

# Bemidji State University

## BIOL 3299: Virology

### A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 0

Lab Hours/Week: 0

OJT Hours/Week: \*.\*

Prerequisites: None

Corequisites: None

MnTC Goals: None

This course explores virology, which is the study of viruses that infect all manner of life on earth. We will focus on animal viruses and those that impact human health. Important discoveries from viruses that infect microbes, plants, and non-human animals will be included. Prerequisite(s): One year introductory biology or consent of instructor.

**B. COURSE EFFECTIVE DATES:** 05/15/2020 - Present

### C. OUTLINE OF MAJOR CONTENT AREAS

1. Viral structure and Nomenclature
2. Viruses as obligate intracellular parasites including their replication cycles
3. Epidemiology
4. Laboratory diagnosis, treatment, and prevention
5. Details on specific viruses: Poliovirus, Influenza viruses, Hepatitis viruses, Herpesviruses, HIV, Rabies, Poxviruses, and new/emerging viruses
6. Viruses and Cancer
7. History of viruses

### D. LEARNING OUTCOMES (General)

1. analyze the nature of viruses, including their structure, replication and classification.
2. examine how infection and replication of viruses is constrained by the viral genome and host immune defenses.
3. assess how transmission strategies, immune evasion and host responses contribute to viral pathogenesis.
4. interpret viral evolution mechanisms and how they contribute to emergence and reemergence of viral disease.
5. evaluate biological, environmental and human behavior (including social and political behavior) that contributes to transmission of viruses, particularly emerging and re-emerging disease.
6. comprehend and appreciate the major and varied laboratory techniques and research approaches employed in the field of virology.

### E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

None

### F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

**G. SPECIAL INFORMATION**

None noted