

COURSE DETAIL

STRUCTURAL BIOLOGY

Country

Korea, South

Host Institution

Korea University

Program(s)

Korea University

UCEAP Course Level

Upper Division

UCEAP Subject Area(s)

Biological Sciences

UCEAP Course Number

104

UCEAP Course Suffix**UCEAP Official Title**

STRUCTURAL BIOLOGY

UCEAP Transcript Title

STRUCTURAL BIOLOGY

UCEAP Quarter Units

4.50

UCEAP Semester Units

3.00

Course Description

This course explores the structure-function relationship of biological macromolecules like proteins, DNA, RNA, and viruses. The course explains biological mechanisms learned from other courses such as biochemistry, cell biology, and molecular biology in atomic detail.

Structural biology is essential for understanding biology at the molecular level. Furthermore, it is a critical technique for rational drug design. This course also covers recent advances in structural biology.

The course covers the following topics:

- Basics of Protein Structure
- The Folding, Folds and Functions of Proteins
- Basics of Membrane Proteins
- Basics of Nucleic Acid Structure
- Basics of Lipids and Membrane Structure
- Basics of Carbohydrates
- Enzymes
- Genome Structure, DNA Replication and Recombination
- Transcription
- Protein Synthesis – Translation
- Protein Folding and Degradation
- Transmembrane Transport
- Cell Motility and Transport, Signal Transduction
- Structural Aspects of Cell-Cell interactions
- The Immune System, Virus Structure and Function
- Bioinformatics tools in Structural Biology

Recommended Prerequisite: Biochemistry I

Language(s) of Instruction

English

Host Institution Course Number

LIBS364

Host Institution Course Title

STRUCTURAL BIOLOGY

Host Institution Campus**Host Institution Faculty****Host Institution Degree****Host Institution Department**

Life Sciences

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