

COURSE DETAIL

GENETICS

Country

Netherlands

Host Institution

Maastricht University - Center for European Studies

Program(s)

Biological and Life Sciences, Maastricht

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Biological Sciences

UCEAP Course Number

112

UCEAP Course Suffix**UCEAP Official Title**

GENETICS

UCEAP Transcript Title

GENETICS

UCEAP Quarter Units

6.00

UCEAP Semester Units

4.00

Course Description

The course discusses the principles of genetics with application to the study of biological function at the level of molecules, cells, and multicellular organisms, including humans. The topics include the structure and function of genes; chromosomes and genomes; biological variation resulting from replication and recombination, mutation and selection; DNA repair and the genetic basis of disease inheritance. The following topics are covered as well: the chemical structure of DNA and the molecular mechanisms of DNA replication; the basic principles how information stored in genes is converted to a (cellular) phenotype in the form of RNA and protein; the concepts of genome structure, comparative genomics, and functional genomics; the molecular basis of single gene inheritance (Mendel's first law), sex-linked single gene inheritance and, human pedigrees; the concepts of Darwin's theory of Natural Selection, molecular evolution, and the origin of new genes and species. The prerequisite course is Cell Biology.

Language(s) of Instruction

English

Host Institution Course Number

BIO2007

Host Institution Course Title

GENETICS

Host Institution Campus

Maastricht University

Host Institution Faculty

Maastricht Science Program

Host Institution Degree

Host Institution Department

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