

CELLULAR BIOLOGY/ NEUROBIOLOGY/ANATOMY (CBNA)

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CBNA 301 Struct of the Human Body (6 Credit Hours)

The student develops a knowledge and understanding of the basic concepts and facts of human gross anatomy as it relates to function and clinical problems. Lectures, clinical case-based and problem-based learning, computer-aided instructional materials, and student dissection.

CBNA 305 Medical Neuroscience (5 Credit Hours)

The student gains a fundamental knowledge of gross and microscopic structure of the human nervous system. This also includes the organs of special sense. Integrated into this structural base are the major physiological, pharmacological, and neurological aspects of the nervous system. Laboratory sessions permit individual study of the structure of the human brain and spinal cord.

CBNA 405 Neuroscience (3 Credit Hours)

The student gains a fundamental knowledge of gross and microscopic structure of the human nervous system. This also includes the organs of special sense. Integrated into this structural base are the major physiological, pharmacological, and neurological aspects of the nervous system. Laboratory sessions permit individual study of the structure of the human brain and spinal cord.

CBNA 415 Developmental Biology (3 Credit Hours)

The focus of this course is on the cellular mechanisms of differentiation, chiefly in vertebrate system. Topics include factors involved in commitment and induction, differential gene expression, role of growth factors, extracellular matrix, and cell-cell interactions.

CBNA 421 Cellular Biology (3 Credit Hours)

A course that provides knowledge of the structure and function of cells, including the experimental foundations of cell and molecular biology (this course is the same as the BMSC 312 in the Core Curriculum).

CBNA 425 Basic Ultrastructure (3 Credit Hours)

An introduction to the fundamentals of electron microscopy and to the ultrastructural basis of the cells and tissues of the body. The aims of the course to learn: (a) the basic operation of the electron microscope and auxiliary equipment; (b) specimen preparation techniques; and (c) and recognize the ultrastructure of cell constituents.

CBNA 431 Advanced Neuroscience (2 Credit Hours)

A multi-disciplinary approach to the study of the nervous system at an advance level, which includes participation by faculty of various basic science and clinical departments. Topics for presentation and discussion are drawn from all aspects of the nervous system structure and function.

Special emphasis is placed on recent experimental developments in the field of neuroscience.

CBNA 440 Neuroimmunology (1 Credit Hour)

Advanced reading course providing an overview of the CNS-immune interactions.

Course equivalencies: X-CBNA440/NRSC440

CBNA 441 Signal Transduction (2 Credit Hours)

The study of the basic mechanisms of how hormone, neuroendocrine and growth factor messages are transduced into actions of the cell. Major signal transduction pathways within the cell will be explored (cross reference with Physiology 471)

CBNA 442 Anatomical Techniques (1 Credit Hour)

A survey course presentation of various anatomical techniques that are used in the research lab is presented.

CBNA 452 Introduction to Research (1-5 Credit Hours)

An introduction to the principles involved in conducting scientific research including hypothesis testing, experimental design and interpretation of data.

CBNA 464 Teaching of Anatomy III (2 Credit Hours)

A practical experience in the teaching of neuroscience to medical and graduate students. Students assist in the planning, preparation and teaching of laboratory sessions. The course allows students to place the experience of teaching neuroscience on their transcripts as a graded course indicating to future employers that they have gained teaching experience.

CBNA 502 Introduction to Conservation Medicine and Ecosystem Health (1-2 Credit Hours)

An overview of the relevant current conservation of medicine issues. Lectures are teleconferenced to/and from Loyola University Medical Center, Brookfield Zoo, The University of Illinois College of Veterinary Medicine, and Loyola's Lakeside Campus.

CBNA 503 Neuroplasticity (2 Credit Hours)

This is a seminar course involving the study of neuro-anatomical and behavioral changes that occur in response to nervous system damage in adult and newborn animal models or humans.

CBNA 505 Chronobiology (2 Credit Hours)

An introduction to the temporal structure of biological systems as evidenced by rhythmic variation in metabolic phenomena.