

# Cancer Biology Courses (Biomedical Science) (CBIO)

## CBIO Courses

This is a list of courses with the subject code CBIO. For more information, see Biomedical Science (Graduate College) in the catalog.

### **CBIO:3310 Practical Data Science and Bioinformatics** **3 s.h.**

Understanding how to access large biological data sets and use them to answer biological questions is an important skill for researchers; immersive introduction to computational handling of data; how to access and analyze publicly available data; critically evaluate data quality and analysis in context of measuring gene expression; basic coding in R/RStudio, plotting and data display, fitting and regression, statistical inference, statistical models, downloading and data wrangling; basic introduction to machine learning (clustering); for students with no computational background. Prerequisites: BIOL:1411 with a minimum grade of C- and BIOL:1412 with a minimum grade of C-. Requirements: college algebra. Recommendations: BMB:3110, or BMB:3120 and BMB:3130, or other upper-level life sciences courses. Same as BMB:3310, MMED:3310.

### **CBIO:5000 Experimental Methodologies** **2 s.h.**

Practical experience in common laboratory methods including polymerase chain reaction (PCR), western blotting, immunostaining, cell culture, and bioinformatics. Requirements: admission to cancer biology graduate program.

### **CBIO:5500 Topics in Cancer Biology** **1 s.h.**

Discussion and presentation of new scientific literature in cancer biology fields; how to evaluate and critically interpret scientific literature, data, and conclusions; journal club format. Requirements: admission to cancer biology graduate program.

### **CBIO:6000 Seminar: Cancer Research** **1 s.h.**

Attendance at seminar presentations of cutting-edge science in the field of cancer biology; presentations by experts in the field and trainees. Requirements: admission to cancer biology graduate program.

### **CBIO:6500 Research in Cancer Biology** **arr.**

Research experience through research rotations and conduction of dissertation research in cancer research laboratories. Requirements: admission to cancer biology graduate program.

### **CBIO:7000 Clinical Connections** **1 s.h.**

Shadowing experiences arranged with clinicians who are treating cancer patients at University of Iowa Hospitals & Clinics. Requirements: admission to cancer biology graduate program.

### **CBIO:7500 Crafting a Scientific Proposal** **1 s.h.**

Training in areas of scientific writing and development of a scientific proposal; students develop a proposal related to, but not identical to, the proposal for the comprehensive exam. Requirements: admission to cancer biology program.