

# ONCOLOGY (ONCOLOGY)

## ONCOLOGY 401 – INTRODUCTION TO EXPERIMENTAL ONCOLOGY

2 credits.

Biological processes associated with and characteristic of neoplasia.

**Requisites:** ZOOLOGY/BIOLOGY 101, BOTANY/BIOLOGY 130, ZOOLOGY/BIOLOGY/BOTANY 151, BIOCORE 383, or graduate/professional standing

**Course Designation:** Breadth – Biological Sci. Counts toward the Natural Sci req

Level – Intermediate

L&S Credit – Counts as Liberal Arts and Science credit in L&S

**Repeatable for Credit:** No

**Last Taught:** Fall 2022

## ONCOLOGY/MICROBIO 545 – TOPICS IN BIOTECHNOLOGY

1 credit.

Seminars on current topics in agricultural, medical, and industrial biotechnology such as: microbiological production of food, drink, biopharmaceuticals; production methods, genetic engineering (vectors, recombination cloning), continuous fermentation; bioconversion processes and production of chemicals from biomass; plant biotechnology; transgenic animals.

**Requisites:** (ZOOLOGY/BIOLOGY 101, ZOOLOGY/BIOLOGY/BOTANY 151, BIOCORE 383, or BIOLOGY/BOTANY 130) and (CHEM 104 or 109) or graduate/professional standing

**Course Designation:** Level – Intermediate

L&S Credit – Counts as Liberal Arts and Science credit in L&S

**Repeatable for Credit:** Yes, unlimited number of completions

**Last Taught:** Spring 2023

## ONCOLOGY/M&ENVTOX/PHM SCI/PHMCOL-M/POP HLTH 625 – TOXICOLOGY I

3 credits.

Basic principles of toxicology and biochemical mechanisms of toxicity in mammalian species and man. Correlation between morphological and functional changes caused by toxicants in different organs of the body.

**Requisites:** (BIOCHEM 501 or 508) and (ANAT&PHY 335, 435, or (BIOCORE 485 486)) and PATH 404; or graduate/professional standing

**Course Designation:** Breadth – Biological Sci. Counts toward the Natural Sci req

Level – Advanced

L&S Credit – Counts as Liberal Arts and Science credit in L&S

Grad 50% – Counts toward 50% graduate coursework requirement

**Repeatable for Credit:** No

**Last Taught:** Fall 2022

## ONCOLOGY/PL PATH 640 – GENERAL VIROLOGY-MULTIPLICATION OF VIRUSES

3 credits.

Bacterial and animal viruses, their structure, multiplication, and genetics.

**Requisites:** (GENETICS 466 or 467) and (BIOCHEM 501 or 508) or graduate/professional standing

**Course Designation:** Breadth – Biological Sci. Counts toward the Natural Sci req

Level – Advanced

L&S Credit – Counts as Liberal Arts and Science credit in L&S

Grad 50% – Counts toward 50% graduate coursework requirement

**Repeatable for Credit:** No

**Last Taught:** Fall 2022

## ONCOLOGY 673 – PURIFICATION AND CHARACTERIZATION OF PROTEIN AND PROTEIN COMPLEXES

2 credits.

The theory and practice of protein purification. Topics covered include conventional and recent protein fractionation techniques; enzyme assays, handling, and characterization; purification strategy; and overproduction of cloned gene products. The emphasis is on micro and laboratory scale purifications.

**Requisites:** BIOCHEM 508, CHEM 511 or graduate/professional standing

**Course Designation:** Grad 50% – Counts toward 50% graduate coursework requirement

**Repeatable for Credit:** No

**Last Taught:** Spring 2022

## ONCOLOGY 675 – ADVANCED OR SPECIAL TOPICS IN CANCER RESEARCH

1-3 credits.

Examines special topics in cancer research. Topics and content will vary each semester and by section of the course.

**Requisites:** Consent of instructor

**Course Designation:** Breadth – Biological Sci. Counts toward the Natural Sci req

Level – Intermediate

L&S Credit – Counts as Liberal Arts and Science credit in L&S

Grad 50% – Counts toward 50% graduate coursework requirement

**Repeatable for Credit:** Yes, unlimited number of completions

**Last Taught:** Summer 2023

## ONCOLOGY 699 – SPECIAL RESEARCH PROBLEMS

1-3 credits.

Directed study projects as arranged with instructor.

**Requisites:** Consent of instructor

**Course Designation:** Level – Advanced

L&S Credit – Counts as Liberal Arts and Science credit in L&S

**Repeatable for Credit:** Yes, unlimited number of completions

**Last Taught:** Spring 2023

**ONCOLOGY 703 – CARCINOGENESIS AND TUMOR CELL BIOLOGY**

3 credits.

Viral, chemical, and physical factors involved in tumor formation in humans and experimental animals; biology and biochemistry of neoplasia, both in vivo and in vitro.

**Requisites:** Consent of instructor

**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement

**Repeatable for Credit:** No

**Last Taught:** Fall 2022

**ONCOLOGY 715 – ETHICS IN SCIENCE**

1 credit.

A review and discussion of the fundamentals of ethical issues in science.

**Requisites:** Consent of instructor

**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement

**Repeatable for Credit:** Yes, unlimited number of completions

**Last Taught:** Spring 2023

**ONCOLOGY 725 – READINGS IN CANCER BIOLOGY**

2 credits.

A review and discussion of the current literature on topics related to cancer biology. The emphasis is on the development of skills in data analysis, critical interpretation, and clear writing.

**Requisites:** Consent of instructor

**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement

**Repeatable for Credit:** No

**Last Taught:** Spring 2023

**ONCOLOGY 735 – CURRENT PROBLEMS IN CANCER BIOLOGY**

2 credits.

Emphasis is on the development of skills in data analysis and interpretation, grant proposal writing, and oral presentation to help prepare students for their Preliminary Exam.

**Requisites:** Consent of instructor

**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement

**Repeatable for Credit:** No

**Last Taught:** Spring 2023

**ONCOLOGY 745 – MODELING HUMAN DISEASE IN ANIMALS**

1 credit.

Provides a background in the use of animals in the study of human disease and hands-on exposure to common techniques such as tissue collection and processing, surgeries, imaging, and other manipulations. Lectures by basic scientists and clinicians will provide background about each of the organ systems or diseases and the ethics of animal research. Prior to start of course, completion of online animal safety training. Instructions will be provided after enrollment.

**Requisites:** Consent of instructor

**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement

**Repeatable for Credit:** No

**ONCOLOGY 778 – BIOINFORMATICS FOR BIOLOGISTS**

3 credits.

Become familiar with bioinformatics theory and principles. Provides real-world experience that can be applied to your own work. Provides a foundation of knowledge that can be used to critically evaluate existing bioinformatics tools that can be used in your work, and in the absence of an appropriate tool, identify the analyses that demand the development of novel tools.

**Requisites:** Consent of instructor

**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement

**Repeatable for Credit:** No

**Last Taught:** Spring 2022

**ONCOLOGY 901 – SEMINAR**

1 credit.

Critical review of selected topics in cancer research.

**Requisites:** Consent of instructor

**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement

**Repeatable for Credit:** Yes, unlimited number of completions

**Last Taught:** Spring 2023

**ONCOLOGY 990 – RESEARCH**

1-12 credits.

Independent research and writing for graduate students under the supervision of a faculty member.

**Requisites:** Consent of instructor

**Course Designation:** Grad 50% - Counts toward 50% graduate coursework requirement

**Repeatable for Credit:** Yes, unlimited number of completions

**Last Taught:** Summer 2023