Moravian College
Department of Biological Sciences
 Neuroscience - BIO 362 
Fall 2007

Instructor:	Dr. Cecilia M. Fox
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Office:	Collier Science Room 304
Office Hours:	Mondays, Wednesdays and Fridays 11:15am-12:15pm, Thursdays 10am-11am
	and by appointment
Lecture:	Mondays, Wednesdays and Fridays 10:20-11:10am PPHAC 235
Lab:	Mondays 12:45-3:45pm Collier Hall of Science, Room 303
Required Textbook:	Neuroscience: Exploring the Brain – 3rd edition By Mark F. Bear, Barry W. Connors and Michael A. Paradiso Lippincott Williams and Wilkins

Course Description: The study of neuroanatomy, neurophysiology and neuropathology; special emphasis on the functional aspect of brain organization; introduction to theories and research advances in the field of neuroscience will be presented through journal club and "Neuroscience in the News" activities. Laboratory includes gross anatomy and microscopic study of the central nervous system, computer assisted neurophysiology experimentation, computerized and radiographic study of the brain and a semester long behavior project.

Course Objectives: Upon completion of this course the student will be able to:

1) identify and discuss neuroanatomical structures and their related functions
2) appreciate the interrelationships among neurological structures
3) understand the various means through which neural transmission of information is achieved
4) realize the interrelationships among the central nervous system, peripheral nervous system and musculoskeletal system
5) become familiar with various imaging techniques in studying and identifying structures of the central and peripheral nervous systems
6) effectively discuss current advances in scientific research regarding various areas in neuroscience through journal club and "Neuroscience in the news" activities
7) understand and discuss the symptoms, pathology, current therapies and research regarding neurodegenerative diseases such as Parkinson's disease, Alzheimer's disease and ALS

Grading: The grading system is as follows: *(+/- will be administered as the professor deems appropriate)*

A = 90 - 100
B = 80 - 89
C = 70 - 79
D = 60 – 69

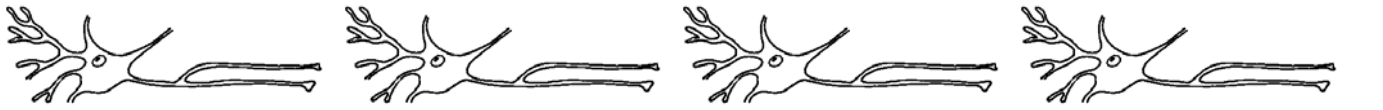
Course Requirements: The student's grade will be based on the following:

Three written lecture exams	100 points each
Two laboratory exams	100 points each
Journal club and "Neuroscience in the News" presentation /participation	100 points
Neurotransmitter presentation	100 points
Behavior Experiment	100 points
Comprehensive final exam	200 points
	1000 points

** Both lecture material and reading assignments are fair game for lecture exams.
** 1/3 of each exam will contain material from previous exams.
** The final lecture exam is cumulative.
** The "presentation / participation grade" is based on your participation during the journal club and "news" discussions, preparation for discussion and quality of presentation.
** The presentations and behavior experiment will be discussed once the course is in progress.

Expectations:

a) *Attendance*: Regular lecture and lab attendance is expected. **No** make-up exams will be given unless you have an acceptable reason (family emergency, illness, etc). If an emergency should arise, you must notify me **prior to** the exam and **not** after. If you plan to miss lab please notify me in advance.
b) Cheating: will not be tolerated. Students will be held to the highest standards as specified by the Moravian College Honor Code. Violations of this code will be handled in the most severe manner allowed by university policy.
c) Reading Assignments: should be completed prior to lecture as well as lab.
d) Neuroscience in the News: Each student will present some new information in the field of Neuroscience that has been mentioned in the news that week. A schedule of presentations will be posted on Blackboard once the semester begins. Presentations will be on Fridays.
e) Extra Help: If difficulties interpreting lecture or lab material arise, please contact me regarding tutoring sessions. *I will be more than happy to help!!*
f) Cell Phones/Pagers: Please either turn off or set on vibrate/quiet mode your cell phones and pagers prior to entering the lecture hall and laboratory. **As a courtesy to the professor, no text messaging during lecture and lab!**



** I look forward to introducing the area of Neuroscience to you.. Best wishes for a great semester!*

- *C. Fox*

Lecture Schedule

Week of:	Topic	Reading Assignment
Aug. 27	Introduction to Neuroscience	Chapter 1
Sept. 3	**No Class (Labor Day)**	
Sept. 3	Neurons and Glia	Chapter 2
Sept. 10	Resting Membrane and Action Potentials	Chapters 3, 4
Sept. 17	Synaptic Transmission and Neurotransmitters	Chapters 5, 6
Sept. 24	Structure of the Nervous System	Chapter 7
Oct. 1st	**Exam 1**	
Oct. 1	Structure of the Nervous System (con't)	
Oct. 8	Cranial Nerves and Chemical Senses	Chapter 8
Oct. 8-10	**Fall Break**	
Oct. 15	The Spinal Cord	Chapter 12
Oct. 22	Somatic Sensory System	
Oct. 29nd	**Exam 2**	
Oct. 29	Chemical Control of Brain and Behavior	Chapter 15
Nov. 2-7	**No class – Society for Neuroscience Conference**	
Nov. 5	Sex and the Brain	Chapter 17
Nov. 12	The Emotional Brain	Chapter 18
Nov. 19th	**Exam 3**	
Nov. 19	Rhythms of the Brain	Chapter 19
Nov. 21-25	**Thanksgiving Holiday**	
Nov. 26	The Aging Brain	
Dec. 3	Motivation	Chapter 16

Dec. 10	Review
Dec. 12-19	**Final Exams**

Preliminary Laboratory Schedule

Lab	Topic
Aug. 27	Library Instruction Session – meet in Reeves Library at 12:45pm
Sept. 3	**No Lab – (Labor Day)**
Sept. 10	Introduction to Neuroscience Literature Journal Club Presentation Microscopic Study: Neuron, Spinal Cord, Cortex, Ganglia
Sept. 17	Neuroscience Abstract Writing Exercise Physio Ex. Neurophysiology of Nerve Impulses
Sept. 24	Behavior Experiment - Positive Reinforcement
Oct. 1	Gross Anatomy of the Brain, Spinal Cord and Skull; Radiographs Journal Club Presentation: Group 1
Oct. 8	**No Lab – Fall Break**
Oct. 15	**Exam 1**
Oct. 22	Cranial Nerve Testing
Oct. 29	Introduction to Biopac Software Reflex Testing; Biopac – Reaction Time Journal Club Presentation: Group 2
Nov. 5	**No lab – Society for Neuroscience Conference**
Nov. 12	Sex and the Brain: Brain gender exercises Biopac: GSR and Polygraph
Nov. 19	Biopac: EEG 1 and 2
Nov. 26	**Exam 2**
Dec. 3	Behavior Experiment Presentations

Professor reserves the right to amend this syllabus as the course progresses