BSc (Hons) in Biomedical Sciences

Aims and Rationale of the Programme

This programme is designed to provide students with a detailed study of human health and disease, focusing on the pathogenesis (mechanism) of disease, diagnostic pathway and therapeutic intervention. It provides preparation for careers in medical diagnostic and research environments. The first year of this programme is intended to be a foundation for the more advanced studies in subsequent years. Approximately one quarter of the programme is taken up with practical-based courses that build students' skills in this area. The second and final years take skills and theoretical development to more advanced levels. In the final year, students also carry out an independent research project that comprises one quarter of final-year study.

Year 1

Fundamentals of Biochemistry (15 credits)
Biochemistry 2 (15 credits)
Fundamental Biology and Physiology (30 credits)
Practical and Academic Skills (30 credits)
Basic Chemistry for Life Sciences (15 credits)
Introduction to Medical Science (15 credits)

Year 2

Bioanalytical Techniques (15 credits)
Cellular and Molecular Pathology (15 credits)
Metabolism and Disease (15 credits)
Cell Biology and Immunity (15 credits)
Physiological Systems and Regulation (15 credits)
Genetics (15 credits)
Research and Professional Skills (15 credits)
Microbiology and the Environment (15 credits)

Year 3

Cancer Biology and Therapeutics (15 credits)
Personal and Professional Development (15 credits)
Advanced and Clinical Immunology (15 credits)
Medical Biochemistry (15 credits)
Medical Microbiology (15 credits)
Haematology and Blood Transfusion (15 credits)
Project (30 credits)

Entry Requirements

The standard entry requirement for the BSc(Hons) Biomedical Scinece will include:

- High School Certificate –min 15.0
- IELTS Score - min. 6.5, or
- TOEFL 213 (or 550 paper-based)

Students who do not meet these entry criteria will be required to attend the 0-Year Foundation programme and pass it with an overall average of 60%.

Attendance

3 years full-time
4 years part-time

Assessment

Written assignments, examinations, practical assignments in the laboratory and presentations.

Careers

On completion of the programme the successful graduate will enjoy a wide variety of opportunities in health-care private centres, veterinary service, forensic laboratories, research institutions, and the pharmaceutical industry. In addition, graduates will be able to pursue academic careers with the completion of further degrees.

NEW YORK COLLEGE
EUROPEAN & AMERICAN EDUCATION

UNIVERSITY of GREENWICH

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Selected Course Descriptions

For a full description of all the courses, please visit
https://www.gre.ac.uk/undergraduate-courses/engsci/biomedical-science-bsc-hons

Introduction to Medical Science

Aims: To provide a background in the specialised terminology of biomedical science; to introduce the basic disciplines of biomedical science; to provide a basis for further study at levels 5 and 6.

Bioanalytical Techniques

Aims: To provide students with the relevant tools to plan, and carry out investigations in an appropriate manner; to gain an understanding of a range of analytical techniques, and to be able to apply these basic principles to a chosen specialised area.

Genetics

Aims: To provide a deeper understanding of the fundamental principles of transmission genetics and molecular genetics, with particular emphasis on eukaryotic systems; to provide students with the ability to analyse and interpret a wide variety of genetic data, such as the outcome of crosses and data from molecular genetic techniques.

Cancer Biology and Therapeutics

Aims: To facilitate an understanding of the relationship between cell biology and the basis of cancer; to provide an advanced understanding of the control of mechanisms of cell division, cell differentiation and cell signalling; to relate an understanding of concepts in carcinogenesis and of current molecular therapeutic strategies.

Medical Biochemistry

Aims: To provide a detailed review and understanding of the biochemical basis of human disease; to extend depth of understanding of the principles of physiology and pathology of blood and selected organ system and those areas of current active research activity; to evaluate the significance of biochemical laboratory data to forensic evaluation, the diagnosis, pathogenesis and treatment of human disease; to develop a critical and analytical approach to the investigation of the biochemical basis of human disease.

Medical Microbiology

Aims: To increase the depth of understanding of the characteristic features of micro-organisms associated with disease in humans; to extend knowledge and understanding of the role of the medical microbiology laboratory in the forensic investigation of pathologies associated with micro-organisms; to appraise critically the conventional and developing methods to identify pathogenic micro-organisms, and to understand the range of chemotherapeutic strategies adopted in the treatment of microbial diseases.

Advanced and Clinical Immunology

Aims: To provide a detailed review and understanding of the science of immunology and the conceptual and experimental framework which underpins modern immunology; to provide an in-depth understanding of the physiology of the immune system and how it can go wrong in disease; to explain the role of the immune system during infection and both currently existing and experimental immunotherapeutic strategies for various disease states; to integrate molecular, cellular, physiological and pathologic aspects of the immune system.

Haematology and Blood Transfusion

Aims: To develop a deeper knowledge and understanding of the diagnosis of disease based analysis of blood; to relate a knowledge of these features to clinical situations; to develop a detailed appreciation of current views on a number of haematological diseases e.g. anaemias, thalassaemias; to develop a critical appreciation of selected haemostatic mechanisms and their relevance to the transfusion laboratory.

Project

Aims: To provide an opportunity for personal development in applying prior theoretical and practical learning to a specific project and to demonstrate the ability to carry out a sustained piece of work.