article Assignment #1 (25 points)

Module 2: Discussion Board Assignment #3 (10 points)
Discussion Board Assignment #4 (10 points)
Journal Article Assignment #2 (25 points)

Module 3: Discussion Board Assignment #5 (10 points)
Discussion Board Assignment #6 (10 points)
Journal Article Assignment #3 (25 points)
Exam #1 (100 points)

Module 4: Discussion Board Assignment #7 (10 points)
Discussion Board Assignment #8 (10 points)
Journal Article Assignment #4 (25 points)
Exam #2 (100 points)

Module 5: Discussion Board Assignment #9 **(10 points)**
 Discussion Board Assignment #10 **(10 points)**
 Exam #3 **(100 points)**
 APA Research Paper **(100 points)**

GRADING EVENTS – DISTRIBUTION OF POINTS:

Course Preparation Quiz	15 points
Journal Article Assignments (4 @25 points each)	100 points
APA Research Paper	100 points
Exams (Three @ 100 points each)	300 points
Weekly Discussions (Ten @ 10 points each)	<u>100 points</u>

615 Total Points Possible

Grading Scale:

Percentage Earned	Grade	Percentage Earned	Grade	Percentage Earned	Grade
90% and above	A	at least 70%	C	below 60%	F
at least 80%	B	at least 60%	D		

Exam Details:

There are three exams for this course, all to be completed through BlackBoard. Each exam will be comprised of 50 multiple choice/true-false questions that are worth 2 points each, totaling 100 points for each exam.

Exam 1: Covers material from chapters 1 – 5 **(Due Week 3)**

Exam 2: Covers material from chapters 6 – 8 **(Due Week 4)**

Exam 3: Covers material from chapters 10 – 12 and chapter 14 **(Due Week 5)**

Assignment Details:

Journal Article Assignments

You are to use Indiana Tech's McMillen Library website to find a CURRENT journal article (from the last two years) related to Biopsychology. A list of the major APA journals is provided in BlackBoard. You can access McMillen Library's website via the following link: <https://library.indianatech.edu/>. The current journal article should be of a topic that interests you, and it may even be used as one of your sources for your final research paper. Once you find an article suited to your liking, take a screenshot of the article, INCLUDING the front page of the journal (which will have the name of the journal on it along with the publication date).

Assignment Specifics: You are to completely summarize the article, and give your perspective and opinion on the research findings. The write-up itself should be at the minimum one COMPLETE page. Another page should contain the reference, which would include the name of the journal, the date, the author, etc. Finally, screenshot the FRONT PAGE of the journal itself, along with the FIRST PAGE of the actual article. You are to take a screenshot

of both of these pages, and save them. **NOTE: Any summary submitted that is less than the minimum amount of 1 FULL page will not receive a passing score.** A full page means a full page: no half pages or 3/4ths of a page, with no large spaces (especially at the top and bottom of the page). Proofread all work; multiple spelling/grammar mistakes will result in point deductions. All work is to be double spaced, using 12-point font size and Times New Roman type, with ½ inch margins.

Submission Details: You will be submitting the summary/write-up page and the reference page as you normally would through BlackBoard, but you will ALSO be sending the instructor two attachments – the screenshot of the front page of the journal, along with the screenshot of the first page of the article.

Grading Criteria for the Journal Article Assignments

Each journal article assignment is worth 25 points. Specifically, your thorough summary of the findings (along with your opinions/thoughts about the article) is worth 15 points, proper referencing (your reference page) is worth 5 points, and proper screenshot of the journal cover/first page of the article itself is worth 5 points. **(NOTE: Assignments without the required screenshots will receive zero points for the assignment)**

APA Research Paper

Each student is required to develop a 5 page APA formatted research paper. This page range does not include cover page, abstract, and reference pages which are additional. The topic examined must be relevant to the any of the areas covered in this course. It is advised that you choose a topic within the first two weeks of the course, since the paper will take several weeks to complete. **NOTE: Please e-mail the instructor your topic of choice for approval before you begin work on this project.**

Grading Criteria for the APA Research Paper

The research paper assignment is worth 100 points. Specifically, the introduction is worth 10 points, the body of the work will be worth 70 points, the conclusion/summary will be worth 10 points, and the reference page will be worth 10 points. Within the body of the work, it is expected that proper focus and sequencing of the findings is presented, along with support that is properly referenced throughout the entire paper. Please proofread all work before submitting the paper; spelling and grammar mistakes will result in point deductions. **NOTE: Any final paper that is submitted that is less than the minimum amount of 5 FULL pages will not receive a passing score.** The maximum points given to final papers that are less than five pages will be 60 points, which is a D. A full page means a full page: no half pages or 3/4ths of a page, with no large spaces (especially at the top and bottom of the page). Proofread all work; multiple spelling/grammar mistakes will result in point deductions. **Please note that a cover pages DOES NOT count as one of the 5 required pages.**

Discussion Board Assignments

Participation points will be awarded 20 points weekly for completing the on-line discussion board topics. There are a total of ten topics (two per week) for a total of 100 points. Students who fail to complete the weekly discussion board assignments as outlined will lose 20 points for each week not completed.

Discussion Board Assignment 1: What ethical considerations should guide biological research on nonhuman animals? How should these ethical considerations differ from those guiding biopsychological research on humans?
Due Week 1

Discussion Board Assignment 2: How does experience affect neuron development and function throughout early development and throughout the rest of our lives? **Due Week 1**

Discussion Board Assignment 3: Regarding the history of prefrontal lobotomies, how could physicians (who are generally intelligent, highly-educated, and dedicated to helping their patients) participate in performing such surgeries? Further, how could someone who had won a Nobel Prize for developing a form of surgery that left over 40,000 people in the U.S. crippled? Why do you feel this happened, and could something like this happen today? **Due Week 2**

Discussion Board Assignment 4: What did you know about the human brain BEFORE taking this course? Did you understand how the brain “worked”? How would damage to the brain affect one’s life? Finally, how does experience improve brain function? **Due Week 2**

Discussion Board Assignment 5: How would your life be affected if you were in an accident and had lost your eyesight? What immediate repercussions would occur? Further, how do you think you would be able to cope mentally if such a traumatic event occurred? And finally, what kind of support would you have if such a loss took place in your life? **Due Week 3**

Discussion Board Assignment 6: Which sensory system would you study if you were a biopsychologist who focused primarily on sensory systems? And why? **Due Week 3**

Discussion Board Assignment 7: Many feel that most of the eating-related health problems of people in our society occur because the conditions in which we now live are vastly different from those of pre-modern times. How do you feel about this, and what, if anything, could be done to resolve such health problems? **Due Week 4**

Discussion Board Assignment 8: What does the term “Stress” mean to you? How have you experienced stress throughout your life? Describe some of the more stressful times of your life, and how you reacted (both physically and mentally) to the stressful event(s). Further, how is the word “Stress” used in our society? **Due Week 4**

Discussion Board Assignment 9: In your opinion, how does the mind differ from that of the brain? Regarding the mind-body dualism issue, what exactly is the difference between the mind and the body? Rene Descartes believed that the mind and the body are distinct elements that exist independently of one another. Do you feel that this is true, or not? Explain. **Due Week 5**

Discussion Board Assignment 10: What is your opinion on cutting the corpus callosum in patients suffering from epileptic seizures? The procedure creates a problem; the two sides of the brain can no longer communicate and are now isolated, causing conditions such as alien hand syndrome (where one of the two hands becomes independent, where the conscious mind is unaware of its actions). Do you believe that it may be possible (since each side of the brain is now experiencing senses that the other side may not be aware of) that a different individual is gradually being produced inside one head? **Due Week 5**

Grading Criteria for Discussion Board Assignments You are required to make at least three separate posts for these discussions, one post in which you give your own response to the question/topic, and two replies to your fellow students. All posts will reflect substantial thought on your part, contributing something to the discussion beyond simple disagreement or agreement. Some examples of substantial contributions include: elaboration on a point, constructive criticism, finding relevant examples or counterexamples from authoritative sources or personal experience, and finding outside research on the topic, or addressing an example in the context of what is discussed in course materials. Your response to the question/topic should be at least 250 words in length, and your replies to fellow students should be at least 150 words each. Your response to the initial question/topic is worth up to 5 points, and your reply posts are worth 2.5 points each (totaling a possible 10 points for the assignment).

Course Outline

Week 1

Chapter 1: The Major Issues

The chapter will cover the following: Introductory material, including the biological explanations of behavior, career opportunities, and genetics and behavior

Chapter 2: Nerve Cells and Nerve Impulses

The chapter will cover the following: The cells of the nervous system, neurons, the nerve impulse, and action/resting potentials

Chapter 3: Synapses

The chapter will cover the following: The properties of the synapse, EPSPs and IPSPs, chemical events at the synapse, neurotransmitters, and drugs and addictions

Due for grading: Course Preparation Quiz (15 points)

Discussion Board Assignment #1 (10 points)

Discussion Board Assignment #2 (10 points)

Journal Article Assignment #1 (25 points)

Week 2

Chapter 4: Anatomy of the Nervous System

The chapter will cover the following: Structure of the vertebrate nervous system, the cerebral cortex, and research methods

Chapter 5: Development and Plasticity of the Brain

The chapter will cover the following: Development and maturation of the vertebrate brain, brain and behavioral development through adolescence and old age, plasticity after brain damage, and mechanisms of recovery

Due for grading: Discussion Board Assignment #3 (10 points)

Discussion Board Assignment #4 (10 points)

Journal Article Assignment #2 (25 points)

Week 3

Chapter 6: Vision

The chapter will cover the following: Perception, visual coding, and how the brain processes visual information

Chapter 7: Other Sensory Systems

The chapter will cover the following: Audition (hearing), the mechanical senses, pain, and the chemical senses, including that of taste and smell

Chapter 8: Movement

The chapter will cover the following: Brain mechanisms of movement, the cerebral cortex, the cerebellum, and movement disorders, including Parkinson's disease and Huntington's disease

Due for grading: Discussion Board Assignment #5 (10 points)

Discussion Board Assignment #6 (10 points)

Journal Article Assignment #3 (25 points)

Exam #1 (100 points)

Week 4

Chapter 10: Internal Regulation

The chapter will cover the following: Temperature regulation, homeostasis and allostasis, thirst, hunger, and eating disorders

Chapter 11: Reproductive Behaviors

The chapter will cover the following: Sex and hormones, variations in sexual behaviors, and sexual orientation

Chapter 12: Emotional Behaviors

The chapter will cover the following: Emotions, the James-Lange theory of emotions, brain areas associated with emotions, the functions of emotions, attack and escape behaviors, fear and anxiety, and stress

Due for grading: Discussion Board Assignment #7 (10 points)

Discussion Board Assignment #8 (10 points)

Journal Article Assignment #4 (25 points)

Exam #2 (100 points)

Week 5

Chapter 14: Cognitive Functions

The chapter will cover the following: Lateralization of brain functions, development of lateralization and handedness, Language, and brain damage, including the Broca's area and Wernicke's area of the brain

DUE FOR GRADING: Discussion Board Assignment #9 (10 points)

Discussion Board Assignment #10 (10 points)

Exam # 3 (100 points)

APA Research Paper (100 points)

Late Assignments:

All assignments and required online activities are due according to the deadline listed in the course schedule.

Incompletes:

If you are unable to complete the requirements for this course due to extenuating circumstances, an Incomplete grade (I) may be granted if you meet the general guidelines stated below.

General Guidelines for submitting a course incomplete request:

- More than 50% of the course session has elapsed.
- The student has encountered an unexpected situation that is beyond his or her control.
- The student is:
 - in good academic standing -- up-to-date on all of the course assignments and has at least an overall passing grade,

- able to complete all of the remaining coursework within a session (5 weeks for a undergraduate course and 6 weeks for a graduate course) that immediately follows the session the student is currently enrolled, and
- able to provide support documentations to substantiate the need for extra time should a session is not enough to complete the course requirements.

If an Incomplete is granted, the instructor will set a deadline for all work to be completed. **The deadline cannot go past one (1) session.** All incomplete grades are subject to approval by the designated university authority.

Course Related Communication

Online courses are conducted in an accelerated format. Timely communication is very important. When receiving emails from your classmates or instructor, please respond as soon as you can.

Students are REQUIRED to use their Indiana Tech email account for all course related communication. The most direct, and effective, way to email your course instructor and classmates, is by using the Send Email function within the Blackboard course site. When you use the Send Email function, you automatically receive a carbon copy of the email you sent. In the event when you need to substantiate your claim that you did email your classmates or instructor, you can show that carbon copy to the person(s) who requested it.

Please note that Blackboard only permits you to send email, it does not provide you with the check email function. All of the emails your classmates and instructor send to you will be delivered to your Indiana Tech email account. You are strongly encouraged to check your Indiana Tech email account regularly, preferably several times a week, to minimize the likelihood of miscommunication.

The University policy requires each online course instructor to respond to a student's email within 24 hours. Unless there is an extraneous situation that prevents the instructor from following this rule, you can expect to hear from the instructor within 24 hours. If you don't receive a reply within 24 hours, please do not hesitate to follow up with another email or forward the carbon copy of the email you sent to OnlineSupport@IndianaTech.edu with a note "Please help. It's been 24 hours and I have not heard from my instructor" and the University support staff will act on your behalf to contact your course instructor.