

COURSE DETAIL

COMPUTATIONAL BIOLOGY

Country

Spain

Host Institution

Carlos III University of Madrid

Program(s)

Carlos III University of Madrid

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Computer Science Biological Sciences Bioengineering

UCEAP Course Number

113

UCEAP Course Suffix

E

UCEAP Official Title

COMPUTATIONAL BIOLOGY

UCEAP Transcript Title

COMPUTATIONAL BIO

UCEAP Quarter Units

5.00

UCEAP Semester Units

Course Description

This course covers computational techniques used to solve complex problems in biology and medicine, characterized by the analysis of large quantities of information. Topics covered include: computational approaches and techniques for searching sequence, structural and expression databases and their relationship with disease databases; alignment and comparison of sequences through dynamic programming; gene structure prediction; restriction site searches; secondary structure prediction; generation of recombinant vectors in silico; obtainment of encoded protein sequence; folding and protein structure prediction; functional and protein-binding domain prediction; protein interaction prediction; evaluation of the pathogenicity of disease variants; molecular and phylogenetic sequence evolution analysis. Students are strongly advised to have completed coursework in mathematics, programming, biology, and biochemistry.

Language(s) of Instruction

English

Host Institution Course Number

14159

Host Institution Course Title

BIOLOGÍA COMPUTACIONAL

Host Institution Course Details**Host Institution Campus**

Escuela Politécnica Superior. (Leganés)

Host Institution Faculty**Host Institution Degree****Host Institution Department**

Bioingeniería e Ingeniería Aeroespacial

Course Last Reviewed

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