

# COURSE DETAIL

## MEDICAL GENOMICS

**Country**

Italy

**Host Institution**

University of Bologna

**Program(s)**

University of Bologna

**UCEAP Course Level**

Upper Division

**UCEAP Subject Area(s)**

Health Sciences Biological Sciences

**UCEAP Course Number**

179

**UCEAP Course Suffix****UCEAP Official Title**

MEDICAL GENOMICS

**UCEAP Transcript Title**

MEDICAL GENOMICS

**UCEAP Quarter Units**

6.00

**UCEAP Semester Units**

4.00

## Course Description

This course is part of the Laurea Magistrale program. The course is intended for advanced level students only. Enrollment is by consent of the instructor. This course identifies the major categories of inherited diseases, the genetic mechanisms contributing to disease etiology, and their inheritance patterns. The course describes strategies to identify the genetic causes of inherited diseases. The course discusses the use of genomic data and technology in the management of inherited diseases and innovations in human genomic research and their applications in medicine. The course evaluates research articles pertinent to medical genomics. The course discusses topics including sequencing the human genome; medical genetics; identification of disease genes; Mendelian diseases; chromosomal diseases; multifactorial diseases; and pharmacogenomics and personalized medicine. Students design and perform experiments of molecular genetics, including PCR and direct sequencing using Sanger method, and evaluate the presence of variations/mutations in human DNA and their role in Mendelian disorders. The course is divided in two parts: a wet-lab course, where the students prepare PCR and sequencing reactions, and a part using informatics tools, including public programs and databases, in order to analyze the obtained sequences and evaluate the presence of variants/mutations and determine their possible pathogenicity.

### Language(s) of Instruction

English

### Host Institution Course Number

81594

### Host Institution Course Title

MEDICAL GENOMICS (LM)

### Host Institution Campus

BOLOGNA

### Host Institution Faculty

**Host Institution Degree**

LM in MEDICAL BIOTECHNOLOGY

**Host Institution Department**

Medical and Surgical Sciences

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