

CELL BIOLOGY AND PHYSIOLOGY (CBPH)

Additional Resources

- Catalog Course Search (<https://catalog.unc.edu/course-search/>)
- Course Numbering Guide (<https://catalog.unc.edu/courses/course-numbering/>)
- Scheduled Classes (<https://reports.unc.edu/class-search/>)
- Historical Course Record (https://reports.unc.edu/historical_course_record/)

Courses

CBPH 243. The Cellular Agriculture Revolution. 3 Credits.

Learn the foundational biological and chemical processes used to produce cultivated meat. Lectures will cover state-of-the-art techniques for cultivated meat production and will allow you to think critically about the future of food. Weekly guest speakers will expose students to innovative startups and academic researchers establishing a new paradigm for manufacturing sustainable commodity meat products. The course will also introduce the environmental, ethical, and economic drivers behind the mission of alternative protein science and technology.

Rules & Requirements

Requisites: Prerequisites, BIOL 101 and BIOL 101L; and either BIOL 103 or BIOL 205; or permission of the instructor for students lacking the prerequisites.

Grading Status: Letter grade.

Same as: BIOL 243.

CBPH 603. MiBio Seminar. 2 Credits.

This class is designed to 1) enhance students' ability to present scientific material to their peers in a comprehensive, cohesive manner, 2) familiarize students with scientific concepts and technologies used in multiple disciplines, 3) expose students to cutting edge research, 4) prepare students to gain substantial meaning from seminars and to ask questions, and 5) enhance students' ability to evaluate scientific papers and seminars.

Rules & Requirements

Grading Status: Letter grade.

Same as: BIOC 603, BIOL 603, GNET 603.

CBPH 705. Improving Presentation & Communication of Scientific Results. 2 Credits.

Learning modern day techniques and approaches to convey scientific results effectively as a public speaker. Teaching how to implement the key aspects of effective presentation of scientific findings in public settings. Understanding the key components of an effective public talk including scientific content, body language, and voice. Learning how to captivate the target audience and yet still convey data driven scientific findings.

Rules & Requirements

Repeat Rules: May be repeated for credit.

Grading Status: Letter grade.

Same as: NBIO 850.

CBPH 706. Communicating Scientific Results. 1 Credits.

Practice in oral and written communication evaluated by peers and faculty. Includes delivery of coached presentations on topics in physiology and preparation of writing assignments typically encountered in scientific life.

Rules & Requirements

Repeat Rules: May be repeated for credit.

Grading Status: Letter grade.

CBPH 710. Advanced Light Microscopy. 3 Credits.

An intensive and comprehensive hands-on laboratory-oriented course in light microscopy for researchers in biology, medicine, and materials science. This course will focus on advanced quantitative fluorescence microscopy techniques used for imaging a range of biological specimens, from whole organisms, to tissues, to cells, and to single molecules. This course emphasizes the quantitative issues that are critical to the proper interpretation of images obtained with light microscopes.

Rules & Requirements

Repeat Rules: May be repeated for credit. 6 total credits. 1 total completions.

Grading Status: Letter grade.

Same as: NBIO 710.

CBPH 741. Introduction to Human Anatomy. 3 Credits.

A general course for persons preparing for careers as dental hygienists. Two lectures and two laboratory hours a week.

Rules & Requirements

Grading Status: Letter grade.

CBPH 791. Gross Anatomy for Physical Therapists. 4 Credits.

Fundamental principles and concepts of human gross anatomy for physical therapists taught by lectures and cadaver dissection. Emphasis on functional anatomy. Three lecture hours and six laboratory hours a week.

Rules & Requirements

Requisites: Prerequisites, BIOL 474 and 474L; Permission of the instructor for students lacking the prerequisites.

Grading Status: Letter grade.

CBPH 793. Functional Neuroanatomy. 3 Credits.

Study of basic structure of the brain and spinal cord, including both lecture and laboratory. Primarily for physical therapy students. Four hours a week.

Rules & Requirements

Requisites: Prerequisites, CBIO 607 and CBPH 791; permission of the instructor for students lacking the prerequisites.

Grading Status: Letter grade.

CBPH 800. Seminar in Cell Biology & Physiology. 1-3 Credits.

Current topics relevant for biomedical sciences students. May be repeated for credit. May be repeated in the same term for different topics.

Rules & Requirements

Repeat Rules: May be repeated for credit.

Grading Status: Letter grade.

CBPH 850. Modern Concepts in Cell Biology I. 4 Credits.

Permission of the instructor. Graduate students only. Discussion based course that covers key elements of cell, molecular, and developmental biology, and genetics. Students present and discuss breakthrough primary research papers under the direction of faculty members across the department. Minimal instructor lecturing is included.

Rules & Requirements

Grading Status: Letter grade.

CBPH 851. Modern Concepts in Cell Biology II. 4 Credits.

Literature based discussion course on experimental approaches in Cell Biology. Emphasis is on small group discussion and dissection of primary literature including methods, scientific logic, and critical thinking. Each session typically includes both a discussion of key background by a faculty member and student led discussions of selected papers from the primary literature.

Rules & Requirements

Grading Status: Letter grade.

CBPH 852. Experimental Physiology of Human Health and Disease. 4.5 Credits.

Students will learn the principles of cell, organ, and systems physiology and pathophysiology required to identify and understand important areas of current biomedical research. This course will focus on non-human model systems (cultured cells, mice, drosophila, etc.). In addition to lectures, this course will include journal-club discussion of assigned papers.

Rules & Requirements

Grading Status: Letter grade.

CBPH 853. Experimental Physiology of Human Health and Disease. 4.5 Credits.

Permission of the instructor. Molecular and cellular basis of organ system function; integration of systems to maintain the normal state. Understanding of normal physiology is amplified by examples from human disease and mouse models. Principles of cell, organ, and integrative physiology and how these principles apply to translational research.

Rules & Requirements

Grading Status: Letter grade.

CBPH 855. Career and Research Enhancement Seminar (CaRES). 1-2.5 Credits.

Permission of the director of graduate studies.

Rules & Requirements

Grading Status: Letter grade.

CBPH 856. Career and Research Enhancement Seminar (CaRES). 1-2.5 Credits.

Permission of the director of graduate studies.

Rules & Requirements

Grading Status: Letter grade.

CBPH 890. Special Topics in Cell Biology & Physiology. 1-5 Credits.

Modern day exploration of topics or methodologies of interest to PhD students in biomedical sciences. New or old relevant technologies/ methodologies or subject areas of research, and/or professional skills enhancement will be addressed. This could be either for enhancing knowledge of subject materials or teaching skill sets (e.g., statistics) needed for biomedical researchers.

Rules & Requirements

Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 5 total credits. 5 total completions.

Grading Status: Letter grade.

CBPH 895. Responsible Conduct of Research (RCR). 1 Credits.

Responsible conduct of research is a classroom-based graduate level course covering critical topics for ethical and responsible conduct of experimental research. There are both classroom lecture, workshop-type discussion components, in addition to assigned outside of class readings. Topics include: mentor and mentee relationships, publication authorship, collaboration, peer review, ethical use of human and animal subjects, conflicts of interest, intellectual property, plagiarism, data acquisition, and data processing.

Rules & Requirements

Grading Status: Letter grade.

CBPH 910. Research. 2-15 Credits.

Credit to be arranged in individual cases.

Rules & Requirements

Grading Status: Letter grade.

CBPH 915. Research Laboratory Apprenticeship. 2 Credits.

Enrollment in the cell biology and anatomy graduate program required. A course for first- and second-year graduate students in cell biology and anatomy, consisting of a research project of limited scope pursued under the supervision of a faculty member.

Rules & Requirements

Repeat Rules: May be repeated for credit.

Grading Status: Letter grade.

CBPH 990. Research Practicum/Internship in Cell Biology and Physiology. 1-9 Credits.

The Research Practicum/Internship in Cell Biology and Physiology (CBPH) is a planned, individualized, mentored, evaluated, experiential learning opportunity that serves as a bridge between academic training and post-training practice. The internship/practicum provides special opportunities for learning that are different from, supplementary to, and supportive of the academic components of the PhD program.

Rules & Requirements

Requisites: Prerequisite, None; Corequisite, None; Pre- or corequisite, None.

Repeat Rules: May be repeated for credit; may be repeated in the same term for different topics; 9 total credits. 9 total completions.

Grading Status: Letter grade.

CBPH 992. Master's (Non-Thesis). 3 Credits.

Master's research for the non-thesis ("thesis substitute") track.

Rules & Requirements

Repeat Rules: May be repeated for credit.

CBPH 993. Master's Research and Thesis. 3 Credits.**Rules & Requirements**

Repeat Rules: May be repeated for credit.

CBPH 994. Doctoral Research and Dissertation. 3 Credits.

Rules & Requirements

Repeat Rules: May be repeated for credit.