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Syllabus

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Syllabus

History of Neuroscience

The University of Toledo

Dept. of Psychology, College of Languages, Literature and Social Sciences

PSY4980:001 Special Topics in Psychology

Instructor: Henry E. Heffner, Ph.D.

Email: Henry.Heffner@utoledo.edu

Office Hours: By appointment

Office Location: UH 5002

Instructor Phone: 419-530-2684

Offered: Fall, 2019

Course Website: Blackboard Learn

Class Location: UH 1610
Class Day/Time: Monday-Wednesday, 9:35-10:55

Credit Hours: 3

CATALOG/COURSE DESCRIPTION

This course covers the history of neuroscience, beginning with the Third Dynasty of ancient Egypt (which began about 2700 B.C) and ending with the current era.

COURSE OVERVIEW

Neuroscience is the study of the physiological basis behavior that began over 4000 years ago as part of the study of medicine. We will cover the various views beginning with the idea that the heart was the seat of the soul (consciousness). It gradually became accepted that the brain was responsible for behavior and the search was on to discover which areas of the brain were involved in the various sensory, motor, and cognitive functions. It was in the late 19th century that our modern view of the brain began to take shape. This course will cover the evolution of our ideas concerning the brain and what we currently know about how it functions.

STUDENT LEARNING OUTCOMES

Students will learn the history of our views of the physiological basis of behavior. They will see how it evolved over the centuries. Particularly important, they will learn how the type of research studies and the development of new equipment for studying the anatomy and physiology of the body led to our current understanding of the brain and behavior.

TEACHING METHODOLOGY

The course will be taught using PowerPoint files along with lectures or question and answer sessions to ensure that students understand the material. Questions will also be given to the students to assess their understanding

PREREQUISITES AND COREQUISITES

Although there are currently no prerequisites for the course, some familiarity with neuroscience is strongly recommended. A general knowledge of history and geography is also helpful.

TEXTS AND ANCILLARY MATERIALS

The textbook for the course is: Finger, Stanley (2000). Minds Behind the Brain: A History of the Pioneers and Their Discoveries. Oxford University Press.

This book is available free online through the OhioLink Electronic Book Center. Log into it through the University of Toledo Library.

Ancillary materials consist of a PowerPoint presentation for each chapter which attempts to explain points with which students may not be familiar.

TECHNOLOGY REQUIREMENTS

A computer connected to the internet. Ability to download and read PowerPoint files.

ACADEMIC POLICIES

Undergraduate Policies: http://www.utoledo.edu/policies/academic/undergraduate/

COURSE EXPECTATIONS

Students are expected to participate in the class by attending and discussing the material or by online discussions. The Instruction may be contacted by email. Office hours are before and after class as well as by appointment.

OVERVIEW OF COURSE GRADE ASSIGNMENT

Students will be evaluated using quizzes that cover each of the 18 chapters and accompanying PowerPoint presentations.

Midterm Grading

Midterm grades will be calculated as described above. They are important to give students feedback on their performance before it is too late to correct deficiencies.

Final Grading

The grading scale is 90-100% A, 80-89.9% B, 70-79.9% C, 60-69.9% D, below 60% F.

UNIVERSITY POLICIES

Policy Statement on Non-Discrimination on the Basis of Disability (ADA)

The University is an equal opportunity educational institution. Please read The University's Policy Statement on Nondiscrimination on the Basis of Disability Americans with Disability Act Compliance.

Students can find this policy along with other university policies listed by audience on the University Policy webpage (http://www.utoledo.edu/policies/audience.html/#students).

Academic Accommodations

The University of Toledo embraces the inclusion of students with disabilities. We are committed to ensuring equal opportunity and seamless access for full participation in all courses. For students who have an accommodations memo from Student Disability Services, I invite you to correspond with me as soon as possible so that we can communicate confidentially about implementing accommodations in this course. For students who have not established affiliation with Student Disability Services and are experiencing disability access barriers or are interested in a referral to healthcare resources for a potential disability or would like information regarding eligibility for academic accommodations, please contact the Student Disability Services Office (http://www.utoledo.edu/offices/student-disability-services/) by calling 419.530.4981 or sending an email to StudentDisability@utoledo.edu.

ACADEMIC AND SUPPORT SERVICES

Please follow this link to view a comprehensive list of Student Academic and Support Services (http://www.utoledo.edu/studentaffairs/departments.html) available to you as a student.

SAFETY AND HEALTH SERVICES FOR UT STUDENTS

Please use the following link to view a comprehensive list Campus Health and Safety Services available to you as a student.

COURSE SCHEDULE

WEEK	DATES	TOPIC	LEARNING OUTCOME(S)	ASSIGNMENTS DUE
1	August 26 and 28	A survey of the history of Neuroscience. Brief review of the brain and nervous system	Review of the nervous system. Introduction to the textbook.	Chapter 1
2	Labor Day & Sept. 4	An ancient Egyptian Physician: The dawn of neurology	Oldest writings about this topic	Chapter 2
3	Sept. 9 & 11	Hippocrates Galen	The brain as the organ of mind. The birth of experimenta-tion	Chapter 3 Chapter 4
4	Sept. 16 & 18	Andreas Vesalius Rene Descartes	The new “human” neuroanatomy. The mind-body problem	Chapter 5 Chapter 6 Quiz #1 on chapters 1-5
5	Sept. 23 & 25	Thomas Willis Luigi Galvani	Functional organization of the brain. Electricity and the nerves	Chapter 7 Chapter 8
6	Sept. 30 & Oct. 2	Franz Joseph Gall	The cerebral organs of the Mind	Chapter 9
7	Oct. 7 & 9	Paul Broca and Carl Wernicke	Cortical localization and cerebral dominance	Chapter 10 Mid-term exam
8	Oct. 14 & 16	David Ferrier and Eduard Hitzig	Experimentalists map the cerebral cortex	Chapter 11
9	Oct. 21 & 23	Jean-Martin Charcot	Clinical neurology comes of age	Chapter 12
10	Oct. 28 & 30	Santiago Ramón y Cajal	From neural nets to the neuron doctrine	Chapter 13
11	Nov.4 & 6	Charles Scott Sherrington	The integrated nervous system.	Chapter 14 Quiz #2 on chapters 11-14
12	Veterans Day & Nov.13	Edgar D. Adrian	Coding in the nervous system.	Chapter 15
13	Nov.18 & 20	Otto Loewi and Henry Dale	The discovery of neuro-transmitters	Chapter 16
14	Nov. 25 & Thanksgiving	Roger W. Sperry and Rita Levi-Montalcini	From neural growth to “Split Brains”	Chapter 17
15	Dec. 2 & 4	Pioneers and Discoveries in the Brain Sciences	Review of the main discoveries and who made them.	Chapter 18. Review the book.
16	Finals Week			Final Exam