**Course Code: BO201** Molecular and Cellular Biology

**Credit weighting: 5 ECTS**

BO201 is a **lecture only module** with **continuous assessment** is in the form of **MCQ tests** held during Semester 1.

**Course Overview**: **The BO201 (Molecular and Cellular Biology) course aims to provide students with the key molecular concepts of the biology of living cells.**

The basic structure and organisation of prokaryotic and eukaryotic cells will be described, with an emphasis on understanding the similarities and differences between cells from these main domains of life. The composition, structure and importance of the four major groups of biomolecules will be reviewed. Fundamental topics on genomes and genome organization will also be covered.

**The lecture course for this module is organised into 3 core 'Themes':**

1. Introduction to Molecular & Cellular Biology (**8 Lectures**)
2. Biomolecules & their importance in living cells (**11 Lectures**)
3. Genomes and Genome Organization (**9 Lectures**)

***A copy of the Course topics and content are available at this link:***

***At the end of this course, you should be able to:***

- Describe the main structural and organizational similarities and differences between Prokaryotic and Eukaryotic cells
- Discuss the key features of different types of Eukaryotic cells, e.g. fungal, plant and animal cells
- Identify the functions of the major subcellular structures and organelles
- Describe the role of water and the importance of pH in living cells
- Explain the basic chemical bonds and interactions that underpin the chemistry of biologically important reactions
- Detail the general molecular structure and (bio)chemical features of the main biomolecules in living cells and explain their cellular functions
- Compare and contrast genome structure and organization in prokaryotes and eukaryotes