

Physics with Biophysics BSc

UCAS code: FC37

Year of entry: 2019

Duration: three years

Study mode: full-time

www.kcl.ac.uk/study/undergraduate/courses/physics-with-biophysics-bsc.aspx



This PDF was produced in September 2018.

Biophysics is an interdisciplinary field that has led to some of the most significant developments in modern science. Our Physics with Biophysics BSc course will give you an understanding of fundamental aspects of physics and biophysics. You will study traditional Physics topics such as quantum mechanics, fields and waves and electromagnetism, while also learning about the physics of life.

Approximately one quarter of the course is biophysics related – ie the application of physics, mathematics and computing to understand the workings of living systems. You will carry out

extensive biophysics related project work in your third year to gain an insight into the skills and conduct of scientific research.

Key benefits

- Award winning – six former staff and students in the Department have won Nobel Prizes.
- Internationally-renowned academic staff in the fields of biophysics, soft matter, nanotechnology and cosmology.
- Friendly and supportive learning environment.
- 90 per cent of our research is classed as world leading or internationally excellent.
- Central location gives you easy access to major libraries and many leading societies, including the Institute of Physics.
- Study a unique course in the UK.

Course details

We have designed our Physics with Biophysics BSc to give you a broad knowledge of the fundamental aspects of physics and biophysics. You will study subjects such as relativity, quantum mechanics, fields and waves, cell biology, electromagnetism and nuclear physics.

At first you will follow a set programme, but later in the course there is scope for you to pursue your own interests in greater depth. Problem solving and project work is an important part of this course, and you will learn about team work, group organisation, and the skills of oral and poster presentations. We also encourage you to work with a school, to experience teaching and develop the skill of presenting information to non-experts. You'll be assigned a personal tutor to support your development and our Department encourages an atmosphere in which students feel able to easily approach academic staff. Our Student-Staff Liaison Committee provides a forum for the exchange of ideas and feedback on

teaching. Staff and students are members of the Maxwell Society, which is the Department of Physics' social and lecture society.

Flexibility in course choice

Students who enrol on the MSci/BSc Physics with Biophysics, can change to most of the other Physics courses at the end of their first year. Similarly, students who have initially enrolled on other Physics programmes can change to Physics with Biophysics at the end of the first year provided that they have taken the first year module 'Introduction to Biophysics'.



Teaching

We will teach you through a combination of lectures and laboratory classes, tutorials and project work. All of our academic staff are involved with the undergraduate teaching course. You are expected to spend approximately 10 hours work per credit for each module you attend in your degree, eg 150 hours work for a 15 credit module. These hours cover every aspect of the module.

Assessment

We will assess you primarily through written exams, although occasionally also through practical laboratory examinations, laboratory reports, class tests, coursework and oral presentations.

Regulating body

King's College London is regulated by the Office for Students.

Course structure

Each course is divided into modules. You will normally take modules totalling 120 credits.

Year 1**Required modules**

You are required to take:

- Physics Skills & Techniques (30 credits)
- Mathematics & Computation for Physics (30 credits)
- Classical Physics (30 credits)
- Introduction to Modern Physics (15 credits)
- Introduction to Biophysics (15 credits)

Optional modules

There are no optional modules in your first year.

Year 2**Required modules**

You are required to take:

- Experimental Physics (15 credits)
- Mathematical Methods for Physics (15 credits)
- Thermal Physics & Properties of Matter (15 credits)
- Quantum Mechanics I (15 credits)
- Electromagnetism (15 credits)
- Relativity & Sub-atomic Physics (15 credits)
- Principles of Biophysics (15 credits)

Optional modules

In addition, you are required to take 15 credits from a range of optional modules, which may typically include:

- Introduction to Medical Physics (15 credits)
- Computational Laboratory (15 credits)

Year 3**Required modules**

You are required to take:

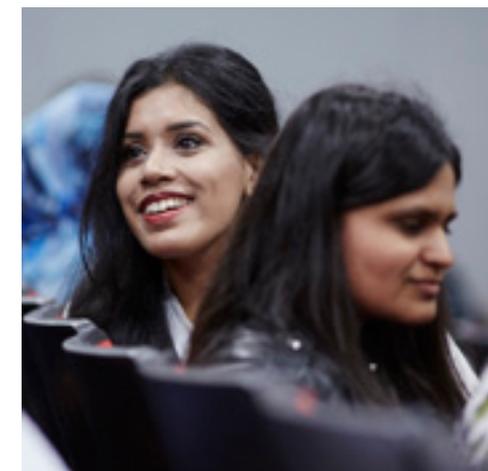
- Statistical Mechanics (15 credits)
- Optics (15 credits)
- Condensed Matter I (15 credits)
- Quantum Mechanics II (15 credits)
- Particle Physics (15 credits)
- Third year Project in Physics (Biophysics related) (15 credits)
- Advanced Biophysics (15 credits)

Optional modules

In addition, you are required to take 15 credits from a range of optional modules, which may typically include:

- University Ambassadors' Scheme (15 credits)
- Fundamentals of Nanotechnology (15 credits)
- Introduction to Medical Imaging (15 credits)
- Modelling Flow & Transport (15 credits)
- General Relativity & Cosmology (15 credits)

King's College London reviews the modules offered on a regular basis to provide up-to-date, innovative and relevant programmes of study. Therefore, modules offered may change. We suggest you keep an eye on the course finder on our website for updates.



Location

The course is primarily taught at the King's College London Strand Campus.

Our Department is located on the seventh floor with views over the Thames to the London Eye and Westminster. This central location gives you easy access to major libraries and many leading societies including the Institute of Physics, as well as the extensive cultural and social offerings of one of the world's most vibrant and dynamic cities.

Career prospects

Our Physics graduates are in high demand because employers recognise the wide range of skills that they possess. We train physicists to be good problem solvers, to think logically and to apply mathematical and computational techniques to real problems.

Recent physics graduates have found employment or further study as:

- Investment Manager, Manthan Capital
- Project Engineer, Cryogenic Ltd
- Researcher, Institute of Scientific Instruments
- Risk Analyst, City Index
- Maths Part III, Cambridge
- Software Engineer IBM
- Physics Teacher, London

Fees and funding

Full-time tuition fees – UK

The UK tuition fees for the 2019–20 academic year are available on the course web page.

Please note that the tuition fees for subsequent years of study may be subject to increases in line with King's terms and conditions.

Full-time tuition fees – EU

Current regulations allow EU students to pay the same rate of tuition fees as Home (UK) students on the basis of their EU citizenship or residency. This will remain the case for 2019–20 but may be subject to change in subsequent years. The Government is expected to announce any changes regarding EU student tuition fees in September 2018.

The UK tuition fees for the 2019–20 academic year are available on the course web page.

Please note that the tuition fees for subsequent years of study may be subject to increases in line with King's terms and conditions.

Full-time tuition fees – International

The International tuition fees for the 2019–20 academic year are available on the course web page.

Please note that the tuition fees for subsequent years of study may be subject to increases in line with King's terms and conditions.

All International applicants to undergraduate courses are required to pay a deposit of £2,000 against their first year's tuition fee. This deposit is payable when you firmly accept an unconditional offer to study with us, and will be offset against your tuition fees when you join King's.

For further information, please visit the fees and funding section of our website:

www.kcl.ac.uk/study/undergraduate/fees-and-funding/index.aspx

Additional costs

In addition to your tuition costs, you can also expect to pay for:

- books if you choose to buy your own copies
- clothing for optional course related events and competitions
- library fees and fines
- personal photocopies
- printing course handouts
- society membership fees
- stationery
- graduation costs
- travel costs around London and between campuses.

Disclaimer

Although this PDF was up-to-date at the time it was produced, please make sure you check our website www.kcl.ac.uk/study or contact us directly for the very latest information before you commit yourself to any of our courses.

Contact us

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