

CB-Cell Biology

CB 500. BioTeach. 3,6 Hours.

For teachers of science courses. Hands on experience. McWane Center BioTeach is a graduate-level introductory laboratory course in molecular biology designed for high-school science teachers. UAB faculty provide a lecture series covering topics that include AIDS, tuberculosis, cancer, forensic medicine, tropical diseases, neurobiology, human genetics, sickle cell anemia and ethical issues in genetic research. Lectures are coupled with hands-on, laboratory training in bacterial genetics, mutagenesis, DNA cloning, gel electrophoresis, polymerase chain reaction, DNA sequencing, forensic analysis, and applications of molecular biology. Science teachers will learn how to incorporate the laboratory experiments into their own classrooms and labs. BioTeach is a course in molecular and cellular biology primarily intended for in-service secondary education teachers, but also includes pre-service teachers. Students will receive state-of-the-art lectures from top UAB researchers on subjects that range from the biology of HIV/AIDS to molecular mechanism underlying hypertension. Each lecture is accompanied by a laboratory experience that the teachers can take back into their classrooms. Further, the teachers each develop a lesson plan that provides a format for teaching each of the BioTeach modules during a one-week secondary education science classroom experience. The Course is taught at McWane Science Center and can be taken for 1-6 credit hours, based on the students participation in the course.

CB 655. Cancer Bioinformatics. 3 Hours.

This course introduces the integration of various data types: single-cell sequencing, genomics, metagenomics, flow cytometry, and more into cancer biology research. Students will explore how multi-omics approaches enable novel insights into cancer mechanisms, diagnosis, and treatment. Emphasis is placed on computational tools and methodologies for data analysis and interpretation in cancer research.

Prerequisites: CB 600 [Min Grade: C]

CB 700. Gross Anatomy of the Thorax, Abdomen, & Pelvis for Teacher Education. 2 Hours.

Human gross anatomy and dissection of the thorax, abdomen, and pelvis. This course will take current and future anatomy educators through the complete gross anatomy of the thoracic, abdominal, and pelvic cavities. Correlations to common medical illnesses and strategies for anatomy education will be emphasized throughout.

CB 712. Journal Club Developmental Biology. 1 Hour.

Journal Club in Developmental Biology.

CB 722. Journal Club Vascular Biology. 1 Hour.

Vascular Biology Journal Club. This course will present the latest understanding of the cellular and molecular biology of the vascular system, including discussions of cardiovascular control by the brain, hypertrophy and hyperplasia in the heart and blood vessels and the regulation of pressor and depressor hormones.

CB 724. Special Topics in Cell Biology. 3 Hours.

Topics in Cell Biology.

CB 740. Research in Cell Biology. 1 Hour.

Research in Cell Biology.

CB 747. Cell Biology Seminar. 1 Hour.

Seminars in Cell Biology.

CB 750. Graduate Gross Anatomy. 6 Hours.

Lectures, demonstrations, and dissection of all systems and regions of human body.

CB 751. Tissue Injury and Repair. 1 Hour.

CB 752. Graduate Histology. 3 Hours.

Light microscopic features and ultrastructure of cells, fundamental tissues, and organ systems.

CB 753. Teaching Assist Grad Histology. 1-2 Hour.

CB 799. Doctoral Level Dissertation Research in Cell Biology. 1-15 Hour.

Dissertation research. Must have graduate dean approved 5 member committee and doctoral approved candidacy to take research credits.

Prerequisites: GAC Z