

The Hong Kong University of Science and Technology

UG Course Syllabus

## Introduction to Omics Technologies

**BIEN4000D**

3 Credits

No pre-/co-requisites

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### Course Description

This course is an introduction to the now-prevalent technologies for high-throughput bioanalytical methods, commonly known as “omics” technologies – genomics, transcriptomics, proteomics, and metabolomics. Fundamental knowledge about the different types of biomolecules and their significance in biology will be reviewed. The working principles of nucleic acid sequencing platforms and biological mass spectrometry. Computational workflows for the analysis of omics data will be introduced. The applications of these technologies in life science research and clinical settings will be discussed.

### Assessments:

Assessment Task	Contribution to Overall Course grade (%)
In-class assignment	15%
Quiz	15%
Group Project	35%
Final examination	35%

### Required Texts and Materials

None