DEPARTMENT: PSYCHOLOGY  PREPARED BY: PSYCHOLOGY DEPT.
DATE:     FALL 2017

COURSE TITLE: Sensation and Perception

COURSE CODE: PSY 320

CREDITS: 3

CONTACT HOURS: 45

CATALOG DESCRIPTION:
This course will survey the experimental psychology of sensory and perceptual process and behavior. Theories and processes relating the transformation of physical energies (such as light and sound) to psychological experiences (such as seeing object and hearing noises) will be discussed. While the research examined will primarily focus on the visual and auditory systems, the other sensory systems will be discussed as well. The emphasis will be on the contribution of behavioral science to understanding subjective experience of physical and social phenomena.
Prerequisite(s): PSY 101. Credits: 3 (3,0)

PREREQUISITES: PSY 101, PSY 130 or PSY 131, or permission of the Department Chairperson

REQUIRED FOR:

ELECTIVE FOR: Applied Psychology Program, all curricula with upper level social science electives.

Sensation and Perception

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Behavioral Objectives

1. The student will acquire knowledge of current theories of sensory and perceptual processes addressing the visual, auditory, haptic-tactual system, and somatic and chemical systems.

2. The student will be familiar with the empirical basis for theories in sensation and perception in terms of the major research studies on which the theories are based and their strengths and weaknesses.

3. The student will understand the means by which information from sensation and perception are integrated into object perception and the perception of an object's characteristics, such as color and shape, and dynamics, such as motion.

4. The student will understand the means through which objects are discriminated, categorized, and recognized.

5. The student will understand the basis and extent of individual differences in sensation and perception.

COURSE OUTLINE

The following is an overview of the topics to be covered in this course. Each unit will include relevant theory, current research, and its application.

Unit 1: The Visual System
Much information about the world and its objects and events is gathered with our visual systems. Except for listening to speech, the preponderance of our everyday activity is visually guided. Due to its importance, a great deal of research is devoted to understanding the structural and functional characteristics of vision. In this unit, theory and research on the visual system will be presented. The structure of the vision system will be discussed as will the sensitivity of the system to visual stimuli. The psychological characteristics of visual sensation will be discussed,
i.e., the relationship between stimulus intensity and perception of visual characteristics of objects and their behavior. Also addressed with be visual acuity, spatial sensitivity, color perception, temporal or flicker sensitivity, and the role of eye movements in visual perception.

Unit 2: The Auditory System
The auditory system is used to detect mechanical energy propagated through the air or other media and by this means we perceive the nature of objects and their approximate locations. One of the most important types of energy detected with the auditory system is human speech. In this unit the structure and functional characteristics of the auditory system will be presented. Research addressing the functions of audition and its use of acoustical stimuli will be reviewed.

Unit 3: The Haptic-Tactual System
In this unit, the perception of touch will be presented. This sense is quite complex and involves cutaneous and kinesthetic sense. Cutaneous senses include pressure, temperature, and pain. Kinesthetic sense is the ability to perceive the position and movement of various parts of the body. Research related to the integration of cutaneous senses for purposeful haptic behavior such as manipulative and exploratory touch will be reviewed. The perception of the surface characteristics of objects through touch will be addressed as well.

Unit 4: The Somatic and Chemical Systems
The somatic system provides vestibular sensitivity, i.e., the perception of orientation and motion based on information from the inner ear. The chemical senses involve taste and smell. In this unit, the structures and mechanisms responsible for somatic and chemical sensing will be presented along with the factors that impact their performance. The functions of these senses to overall performance and the application of these senses to behavior will be discussed.

Unit 5: Perceptual Constancies
While there are different theories to account for perception, most agree that humans respond selectively to stimuli. Thus it is important to identify what sorts of information we respond to and under what conditions. Perceptual constancies constitute the specific information we perceive that determine an object's color, brightness, shape, size, distance, and motion. The perception of constancies enable us to perceive a stable world instead of the bouncing and jittering visual images that fall on the retina. In this unit the research and theories regarding the perception of constancies will be presented.

Unit 6: Perception of Location, Size, Distance, and Motion
In this unit, theoretical approaches to the perception of objects in three-dimensional space will be presented including, James Gibson's global psychophysics. Current research will be reviewed that addresses the hypothesis that light reflected off objects in the natural world contains higher-order variables that, when perceived by the eye, specify the object's properties and their relationship to the perceiver.

Unit 7: Object Discrimination, Categorization, and Recognition
In this unit we will address how objects, places, and events, come to be discriminated, identified, categorized, and recognized. These issues will be presented from a developmental perspective to examine how a child comes to differentiate objects, places, and events from each other. Applications of research to the understanding of perception of human faces and the identification of voices will be examined.

Unit 8: Social Perception
Social perception is the acquisition and use of information about people and social encounters and the formation of judgements about them. Social perception makes use of physical appearance, verbal and non-verbal communication, and social interaction. In this unit, the research addressing social perception and the stimuli that drive the process will be presented.
Unit 9: Individual Differences in Perception

Individual characteristics can effect perception. In this unit, the factors that give rise to individual differences in perception will be presented. Research addressing perceptual-cognitive styles will be reviewed.