# Programme Specification

**Award and title: BSc (Hons) Biomedical Science**

| | |
|---|---|
| *School:* | Science, Technology and Health |
| *Subject area:* | Biomedical Science |
| *Entry from academic year:* | 2025-26 |
| *in the month(s) of* | September |
| *Awarding institution:* | York St John University |
| *Teaching institution:* | York St John University |
| *Delivery location:* | York St John University |
| *Programme/s accredited by:* | Institute of Biomedical Science<br>Royal Society of Biology |
| *Exit awards:* | Certificate of Higher Education Biological Sciences<br>Diploma of Higher Education Biological Sciences<br>BSc (Ord) Biological Sciences<br>BSc (Hons) Biological Sciences |
| *UCAS code / GTTR / other:* | 7Y63 |
| *Joint Honours combinations:* | Not applicable |
| *QAA subject benchmark statement(s):* | QAA subject benchmark statements Biomedical Science and Biomedical Sciences (2023) |
| *Mode/s of study:* | Undergraduate periods of study[1] for full time / part time |
| *Language of study:* | English |
| *Paired with Foundation Year* | No |
| *Study abroad opportunities:* | No |
| *Opt-in YSJU Placement Year opportunity:* | No |

## Introduction

Biomedical Science is at the forefront of innovation, serving as the link between biology and medicine. It encompasses the causes of disease and the effects of disease on the normal structure and functions of the human body. It also provides an understanding of the scientific basis for laboratory investigation, diagnosis, monitoring and treatment of disease.

In our programme, you will embark on a journey of discovery, exploring the fundamental principles that govern life and applying them to understand the mechanisms of health and disease. From the molecular intricacies of DNA to the complexities of organ systems, our curriculum provides a comprehensive and integrated approach to the study of the human body. Our programme is designed to ignite intellectual curiosity, foster

[1] The standard period of study will apply unless otherwise stated; please refer to the Regulations for Undergraduate/Taught Postgraduate/Professional Doctorate Awards https://www.yorksj.ac.uk/policies-and-documents/regulations/ for information on standard periods of study

scientific inquiry, and equip you with the knowledge and skills to unravel the intricacies of the human body at the molecular, cellular, and systemic levels.

We take pride in offering a curriculum that balances theoretical knowledge with hands-on experience in our bespoke state-of-the-art laboratories which have been developed to support extensive laboratory experience in small student groups. Your laboratory competency will be established from many practical classes plus extensive supported open learning activities. You will also have technology enhanced learning activities both within modules and also as part of extra-curricular self-development, this experiential learning approach not only enhances academic understanding but also cultivates the critical thinking and problem-solving skills essential for success in the rapidly evolving field of Biomedical Science.

As a student on our Biomedical Science programme, you will join a community of professionals dedicated to advancing scientific knowledge and improving human health. Whether your passion lies in genetics, microbiology, pharmacology, or any other facet of Biomedical Science, our programme provides you with the foundation for a rewarding and impactful career in the Pharmaceutical or Biotechnology Industry, or other related industries such as academia, research or teaching.

## Special features

Our programme is externally accredited by the professional body, the Institute of Biomedical Science (IBMS) and you will be eligible to apply for a year-long NHS or industry placement during Level 5 of the programme. Applicants will be offered placements after detailed consideration of each individual application, academic performance in Level 4 and 5, selection process by the Placement Tutor involving practitioners / industrial colleagues, plus an interview with their chosen placement provider. If successful, you will then transfer to the 'Biomedical Science (with placement)' degree programme at the end of Level 5. This enables you to apply to the Health and Care Professions Council (HCPC) to register as a Biomedical Scientist following graduation with the honours degree and following successful completion of laboratory experience and the IBMS Registration Training Portfolio.

There is a strong emphasis on employability throughout the programme, together with personal resilience and leadership skills to facilitate professional development in work-based environments. In all levels of study, you will interact with Biomedical Science practitioners and other professionals from a range of careers and 'live briefs' to develop employability skills.

The programme includes an inter-professional agenda, and you will be encouraged to consider the role of different professions, alongside biomedical scientists, and how they are involved across a person-centred journey. This may take the form of multiprofessional simulation-based scenarios with other York St John University students, case scenarios, case discussion and visiting speakers from a variety of different clinical and industry environments. By integrating interprofessional learning with critical problem-solving and leadership skills you will be encouraged to make a unique contribution to your new profession, right from the start of your new career. Developing a respect for providing a person-centred approach is weaved throughout the theoretical and practical components of the programme and there is a strong commitment to social justice, sustainability, and enhancing cultural intelligence by encouraging you to be aware of, and address, social, environmental and economic concerns to create a better world.

## Admissions criteria

You must meet the minimum entry requirements which are published on the programme specific webpage. In addition, you must have:

- A minimum of 112 UCAS points (BBC) including a grade B or above in Biology A level or biology based BTEC extended diploma (Chemistry is also desirable at A2).

If your first language is not English, you need to take an IELTS test, or an equivalent qualification accepted by the University (see https://www.yorksj.ac.uk/international/how-to-apply/english-language-requirements/).

If you do not have traditional qualifications, you may be eligible for entry on the basis of Recognition of prior learning (RPL). We also consider applications for entry with advanced standing.

## Programme aim(s)

The overall aim of the programme is to produce graduates who are able to excel within the context of biomedical science and who have the knowledge, resilience and confidence to contribute to the profession in areas such as healthcare, research, or industry:

- To empower the development of resilient and competent scientists, capable of meeting expectations in different settings within the current employment market.
- To provide an inclusive, intellectually stimulating and aspirational programme of study in Biomedical Science for all students from diverse cultural and educational backgrounds.
- To develop subject knowledge and understanding in the core areas of Biomedical Science including an ethical awareness of the implications of ethnicity, gender as well as social and cultural diversity in health and disease.
- To develop evidence-informed, person centred, problem-solvers and decision-makers that can adapt to the demands of contemporary practice.
- To develop core discipline specific and research skills to be able to contribute to the discipline body of knowledge.
- To foster self-awareness and curiosity as a basis for ongoing professional development
- To empower graduates to become leaders within their chosen employment settings

## Programme learning outcomes

Upon successful completion of the programme students will be able to:

### Level 4

4.1 Describe the underlying concepts and principles of core aspects of Biomedical Science, analyse how those principles have developed and source and interpret scholarly research

4.2 Present, evaluate and interpret qualitative and quantitative data, in order to develop research skills, lines of argument and make sound judgements in accordance with basic theories and concepts of Biomedical Science

4.3 Communicate the results of their study/work accurately and reliably, and with structured and coherent arguments to a variety of formats to specialist and non-specialist audiences

4.4 Demonstrate a range of personal transferable skills including communication, information technology (including the use of databases, statistics, artificial intelligence (AI) and other sources of information and means of communication), team working, negotiating, decision-making, personal responsibility; awareness of ethics; health and safety assessments; good laboratory practice, problem solving, quality control and assurance skills that are required in a working environment and prepare you for lifelong learning

### Level 5

5.1 Select, evaluate and appraise research, experimental and clinical laboratory techniques of cellular pathology, clinical biochemistry, clinical immunology, clinical genetics and microbiology, plus haematology and transfusion science. and be able to apply them to theoretical, experimental and laboratory investigations

5.2 Prepare, process, analyse (including numerical and statistical analysis) and interpret experimental/clinical laboratory data and present data in an appropriate format; applying creative, critical and analytical thinking to tackle and solve problems

5.3 Demonstrate an understanding of the principles and practices of equity, diversity and inclusion in biomedical research and its impact on society in a socially responsible context.

**Level 6**

6.1 Demonstrate autonomous learning to generate and critically analyse complex data and synthesise complex ideas to develop advanced techniques at the forefront of Biomedical Science, using current research in the discipline, as demonstrated by the research project

6.2 Organise and plan academic and laboratory work; evaluate ethical considerations; make use of scholarly reviews and primary sources and undertake autonomous learning, reflecting critically upon their own identities, experiences and values, and how they influence their learning and professional development in biomedical science.

6.3 Apply and critically evaluate empirical knowledge to develop entrepreneurial and creative problem-solving skills appropriate to Biomedical Science including leadership, teamwork and initiative in a professional context of employability

## Programme structure – BSc (Hons) Biomedical Science

| Code | Level | Semester | Title | Credits | Compulsory or optional | Non-compensable (NC) or compensable (X) |
|---|---|---|---|---|---|---|
| BIO4007M | 4 | 1&2 | Personal & Professional Development 1 | 20 | C | NC |
| BIO4008M | 4 | 1&2 | Human Anatomy and Physiology | 20 | C | NC |
| BIO4009M | 4 | 1 | Biological Molecules and Reactions | 20 | C | NC |
| BIO4010M | 4 | 1 | Molecular & Cellular Biology 1 | 20 | C | NC |
| BIO4011M | 4 | 2 | Biochemistry and Metabolism | 20 | C | NC |
| BIO4012M | 4 | 2 | Introductory Microbiology and Immunology | 20 | C | NC |
| | | | | | | |
| BIO5013M | 5 | 1&2 | Personal & Professional Development 2 | 20 | C | NC |
| BIO5014M | 5 | 1&2 | Haematology, Immunology and Transfusion Science | 20 | C | NC |
| BIO5015M | 5 | 1 | Clinical Biochemistry | 20 | C | NC |
| BIO5016M | 5 | 1 | Molecular & Cellular Biology 2 | 20 | C | NC |
| BIO5017M | 5 | 2 | Medical Microbiology | 20 | C | NC |
| BIO5018M | 5 | 2 | Cellular Pathology | 20 | C | NC |
| | | | | | | |
| BIO6009M | 6 | 1&2 | Research Project | 40 | C | NC |
| BIO6010M | 6 | 1 | Cancer Biology | 20 | C | NC |
| BIO6011M | 6 | 1 | Clinical Genetics | 20 | C | NC |
| BIO6012M | 6 | 2 | Biology of Disease | 20 | C | NC |
| BIO6013M | 6 | 2 | Pharmacology and Toxicology | 20 | C | NC |

Any modules that must be passed for progression or award are indicated in the table above as non-

compensable. A non-compensatable module is one that must be passed at the relevant level (with a mark of 40) in order to progress. There is no compensation for the Biomedical Science programme, in accordance with the Institute of Biomedical Science accreditation criteria.

A part time route, where you can study these modules over 6 years is available.

## Learning, teaching and assessment

### Learning & Teaching

The curriculum is designed to cultivate advanced knowledge, critical thinking, and practical skills in Biomedical Science. The learning and teaching strategy encompasses a dynamic blend of theoretical foundations and hands-on laboratory experiences to prepare you for a career as a Biomedical Scientist or as a scientist in one of the many other professions that you can choose to follow.

A blend of lectures / workshop sessions will deliver the theoretical underpinnings of biomedical science concepts alongside seminars to prompt deeper learning through interactive discussions, debate, critical analysis, and collaborative problem-solving. Hands-on practical laboratory sessions are integral to this programme. You will engage in practical tasks and experiments, applying theoretical knowledge in safe, environments that will encourage the development of your laboratory skills and promote deeper learning. You will see a progressive development in your skills in a spiralled approach across the programme to develop decision-making and teamwork, ultimately equipping you with contemporary employability skills in biomedical science. In addition, guest speakers from clinical and industry areas of practice and research will enhance real-world perspectives.

In Level 4, you will study normal human biology plus microbiology and immunology at the level of the molecule, gene, cell, organ and organism. You will be introduced to basic laboratory skills, alongside qualitative and quantitative data handling / interpretation. You will develop a reflective attitude to your learning and develop numerical, written and oral communication, IT and group working skills. In Level 5, you will start to examine the processes that disrupt normal human biological function and cause disease exploring the methods used to diagnose and treat disease. You will also develop personal transferable skills and reflect on how these will prepare you for the working environment. You will increase your depth of knowledge and laboratory and data handling skills developing autonomy in your learning. In Level 6 you will study pathogenic mechanisms (endogenous and exogenous) associated with the development and progression of disease in human beings together with the laboratory diagnosis and management of a range of human diseases.

Throughout the levels, the programme promotes a culture of inquiry and evidence-based practice. You will undertake a research project, aimed at contributing to the field of biomedical science and will be encouraged to critically engage with research literature and discuss how evidence can be used to support and develop theory and practice. The incorporation of e-learning and technology will facilitate deeper learning using online resources, virtual technology, and webinars to enhance accessibility and accommodate a diverse range of learning styles.

Interprofessional collaboration is emphasised throughout the programme. Shared learning experiences with other York St John University healthcare students will prepare you for complex multidisciplinary team working and equip you with the communication and team-working skills to thrive in your chosen work-based setting. There is also a strong focus on employability, together with personal resilience and leadership skills to facilitate professional development in work-based environments. Developing a respect for providing a person-centred approach is weaved throughout the theoretical and practical components of the programme and there is a strong commitment to social justice, sustainability, and enhancing cultural intelligence by encouraging you to be aware of, and address, social, environmental and economic concerns to create a better world.

### Assessment

A variety of assessment methods such as written assignments, lab reports, exams and research will develop your academic, critical and research thinking skills. Assessment on the programme has been designed to

ensure that it supports your learning, in addition to monitoring your skills and understanding. This means that formative assessments are integral to all modules and are designed to engage you with meaningful feedback and develop an ability to self-evaluate, prior to submission of the summative work. As you progress through your degree, the assessments change and become more challenging to reflect the increase in your knowledge and abilities.

All these assessments have been carefully scheduled to ensure they are progressive and well-spaced throughout the programme. The use of formal and informal feedback throughout the modules will develop your ability to evaluate your progress and build confidence. The programme design allows you to develop many skills that can be applied to new tasks and situations and helps you to engage with the curriculum. Technical skills will be assessed by a range of laboratory competency-based assessments in addition to the practical classes, data analysis and interpretation and technical badges awarded throughout the programme. Professional skills will be assessed via a range of assessment types including written and oral communication, group working and problem solving.

## Progression and graduation requirements

The University's regulations for undergraduate awards apply to this programme.

Any modules that must be passed for progression or award are indicated in the Programme Structure section as non-compensable.

This programme does not permit the option to study part time to redeem progression failure in level 4 and 5 due to a PSRB requirement.

Third attempts are not permitted either through appeal, SCP approval or under the University's regulations due to PSRB requirements.

In addition, the following programme-specific regulations apply in respect of progression and graduation:

- All modules are compulsory for the Biomedical Science programme, in accordance with the Institute of Biomedical Science accreditation criteria. You must demonstrate that you have met the learning outcomes for all core aspects of the Pathology disciplines throughout the degree. This means that 120 credits must be passed at 40 or higher in order to progress between levels and be eligible for a final award of BSc (Hons) Biomedical Science.

- If you have been unsuccessful in a module that is non-compensatable at levels 4 or 5, but you still meet the University's general regulations in respect of progression you may be able to transfer to the BSc (Hons) Biological Sciences exit award and progress to the next level of study. If you were to be transferred to this exit award then all modules that were previously non-compensatable would now be regarded as compensatable instead, additionally any qualifying marks for module assessments will be lifted and you will be eligible to receive your uncapped first attempt module mark. The standard University regulations for awards apply.

- If you have been unsuccessful in a 20-credit module that is non-compensatable at level 6, but you meet the University's general regulations in respect to compensation you may be able compensate the failure and achieve the BSc (Hons) Biological Sciences. Additionally, any qualifying marks for module assessments will be lifted and you will be eligible to receive your uncapped first attempt module mark. The standard University regulations for awards will apply. If you have met the credit requirements for an Ordinary degree, you are eligible for the award of a BSc (Ord) Biological Sciences.

## Competence Standards

Competence standards are the academic and/or professional requirements that all students must meet in order to successfully complete the programme and achieve the award. They represent the essential knowledge, skills and abilities that are necessary to maintain the academic and/or professional integrity of the qualification.

Under the Equality Act 2010, competence standards are not subject to the duty to make reasonable adjustments, although reasonable adjustments may be made to the way in which competence standards are assessed where appropriate.

This programme includes competence standards aligned to the IBMS - Indicative Technical Skills.

Details of the competence standards for this programme, including information about the assessments through which they are demonstrated and whether reasonable adjustments may be applied to those assessments, are available on request by emailing quality@yorksj.ac.uk

## Internal and external reference points

This programme specification was formulated with reference to:

- University Mission, Culture and Values
- University 2026 Strategy
- QAA subject benchmark statements Biomedical Science and Biomedical Sciences (2023)
- Frameworks for Higher Education Qualifications
- Health and Care Professions Council (HCPC) Standards of Proficiency for Biomedical Scientists (2023)
- Institute of Biomedical Science Criteria and Requirements for the Re-accreditation of BSc (Hons) Degrees in Biomedical Science (22-23)

*Date written / revised: March 2024*

**Appendix 1**

## Programme structure – BSc (Hons) Biological Sciences

| Code | Level | Semester | Title | Credits | Compulsory or optional | Non-compensatable (NC) or compensatable (X) |
|---|---|---|---|---|---|---|
| BIO4007M | 4 | 1&2 | Personal & Professional Development 1 | 20 | C | X |
| BIO4008M | 4 | 1&2 | Human Anatomy and Physiology | 20 | C | X |
| BIO4009M | 4 | 1 | Biological Molecules and Reactions | 20 | C | X |
| BIO4010M | 4 | 1 | Molecular & Cellular Biology 1 | 20 | C | X |
| BIO4011M | 4 | 2 | Biochemistry and Metabolism | 20 | C | X |
| BIO4012M | 4 | 2 | Introductory Microbiology and Immunology | 20 | C | X |
| | | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| BIO5013M | 5 | 1&2 | Personal & Professional Development 2 | 20 | C | X |
| BIO5014M | 5 | 1&2 | Haematology, Immunology and Transfusion Science | 20 | C | X |
| BIO5015M | 5 | 1 | Clinical Biochemistry | 20 | C | X |
| BIO5016M | 5 | 1 | Molecular & Cellular Biology 2 | 20 | C | X |
| BIO5017M | 5 | 2 | Medical Microbiology | 20 | C | X |
| BIO5018M | 5 | 2 | Cellular Pathology | 20 | C | X |
| | | | | | | |
| BIO6009M | 6 | 1&2 | Research Project | 40 | C | NC |
| BIO6010M | 6 | 1 | Cancer Biology | 20 | C | X |
| BIO6011M | 6 | 1 | Clinical Genetics | 20 | C | X |
| BIO6012M | 6 | 2 | Biology of Disease | 20 | C | X |
| BIO6013M | 6 | 2 | Pharmacology and Toxicology | 20 | C | X |