Master Syllabus
PSB 3002 Biological Bases of Behavior I
Department of Psychology
Florida Atlantic University, Boca Raton, FL

Course Prerequisites and/or Corequisites (if any)
PSY 1012 General Psychology; It is strongly recommended that students complete an introductory biology course, such as BSC 2085 (Anatomy and Physiology I) or BSC 1010C (General Biology I), prior to enrollment in this course. Students who have not taken introductory biology courses may have difficulty with course material, because much of the course content builds on fundamental biological and chemical principles. Students who have not taken the above course(s), or their equivalent, should carefully examine the textbook to determine whether or not they are adequately prepared for this course.

Course Lecture-Lab-Credit and/or Contact Hours
Lecture Course, 3 credit hours

Includes Lab? ___Yes   X__No

Lab Fee?  ___Yes   X__No

Special Facility or Equipment Needs
No specified facility or special equipment required; textbooks and other student materials to be specified by instructor.

Recommendations for Teaching Assistants
There is typically one TA for each section of the course.

Course Objectives
This course is intended to present the basic principles of psychobiology to undergraduate psychology majors. The course emphasizes neural histology and ultrastructure, neural physiology, neuroanatomy of the central and peripheral nervous system, a brief survey of chemical neuroanatomy (neurotransmitter systems), and "systems integration", which includes an analysis of sensory and motor systems. This course is intended to prepare students for other psychobiology courses at FAU, as well as the psychology/physiological psychology specialization of the GRE exam (for students intending to enter psychology graduate school).

Course Outline of Topics (Sequence & specifics may vary by instructor)
I. Introduction: Class Policies/Procedures
II. Structure and Functions of Cells in the Nervous System
III. The Membrane Potential
IV. The Action Potential
V. The Synaptic Potential
VI. Neurotransmitters and Neuromodulators
VII. Central Nervous System
VIII. The Spinal Cord
IX. The Autonomic Nervous System
X. Touch, Hearing, Taste, Smell
XI. Vision

Course Learning Objectives
Students will demonstrate an understanding of the following concepts through their performance on course examinations:

1. Histology and cell biology of neurons and glia
2. Ionic bases of resting membrane potential
3. Ionic bases of action potential. Cable properties, summation properties, and threshold for action potential
4. Synaptology and ionic bases of presynaptic exocytosis; Ionic bases of postsynaptic potentials.
5. Chemical / electrical neurotransmission; Survey of chemically-gated channels. Introduction to psychopharmacology.
7. Visceral (autonomic) nervous system.
8. Visual transduction; physiology, neuroanatomy, psychophysics.