COURSE DETAIL

GENERAL VIROLOGY AND MICROBIOLOGY: VIROLOGY

Country
Italy

Host Institution
University of Bologna

Program(s)
University of Bologna

UCEAP Course Level
Upper Division

UCEAP Subject Area(s)
Biological Sciences

UCEAP Course Number
160

UCEAP Course Suffix
B

UCEAP Official Title
GENERAL VIROLOGY AND MICROBIOLOGY: VIROLOGY

UCEAP Transcript Title
GENERAL VIROLOGY

UCEAP Quarter Units
4.00

UCEAP Semester Units

2.70

Course Description
Students who complete a term paper are awarded one extra unit for each part. Total units possible for both parts are eight. The course focuses on the fundamental concepts that define the organization and metabolism of prokaryotes as well as the main phylogenetic and physiological correlations of Bacteria and Archaea in natural environments and in biotechnological applications. Emphasis is placed on basic concepts of virus structure and replication as well as bacterial growth and exchanges of genetic material between prokaryotic cells in order to understand the recombination mechanisms. The course has two parts: A and B. Students must take both parts. No partial credit is possible. Part A is devoted to microbiology. Topics in Part A include basic principles of microbiology; principles of microscopy; evolutionary history and microbial diversity; structure and functions of prokaryotic cell; metabolism, regulation, and growth of microbial; phototrophy, chemolithtrophy, and major biosynthesis; catabolism of organic compounds; symbiosis and pathogenicity; antimicrobial agents; and groups of pathogenic bacteria. Part B is devoted to virology. Topics in Part B include structure, composition, and classification of animal, plant, and bacterial viruses; genome, capsid, and viral envelope, and structure-function relationship; different entry mechanisms of viruses into host cells (bacteriophages, plant and animal viruses); different steps in viral replication cycle; virus-cell interactions, outcomes of infection, and cultivation and quantification of viruses; and replication strategies of RNA viruses, DNA viruses, and retroviruses such as HIV and AIDS. Assessment is based on a written exam with essay and multiple-choice questions covering the two parts, the assigned readings, and the biotechnology section.

Language(s) of Instruction
Italian

Host Institution Course Number
67006

Host Institution Course Title
MICROBIOLOGIA E VIROLOGIA GENERALE

Host Institution Course Details
Host Institution Campus SCIENZE BIOLOGICHE, GEOLOGICHE E AMBIENTALI
Host Institution Faculty
Host Institution Degree
Host Institution Department Scienze Biologiche
Course Last Reviewed

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