

PSY 2600 Psychobiology Course Description

Henry Heffner, Prof.

Introductory Blackboard Page

Read the Syllabus.

The test and exam dates are listed on the Home Page.

Practice quizzes and Hear & Spell tests are taken from any computer.

Exams are taken supervised in University Hall, Room 5000 in the Fall and Spring Terms. Summer term exams are not proctored and the time allowed for each exam is shortened.

Get the textbook and begin.

The first three chapters of the textbook are available online so that you can begin studying now (click on "Textbook" in the menu on the left).

The textbook for this course is: *A Concise Guide to Psychobiology*. It is available from both the UT Bookstore and the Rocket Bookstore on Bancroft.

Syllabus

Psychobiology

PSYC 2600-901

Psychology

This course provides a basic introduction to psychobiology. It uses a textbook designed for college sophomores. Students take practice quizzes on each of the 20 chapters. Grades are based on 7 exams of approximately 18-30 questions each, as well as "Hear & Spell" tests for each chapter. Students are allowed to retake one exam at the end of the term.

Recommended Prerequisite: PSYC 1010 Introductory Psychology

Course Goals

The purpose of this course is give you a basic understanding of the neurological basis of behavior so that you can 1) better understand magazine and newspaper articles about the brain, 2) be prepared for advanced courses in neuroscience, and 3) have some knowledge of the neurological disorders that you may encounter during your lifetime.

Instructor Information

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B.A., Trinity College, Psychology; M.S., Florida State University, Psychology; Ph.D., Florida State University, Psychobiology.

Field of Interest: Role of auditory cortex; Comparative study of hearing; Tinnitus; Ethics of animals research.

For more about me go to: <http://psychology.utoledo.edu/showpage.asp?name=hheffner>

Textbook

A Concise Guide to Psychobiology. (Available from the UT Student bookstore and the Rocket Bookstore on Bancroft.)

Policies

Attendance consists of taking quizzes and exams on time. These policies and procedures will be followed as closely as possible, but are subject to change.

Course Requirements

Your grade for the course is based on seven exams, each covering two-three chapters. You will be allowed to retake one exam at the end of the course. **The grade you receive on the retake will be the final grade for that exam, even if it is lower than your first score.** (Note that the retake is optional and that you have to let me know which exam you want to retake.)

The grading scale is:

90% & above = A,
88-89.99% = A-,
86-87.99% = B+,
80-85.99% = B,
78-79.99% = B-,
76-77.99% = C+,
70-75.99% = C,
68-69.99% = C-,
66-67.99% = D+,
60-65.99% = D,
58-59.99% = D-,
below 58% = F.

IMPORTANT STUDY TIP

Read a chapter first without filling in the answers to the questions. Read it a second time and fill in the answers as you go. (You can check your answers with those in the back of the book)

Then take a practice quiz for the chapter until you can answer all the questions. Keep reading and taking practice quizzes until you can consistently receive a grade you like. **It is not unusual for "A" students to take each quiz 20 or more times before taking an exam.**

If you can't answer the practice quiz questions, you won't be able to answer the exam questions.

Quizzes

Chapter Quizzes are provided for practice and do not count towards your grade. You should take a quiz as many times as necessary to achieve mastery. The questions are chosen randomly from the test bank so you will get a different quiz each time.

The quizzes are machine-scored so spelling errors are counted as wrong answers. Also, there may be an alternative correct answer that is not listed. **Do not panic if the computer scores an answer on a quiz wrong when it is really correct.** Students are expected to answer the questions on the quizzes.

Please let me know if you feel a question needs fixing because it is unclear, there is another alternative answer, or the question is just plain wrong--errors do sometimes occur.

Exams

The exam schedule can be found on the Home Page.

Each exam will have 20-32 questions.

Academic Honesty. You **may not** receive help from anyone while taking an exam. Students are expected to adhere to the University of Toledo's policy on honesty, which can be found at: <http://www.utoledo.edu/dl/students/dishonesty.html>

Scoring Exams. The exam questions will be matching or multiple choice, with each question based on a practice question.

Note that you will have anatomy questions from previous exams appearing on subsequent ones.

Hear & Spell Tests

In order to be considered educated, you must pronounce and spell names and technical terms correctly. For this reason, many pronunciations are included in the textbook.

To reward students for learning these pronunciations, there is a "Hear & Spell" test for each chapter, which uses those words. You may take each test over and over until you get the score you want.

Each correctly spelled word on a Hear & Spell test is worth 0.05 points. Because there are about 400 words, this adds up to 20 points, which is 10% of your total grade.

Missed Exam Policy

Contact the Instructor as soon as possible.

Final Exam

Instead of a Final Exam, you are allowed to retake one exam of your choice. Your score on the retake will be your final grade for that exam, even if it is lower than your first score. However, if you are satisfied with your final grade, or do not wish to take the chance of getting a lower score on the retake, you do not have to take it. If you want a retake, you will need to let me know by the last week of classes.

Students must email the instruction by the last week of classes to retake an exam. The email should state which exam they wish to retake.

Extra Credit: There is no extra credit. So be sure to take all the Hear & Spell tests (and study for the exams).

Contact me if you have ANY questions

I am here to help so contact me with your questions. The best way is to email me on this course

Course Evaluation

As with all UT courses, students will be able to fill out a course evaluation, which is anonymous.

Topics Covered

Chapter 1

Introduction to Neuroscience

- Introduction
- What is Neuroscience?
- History of Neuroscience
- Who are Neuroscientists

Chapter 2

Brief Introduction to Neuroanatomy

- Introduction to the Nervous System
- Commissures
- Fissures and Gyri
- Planes of Orientation
- Brain Scans

Chapter 3

The Neuron

- Introduction
- Neural Processing
- Electrical Properties of Neurons
- The Synapse
- Electroencephalogram

Chapter 4

Neurotransmitters

- Introduction
- “Typical” Neurotransmitters
- “Atypical” Neurotransmitters
- Synaptic Transmission
- Receptors, Second Messengers, and Glia
- Readings of Interest

Chapter 5

Non-Neural Elements of the Nervous System

- Introduction
- Glia
- The Vascular System
- The Meninges
- The Ventricles and Cerebrospinal Fluid
- Neuroanatomy Review

Chapter 6

Development of the Nervous System

- Introduction

Prenatal Development

Genes

Postnatal Development

Chapter 7

Sensation & Perception + Vision

Part I

Sensation & Perception

Vision Part I

Physics of Light

The Eye

Refractive Errors: Problems in Focusing the Eye

Two Common Non-Refractive Problems of the Eye

Chapter 8

The Neural Processing of Visual Information

Introduction

The Retina

The Visual Pathways

Visual Cortex

Disorders of the Visual System

Subdividing Cortex

Chapter 9

Color Vision, Visual Phenomena, and Early Visual Experience

Introduction

Color Vision

Abnormal Color Vision

Visual Phenomena

Acquiring Sight in Adulthood

Chapter 10

Auditory and Vestibular Systems

Introduction

Physics of Sound

Anatomy of the Human Ear

Encoding Sound

The Auditory Pathway

Physiology of the Auditory system

Hearing Disorders

Vestibular System

Chapter 11
Chemical Senses: Taste, Olfaction, and the Vomeronasal Organ

Introduction
Taste (Gustation)
Olfaction (Sense of Smell)
Vomeronasal Organ
Cranial Nerves

Chapter 12
Somatosensory System

Introduction
Discriminative Touch
Thermal Sensitivity
Pain (Nociception)
Kinesthesia
Somatosensory System Anatomy
Vibrissae Sense

Chapter 13
Control of Movement

Introduction
Muscles and Motor Nerves
Spinal Reflexes
Control of Movement by the Brain

Chapter 14
Regulating the Internal Environment

Introduction
The Autonomic Nervous System
Neural Regulation of the Autonomic Nervous System
Eating and Appetite

Chapter 15
Biological Rhythms Including Sleep

Introduction
Biological Rhythms
Neural Control of Biological Rhythms
Sleep
Sleep Disorders

Chapter 16
Emotion and Stress

Introduction
The Study of Emotion
Central Nervous System Circuits
Prefrontal Cortex

Aggression
Reward Centers in the Brain
Stress

Chapter 17
Brain Mechanisms in Learning

Introduction
Habituation and Sensitization
Classical Conditioning
Operant Conditioning
The Medial Temporal Lobe and Memory
Other Human Memory Disorders
Long-Term Potentiation

Chapter 18
Language and Consciousness

Introduction
Animal Communication
Cortical Speech Areas
Lateralization of the Speech Areas
The Split-Brain
Consciousness

Chapter 19
The Malfunctioning Mind

Introduction
Psychiatric Conditions with Known Organic Causes
Schizophrenia
Environmental Considerations in Mental Illness

Chapter 20
The Symbiotic Nature of Animal Research

Introduction
Symbiosis
Domestication
How Humans Benefit from Their Mutualistic Relationship with Animals
How Animals Benefit from Their Mutualistic Relationship with Humans
Philosophical Issues