

COURSE SYLLABUS
NEUROSCIENCE – BASC 6105-A
F. Marzban, D.C., Ph.D.
S. Karaganis, Ph.D.

Course Number: BASC 6105--001

Course Title: Human Neuroscience

Course Director: Dr. F. Marzban

Office Hours: Dr. F. Marzban D.C., Ph.D.

M 7:00-7:50 12:00-12:50

Tu 7:00-7:50

W 11:00-12:50

Trimester Credit Hours: **5**

Total Contact Hours Per Trimester: **90**

Lab Hours Per Week: **2**

Dr. S. Karaganis Ph.D.

M 12:12:50

Tu 12:00-12:50

W 12:00-1:50

Th 12:00-12:50

Lab Director/Instructors: Dr. F. Marzban D.C., Ph.D.

Dr. S. Karaganis Ph.D.

Lab Contact Hours/Trimester: **30**

COURSE DESCRIPTION:

The topics considered in this lecture / laboratory course are centered around the basic neuroanatomical and neurophysiological principles essential to establishing a foundation of knowledge related to the human nervous system. The development, differentiation, and histology of the nervous system will be studied. The external and internal configuration of the spinal cord, brain stem, cerebellum, and cerebral hemispheres will be discussed. There will be considerable discussion of the neurocircuitry within these regions. Spinal cord pathways along with pathway lesions will be emphasized. The special sensory systems will be addressed from peripheral receptors to central neural pathways. Clinical case studies will be presented and discussed. The students will acquire knowledge of the literature of the discipline by means of utilizing evidence based reviews or research articles. The laboratory sessions will reinforce the structural and functional relationships of the entire neuraxis from spinal cord to cerebral hemispheres.

In this course the fundamental principles of the discipline are taught. This information is needed to form a strong intellectual foundation for further study of the subject and its clinical applications.

This course has been identified as an assessment level course of Student Learning Outcomes for the Bachelor of Science Degree in Anatomy. Assessment of student achievement of the Student Learning Outcomes will be by outcome specific questions imbedded in the course examinations and require a 70% pass rate for those questions. Student Learning Outcomes that are not achieved provide useful feedback to the instructor to improve course content and teaching strategies.

GENERAL APPROACH TO TEACHING:

Different teaching methodologies will be utilized such as power point presentations, drawing pictures, tracts, and pathways, showing related videos, group discussions, quizzes, and live demonstration of related neurological testing in the class and the lab.

ESTIMATE OF STUDENT WORK LOAD:

- Lecture contact hours: 4 hours/week
- Lab contact hours: 2 hours/week
- Expected student self study: 20 hours/week

LEARNING OUTCOMES:

Learning Outcomes: At the completion of this course, the student should:

- 1) Define the architecture and physiology of the central and peripheral nervous system and its important roles in conducting, modulating, and integrating the central and peripheral information.
- 2) Interpret the related neurological signs and symptoms and demonstrate the mastery of problem solving.
- 3) Apply the neuroscience knowledge in chiropractic philosophy and art principles.
- 4) Illustrate the mastery of neuroscience terminology and be able to communicate in Neuroscience language.

Lab Objectives: At the completion of this course, the student should be able to understand the gross anatomy of the nervous system and correlates the different structures of the nervous system with functional and clinical approach.

ASSESSMENT:

The students will be evaluated based on their performance in 4 lecture exams, 2 lab practicals, lecture and lab quizzes, participation and answering questions in the lecture and in the lab, and completion of the lab assignments.

PREREQUISITES:

Gross Anatomy II (BASC5301), Physiology II (BASC-5303)

REQUIRED TEXTBOOKS:

The Human Brain, John Nolte, 6th edition, Mosby, 2009, ISBN 978-0-323-04131-7
&
Netter's Atlas of Human Neuroscience, David Felton and Ralph Józefowicz, Icon Learning Systems, 2003, ISBN 978-1-4160-5418-4
&
The Human Brain in Photographs and Diagrams, John Nolte and Jay Angevine, Jr., 3rd edition, Mosby, 2007, ISBN 0-323-01126-8
Or
Neuroanatomy An Atlas of Structures, Sections, and Systems, Duane E. Haines, 7th edition, Wolters Kluwer, 2008, ISBN-13: 978-0-7817-6328-8

RECOMMENDED ADDITIONAL TEXTBOOKS:

Fundamental Neuroscience, Haines, Churchill Livingstone, 2006
Clinical Neuroanatomy and Neuroscience, Fitzgerald, Gruener, and Mtui, Elsevier, 2007
Neuroanatomy: Text and Atlas, J.H. Martin, 3rd ed., McGraw Hill, 2003
Essentials of Neural Science And Behavior, Kandel, Jessell, and Schwartz, Appleton and Lange, 1995
Fundamental Neuroscience, M.J. Zigmond, F.E. Bloom, S.C. Landis, J.L. Roberts, and L.R. Squire (editors), Academic Press, 1999
Guide to Clinical Neurology, J.P. Mohr and J.C. Gautier (editors), Churchill Livingstone, 1995
Textbook of Clinical Neurology, C.G. Goetz and E.J. Pappert (editors), W.B. Saunders Co., 1999
Neuroanatomy through Clinical Cases, Hal Blumenfeld, Sinauer Associates, Inc., 2002

SUPPLIES:

Surgical gloves for the lab to handle specimens and diagnostic kit.

GRADING SYSTEMS:

Evaluation is an integral part of the educational process and is used as an educational tool to help students identify problem areas, to recognize and reward achievement, and to identify students who are unable to meet the rigors of the curriculum. Final course grades and their interpretations are listed below:

Grade	Numerical Value	Grade Point Average	Interpretation of Academic Achievement
A	89.5 - 100	4.0	Excellent
B	79.5 - 89.4	3.0	Above Average
C	69.5 - 79.4	2.0	Satisfactory
F	69.4 and below	0.0	Unacceptable

This grading scale is strictly adhered to. There are NO exceptions.

The course consists of four hours of lecture per week as well as two hours of lab per week. Evaluations in the course will consist of **four written lecture exams (exam IV is the final exam) and two laboratory practicals**. Each lecture exam will cover a specific segment of the total course lectures. Unannounced lecture quizzes may be given during the course. There is no makeup for a missed laboratory or lecture quiz. The four written lecture exams are worth 17.0%, 17.0%, 17.0%, and 17.0% each; this is 68% of your final grade. Exams will not be returned to the student. Two laboratory practicals are worth 16.0% and 16.0% each; this is 32% of your final grade. When appropriate, lab materials can and will appear on lecture examinations and vice versa. Lecture and laboratory materials support one another and are interchangeable on examinations.

LABS:

Students are required to bring their own supplies to the labs which include surgical gloves, reflex hammer, ophthalmoscope, Pin wheel lab books, **and lab manuals/handouts/textbooks**. Students should make sure that their lab assignments (including answering the questions, identifying the structures, and completing drawings) are completed before ending the lab. There are also other lecture and laboratory study aids on the Parker University Intranet under **MY PARKER-Academics-Neuroscience-Laboratory Aids. Taking picture or videotaping is not allowed in the lab and doing so, the student will receive an "F" grade for the course.**

OPEN LAB:

Open labs are held on times to be announced each trimester. A TA will be assigned for open labs to answer the students' questions.

90/90 RULE:

None, All students are required to take the final exam.

EXTRA CREDIT:

There will be QA sessions during the lecture or the lab. Based on instructors' discretion, if the student answers the questions fully and appropriately, the instructor may give the student a 2-point credit to the upcoming exam. These 2 point credits are not negotiable and not all students may receive the extra points just with participating in the class such as asking questions in the class. Also there will be unannounced quizzes in the lectures and in the labs. The quiz grade will be added to the upcoming exam grade.

We are offering **up to 5 optional points** added to **the Final Exam Grade** for the students who are willing to submit 5 major scientific reference articles about an interested Neuroscience/Wellness subject by not later than Friday of week 7. This **should be** a group (3-5 students per group) effort. Students will be asked of the submitted articles in the class in the following weeks. The points will be granted based on the accuracy and the proficiency of the answer(s) and it will be up to the instructors' judgment of how many points the student will receive.

COMMON ACADEMIC POLICIES

A complete listing of all common academic policies is found on the Parker Website;
At MyParker, Academics-Clinics, Academics, Common Policies

Absences for Religious Holidays

Academic Dishonesty

Academic Promotion, Probation and Dismissal Policy

Appeals

Attendance Policy

Policy on Late Instructors

Audio/Video Taping

Cell Phones and Electronic Devices in Class

Classroom Behavior

Communications

Computer Usage

Examinations (Make up Exams/Lab Practicals & Altering Grades on Exams/Exam Review)

Final examinations

Grading system

Missed Exam Policy

Grade Appeal Process

Professional Decorum

Special Needs Considerations

Student Bereavement Policy

DISCLAIMER

The lecture outlines contained in the lecture booklet are NOT intended to represent the entire content of the course. A lecture outline is intended to be a guide to the lecture. The responsibility of the instructor is to follow the outline, expand the concepts and give explanation and illustrations to clarify content. The

role of the student is to attend lecture and take notes over material presented by the lecturer that explains and illustrates the material listed in the outline. It is also the responsibility of the student to question the instructor if explanations and illustrations are not clearly presented or understood.

The instructors take no responsibility for the accuracy or completeness of old notes, quiz questions or exam questions that students may purchase, acquire from off of the internet or be given by previous students.

IMPORTANT NOTE:

The provisions contained in this syllabus do not constitute a binding contract between the student and Parker University, College of Chiropractic. These provisions may be changed at any time and for any reason at the discretion of the Course Director. When it is necessary to make changes to this document, appropriate notice (at least one week, if possible) will be given to the student(s).