

COURSE DETAIL

MODELLING BIOLOGICAL SYSTEMS

Country

Sweden

Host Institution

Lund University

Program(s)

Lund University

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Biological Sciences

UCEAP Course Number

102

UCEAP Course Suffix**UCEAP Official Title**

MODELLING BIOLOGICAL SYSTEMS

UCEAP Transcript Title

MODELLING BIO SYSTM

UCEAP Quarter Units

6.00

UCEAP Semester Units

4.00

Course Description

The course starts with an introduction to scientific theory, basic mathematics, and programming. Thereafter, applied mathematical methods in biology, with examples from different subject areas such as biochemistry, ecology and physiology, are addressed. The course also contains analytical methods for biological systems. Through this course students are able to: describe the usage, interpretation and limitations of models solve mathematical tasks in basic algebra and analysis; do basic programming in R; describe the use of genetic algorithms and artificial neural networks in modelling; design a model of a biological system, given a specific task or question; fit a model to data; use mathematical and numerical methods to analyze simple dynamic, statistic or probabilistic models, such as stability analysis, optimization or risk analysis.

Language(s) of Instruction

English

Host Institution Course Number

BIOS13

Host Institution Course Title

MODELLING BIOLOGICAL SYSTEMS

Host Institution Campus

Science

Host Institution Faculty

Host Institution Degree

Host Institution Department

Biology

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