COURSE DETAIL

MOLECULAR BIOLOGY

Country
Netherlands

Host Institution
Maastricht University - Center for European Studies

Program(s)
Biological and Life Sciences,Public Health and Pre-Med,Biological and Life Sciences, Maastricht

UCEAP Course Level
Upper Division

UCEAP Subject Area(s)
Biological Sciences

UCEAP Course Number
113

UCEAP Course Suffix

UCEAP Official Title
MOLECULAR BIOLOGY

UCEAP Transcript Title
MOLECULAR BIOLOGY

UCEAP Quarter Units
6.00

UCEAP Semester Units

4.00

Course Description

This course provides students with detailed knowledge about the molecular processes in cell signaling and control of gene expression. Topics include: intracellular signaling pathways; chromatin structure and remodeling; recruitment and assembly of transcription factors; eukaryote mRNA synthesis, processing, modification, stability and translation; stem cells and reprogramming; and the culmination of the above factors that drive common complex human disease. The tutorials are partially in Problem Based Learning (PBL) and multiple-choice format, with exercises designed to provide a perspective of how cutting edge molecular biological techniques are applied to tackle major research questions in modern biomedical research. Students are acquainted with the best-characterized cell signaling mechanisms in eukaryotic cells, gene structure/function, and different gene regulatory mechanisms (chromatin remodeling and (post)transcriptional regulation) in prokaryotes and eukaryotes. The course covers how molecular biology, when used in combination with other biological disciplines (e.g. biochemistry, genetics, imaging), can provide tools to understand (diagnostics) and intervene (therapy) in the cellular complexity of human disease. Prerequisites for this course are Cell Biology and Genetics.

Language(s) of Instruction
English

Host Institution Course Number
BIO3001

Host Institution Course Title
MOLECULAR BIOLOGY

Host Institution Course Details

Host Institution Campus

Host Institution Faculty
Maastricht Science Program

Host Institution Degree
Host Institution Department
Course Last Reviewed

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