## **COURSE DETAIL**

## ALGORITHMS FOR ANALYZING BIOLOGICAL SEQUENCES

Country

Taiwan

**Host Institution** National Taiwan University

**Program(s)** National Taiwan University

UCEAP Course Level Upper Division

UCEAP Subject Area(s) Computer Science

UCEAP Course Number 128

**UCEAP Course Suffix** 

UCEAP Official Title ALGORITHMS FOR ANALYZING BIOLOGICAL SEQUENCES

UCEAP Transcript Title ALGORITHMS FOR BIOL

**UCEAP Quarter Units** 4.50

UCEAP Semester Units 3.00

## **Course Description**

This course introduces biological sequence analysis methods. The course provides familiarity with the vast amounts of biomedical and genomic data and online tools. The first part of the course explores basic algorithmic strategies, sequence alignment, chaining algorithms, and genomics. If time allows, Hidden Markov models (the Viterbi algorithm) are discussed. The second part covers sequence assembly, max-sum/max-density segments, data analysis, and more techniques used in genomics analysis.

Language(s) of Instruction English

Host Institution Course Number CSIE5028

Host Institution Course Title ALGORITHMS FOR ANALYZING BIOLOGICAL SEQUENCES

**Host Institution Campus** 

**Host Institution Faculty** 

**Host Institution Degree** 

Host Institution Department Computer Science and Information Engineering

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