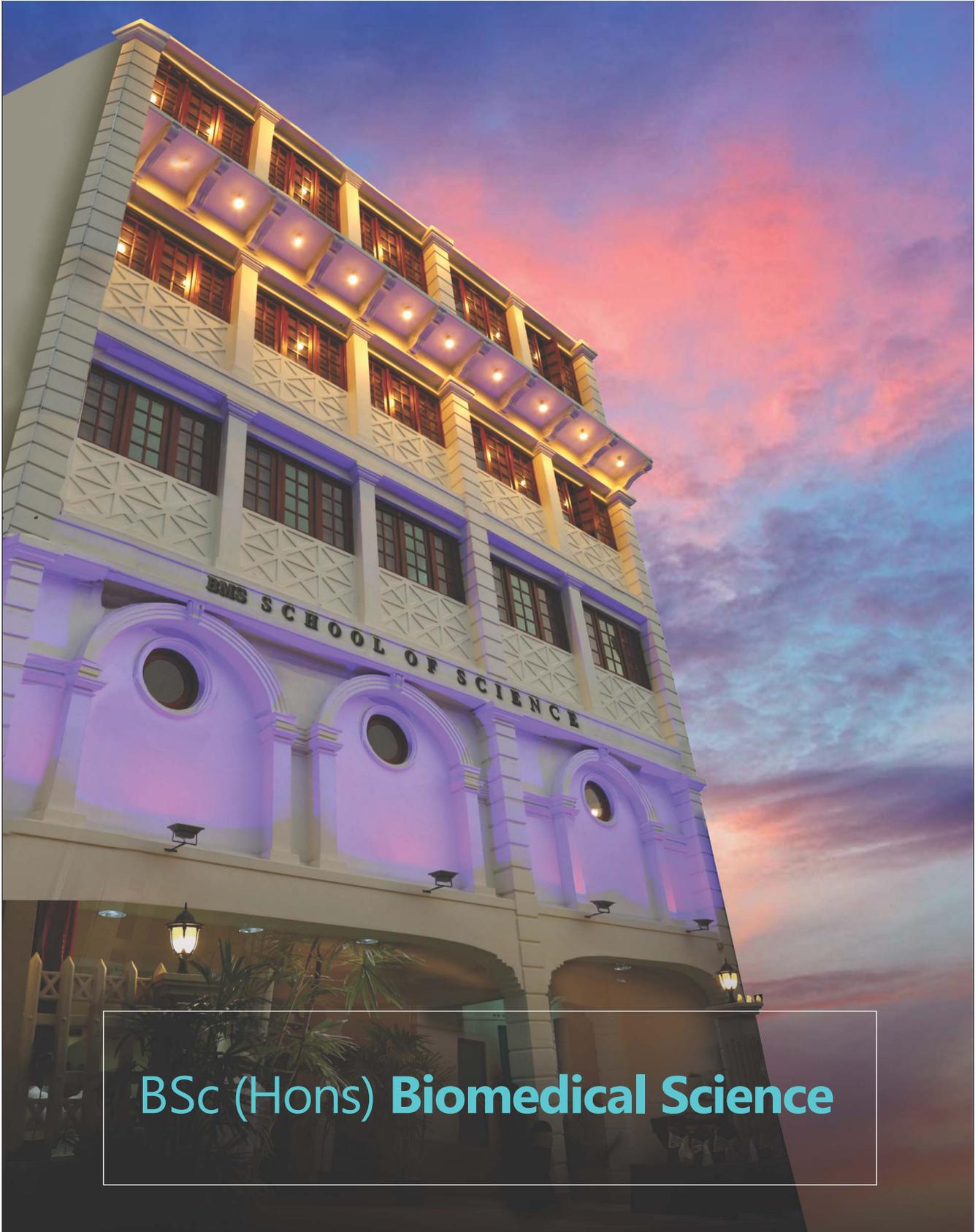




School of  
Science



**BSc (Hons) Biomedical Science**



Northumbria University Graduates at BMS Annual Graduation Ceremony

# BSc (Hons) Biomedical Science

**Final Year in Sri Lanka or UK**

## Programme Structure

| Code   | Module                         | Credits |
|--------|--------------------------------|---------|
| AP0607 | Molecular Cell Interactions    | 20      |
| AP0609 | Advanced Analytical Techniques | 20      |
| AP0608 | Pathology in Practice          | 20      |
| AP0610 | Genomics*                      | 20      |
| AP0611 | Drug Design and Development*   | 20      |
| AP0606 | Research Project               | 40      |

*\*Optional single module*



## Module Synopsis

### **Pathology in Practice**

This module represents the final stages of bringing together the knowledge and experience accrued from previous modules of the Pathology Specialties (Microbiology/ Immunology/ Cellular pathology/ Haematology/ Clinical Biochemistry). You will learn how to examine and assess the clinical symptoms and resulting results and data presented as a case study.

As a group, your team will decide the appropriate testing regime, in order to reach a diagnosis. This will take the form of preliminary investigations that should point the team in the right direction. Comprising of group discussions and guidance from tutors in the assessment of demonstrations/practical work, and data acquisition, your team will collectively contribute data, knowledge, and understanding of the test results, to unravel the complexities of the case.

### **Drug Design and Development**

In this module, you will learn about the drug discovery and development process. You will be introduced to a range of issues in drug discovery starting with selecting a disease through to identifying a disease target and the type of molecules to be utilised. This module will start by discussing drugs and the testing of drugs within a social and historical setting. You will learn how drugs interact with and affect their target areas in the human body. You will then learn about how to evaluate drug properties, the identification of lead compounds and developing these compounds into drugs that are introduced into the clinic. Topics will include pharmacogenomics, emerging technologies in personalised medicine, principles of clinical trials and pharmacological methods as well as a consideration of ethical issues.

### **Advanced Analytical Techniques**

This module explores scientific principles of essential advanced analytical techniques used in modern Biomedical Sciences and their applications in both medical diagnostics and research. It gives an understanding of genetic engineering strategies along with purification of recombinant proteins for analysis and advanced separation techniques. This module provides an insight into innovative technologies such as next generation sequencing and microarray technologies.



*Industrial training for students as a part of work-based assessment*

### **Molecular Cell Interactions**

This module teaches about mammalian cell signalling processes correlated with their role in disease pathogenesis and cellular responses to toxic compounds. The module provides an understanding of molecular mechanisms underpinning carcinogenesis, molecular basis of bacterial signalling, bacterial pathogenesis, therapeutic strategies designed to alleviate disease/pathogenesis and the molecular basis of therapeutic design including drug action, chemotherapy and gene therapy.

### **Genomics**

This module explains the application of computer based tools in the management and analysis of biological data and it will enable you to gain an understanding and practical experience of state of the art bioinformatics techniques. This focuses on the application of bioinformatics to eukaryotic genomes and human genome and its analysis using microarrays and next generation sequencing techniques. You will gain experience in CRISPR-Cas applications, Gene set identification and annotation with machine learning concepts related to Computing.

### **Research Project**

The module enables the students to design and carry out an extended individual research project with the guidance and support from an appointed supervisor. The project incorporate development of research skills and discussion of results to compile a written report with literature survey and findings.

## BMS Graduation Ceremony 2021



**Northumbria  
University**  
NEWCASTLE

**Northumbria University and BMS  
celebrate 20 years of partnership**

Northumbria University and BMS partnership has provided high quality British Degrees in Sri Lanka for the last twenty years. Northumbria - BMS partnership has contributed to the development of graduates in the fields of Biotechnology as well as Biomedical Science.

Northumbria University is a research-rich, business-focused, professional university with a global reputation for academic excellence. It is based in the heart of Newcastle upon Tyne, which is regularly voted as the best place for students in the UK. Northumbria is among the top ten in the UK for the number of graduates entering professional employment.



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