

COURSE DETAIL

MOLECULAR BIOLOGY

Country

Japan

Host Institution

Waseda University

Program(s)

Waseda University

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Biological Sciences Biochemistry

UCEAP Course Number

102

UCEAP Course Suffix**UCEAP Official Title**

MOLECULAR BIOLOGY

UCEAP Transcript Title

MOLECULAR BIOLOGY

UCEAP Quarter Units

3.00

UCEAP Semester Units

2.00

Course Description

This course covers the molecules that constitute living organisms and their control mechanisms, as well as biotechnologies and the principles of aging and disease. Students are expected to acquire the abilities to understand and explore biological systems at the molecular and cellular level.

Course topics include:

- Cells: The Fundamental Units of Life and Chemical Components of Cells
- Protein structure and function
- DNA and Chromosomes
- DNA Replications and Repair
- From DNA to Protein: How Cells Read the Genome
- Analyzing the Structure and Function of Genes
- How Cells Obtain Energy from Food and Energy Generation in Mitochondria and Chloroplasts
- Cell Signaling
- Cytoskeleton
- The Cell-Division Cycle
- Cell Communities: Tissues, Stem Cells, and Cancer

Language(s) of Instruction

English

Host Institution Course Number

LE302 / BIOX221L

Host Institution Course Title

MOLECULAR BIOLOGY

Host Institution Course Details

<https://www.wsl.waseda.jp/syllabus/JAA104.php?pKey=210LE30200512023210LE3020021...>

Host Institution Campus

SILS

Host Institution Faculty

Host Institution Degree

Host Institution Department

SILS - Life, Environment

Course Last Reviewed

2023-2024

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