



**CONTENT IN TERMS OF SPECIFIC BODY OF KNOWLEDGE:**

- I. Research Methodology
  - A. In Vitro Methods
    - 1. Histological techniques
    - 2. Histoflouresences
    - 3. Amino acid autoradiography
    - 4. Horseradish peroxidase techniques
  - B. In Vivo Methods
    - 1. CAT scanning
    - 2. PET scanning
    - 3. MRI
  
- II. Neuron
  - A. Structure and Function
  - B. Neuronal Transmission
    - 1. Action potential
      - a. Movement of NA,+K+ions
  - C. Synapse
    - 1. Synaptic Transmission
      - a. Chemical processes
      - b. Receptor function
  
- III. Neurotransmitter
  - A. Synthesis
  - B. Effects on CNS and PNS
  - C. Identify neural pathways for
    - 1. GABA
    - 2. Acetylcholine
    - 3. Dopamine
    - 4. Norepinephrine
    - 5. Serotonin
  - D. How psychoactive drugs effect each neurotransmitter system
    - 1. CNS depressants
    - 2. CNS stimulants
    - 3. Hallucinogens
  - E. Physiology of Addiction
  
- IV. Nervous System - Structure and Function
  - A. Central Nervous System
    - 1. Brain
    - 2. Spinal cord
  - B. Peripheral Nervous System
    - 1. Somatic
    - 2. Autonomic
      - a. Sympathetic
      - b. Parasympathetic
  - C. Interaction between GNS and PNS
    - 1. Monosynaptic reflexes
    - 2. Multisynaptic reflexes
  
- V. Sensory Processes and Perception
  - A. For each sensory system (vision, audition, olfaction, gustation and somatosenses) identify:
    - 1. Receptors
      - a. Process of transduction
      - b. Higher level processing
    - 2. Ascending neural pathways
    - 3. Anomalies in sensation and perception
  
- VI. Reproductive Behavior and Aggression
  - A. Neural systems involved in reproduction
    - 1. Hormonal influences on the developing nervous system
    - 2. Hormonal influences on behavioral activity
  - B. Sexual Orientation
    - 1. Hormonal influences on sexual orientation
  - C. Gender Dimensions - Development of

- 1. Biological Sex
    - a. Chromosomal sex
    - b. Gonadal sex
    - c. Internal accessory organs
    - d. External genitalia
    - e. Anomalies in sexual development
  - D. Aggression
    - 1. Hormonal influences on aggressive behavior
- VII. Schizophrenia and Depression
- A. Schizophrenia
    - 1. Identify symptoms
    - 2. Etiology
      - a. Neurotransmitter hypothesis
      - b. Brain damage Hypothesis
      - c. Genetics
    - 3. Treatment
  - B. Depression
    - 1. Identify symptoms
    - 2. Etiology
      - a. Neurotransmitter deficiency
      - b. Genetics
      - c. Social influences
      - d. Gender differences
      - e. Hemisphere activity differences
    - 3. Treatment
- VIII. Sleep and Biological Rhythms
- A. Sleep
    - 1. How we study -
      - a. Brain wave activity/stages
      - b. Normal night's sleep
  - B. Sleep Disorders
  - C. Theories about why we sleep
    - 1. Evolutionary
    - 2. Rest and repair
  - D. Relationship between sleep and depression
    - 1. Seasonal affective disorder
      - a. Treatment
  - E. Neural pathways in sleep
- IX. Neuropsychological Disorders
- A. Stroke
    - 3. Language disorders
  - B. Parkinsons Disease
  - C. Huntingtons Disease
  - D. Seizure disorders
  - E. Alzheimers
  - D. What have we learned from "experiments" in nature
- X. Learning and Memory
- A. Perceptual learning
    - 1. Neural networks
  - B. Stimulus - response learning
  - C. Relational learning
    - 1. Hippocampus
    - 2. Human anterograde amnesia
- XI. Ingestive Behavior
- A. Physiological Regulatory Systems
    - 1. Drinking
      - a. Thirst
      - b. Neural mechanisms of thirst

If yes, check all that apply. (See guidelines for preparation for definitions.)

telecourse  
 mediated instruction  
 computer assisted instruction

**GRADING POLICY AND STANDARDS** (include methods of determining whether the stated objectives have been met by students):

All work is graded on a percentage scale:

90% = A      80% = B      70% = C      60% = D      50% = F

50% of course grade = Exams 1-4  
10% of course grade = Weekly quizzes  
10% of course grade = Journal article reviews 1-3  
20% of course grade = APA research paper  
10% of course grade = Lab practicum test

**IS COURSE REPEATABLE FOR REASON(S) OTHER THAN DEFICIENT GRADE?**

Yes \_\_\_\_\_ No x Number of times course may be taken for credit: 1.

If yes, identify specific provision of Title 5 Division 2 section(s) 55761-55763 and 58161 which qualifies course as repeatable:

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