COURSE DETAIL

GENOMES, CELLS, AND TISSUES
Country Netherlands
Host Institution Utrecht University
Program(s) Utrecht University
UCEAP Course Level Upper Division
UCEAP Subject Area(s) Biological Sciences
UCEAP Course Number 106
UCEAP Course Suffix
UCEAP Official Title GENOMES, CELLS, AND TISSUES
UCEAP Transcript Title GENOME CELL&TISSUES
UCEAP Quarter Units 6.00
UCEAP Semester Units 4.00

Course Description

This course teaches the function and organization of the animal cell and its components. From the molecular level up to and including the functioning of cells in the tissues of living organisms. In the first part of this course, the central dogma of molecular biology is discussed. DNA replication, transcription, translation, and its regulation. Using bioinformatics, the complex genome and the regulation of gene expression is reviewed. In the second part cell function is discussed, such as protein sorting, membrane transport, signaling pathways, the cell cycle, and the cooperation of cells in tissues. For example, apoptosis, cell-cell contacts, and tissue renewal by stem cells are covered. Attention is paid to situations in which these processes no longer function properly, such as in cancer. Participants are required to independently reads the book chapter by chapter. After each chapter, a sequence of e-assessments, lectures, assignments, and response lectures is followed. Starting after a short e-assessment the teacher, a specialist in his field, discusses the information of the chapter in a seminar. To get a deeper understanding of the content in the chapter, students make assignments in small groups of 4-5 students. Hereafter the teacher is available to discuss the answers to the assignments and to clarify any misconceptions in a response lecture. The current use of the knowledge from the textbook is exemplified during a journal club, where groups of students present a Cell paper. The topic of the papers is current literature on cancer research. Attendance during the tutorials and journal clubs is mandatory. In addition, the individual self-assessments are also part of the effort requirements. Entry requirements include successful completion of MBLS-101 (Cell Biology) or an equivalent level 1 course in Molecular Cell Biology. Recommended: MBLS-202 (Molecular Biology & Biochemical Techniques)

Language(s) of Instruction
English

Host Institution Course Number
MBLS-204

Host Institution Course Title GENOMES, CELLS, AND TISSUES
Host Institution Course Details https://osiris-student.uu.nl/onderwijscatalogus/extern/cursussen
Host Institution Campus Utrecht University
Host Institution Faculty Faculty of Science
Host Institution Degree
Host Institution Department
Course Last Reviewed 2024-2025

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