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

3.30

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
COMPUTATIONAL BIOLOGY

Host Institution Campus
Escuela Politécnica Superior. (Leganés

Host Institution Faculty

Host Institution Degree

Host Institution Department
Bioingeniería e Ingeniería Aeroespacial

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