

Changes to previous information

During the global COVID-19 pandemic, we prioritised the health, wellbeing and safety of our students and staff.

As we start the new academic year, your health, wellbeing and safety remains our top priority. This means when we return to our campuses and buildings in September 2020 social distancing and other health and safety measures will be in place. This is to help keep you, and others around you, safe. We will respond to the requirements of vulnerable students regarding their personal safety on an individual basis.

We remain committed to delivering an outstanding education and student experience both on campus and online. Like most universities, we'll be providing a mix of on-site face-to-face and digital learning and teaching. The exact mix will vary between courses and course modules taking into account teaching requirements and other considerations such as meeting the safety of vulnerable staff.

It is important to emphasise that a face-to-face, on-site experience will be delivered within the Government and Public Health England guidance and providing there are no serious unforeseeable public health issues that result in the Government introducing further lockdown measures.

Our response to the pandemic means we may have made changes to your course. This is to take account of these important health and safety measures.

We ask you to read the information provided about course changes carefully. We detail what we include in our online prospectus and explain what has changed.

You should read our statement of changes alongside any information provided in videos, at open days or in other promotional materials. This is because the information may also have been affected by the changes we had to make. We are providing this information so you can make an informed choice about whether the course remains suitable for you.

When you register for your course, you will be asked to confirm you have read about our changes and you agree to them. It means that by choosing to continue with your application, and register with us, you accept these changes and are happy to study your course with us.

We really look forward to seeing you in the next academic year. In the meantime, if you want to find out more about University life from this September, and being part of our supportive and welcoming community, please visit our [September 2020 web pages](#).

Current published course related information		
Course title	Biology with Foundation Year	
Award level	BSc - Single honours only	
How do you want to study?		
Start Date	Sept 2020	
Modes of study	Full-time	
Duration	4 years full-time	
UCAS code	C101	
Location	Canterbury	
Partner institution	N/A	
Available with a Foundation Year	N/A	
Overview		
	<p>This is your chance to gain a strong foundation in the skills and knowledge you will need to forge a career in this fascinating area.</p> <p>With a focus on practical work in the lab and the development of transferrable written and oral skills, this foundation year is designed to help you achieve more.</p> <p>You will have the opportunity to work with a range of employers, including the Life Sciences Industry Liaison Lab, Howletts and Port Lympne Zoos, Wildwood and Wingham Wildlife Park.</p>	<p>There will still be a focus on the development on practical skills in the laboratory but opportunities to work with employers will depend upon the current COVID-19 situation.</p> <p>The practical week will be supported by supplementary online demonstrations of key laboratory techniques. In the event of further COVID 19 interruptions, further face to face contingency arrangements are planned to support student learning</p>
Why study Biology with Foundation Year?		
	<p>Biology is one of the most diverse and integrated scientific disciplines, ranging from the study of microscopic molecules and their biological importance to the investigation of whole organisms and their behaviour.</p> <p>Our hands-on degree will open your eyes to many fascinating aspects of biology, from the diversity of life, genetics and evolution to animal anatomy and plant physiology and during the foundation year you'll learn</p>	<p>Please note that the running of the optional 'Added Value' programmes will depend upon the situation with COVID-19.</p>

	<p>essential academic skills to help you succeed in your degree.</p> <p>Your learning will be brought to life in the labs where you'll apply your enquiring mind and practical abilities to tackle real life issues, guided and supported by staff with a wide range of academic and industry experience.</p> <p>You'll also have the chance to gain further skills as part of our 'Added Value' programme and collaborate with biotech companies through the Life Sciences Industry Liaison Lab and advisory companies such as FAST Brogdale.</p> <p>Our close links with organisations in the science sector mean we have been able to develop a course that is shaped by industry and that will equip you with the qualities that employers are looking for. These include transferable skills in oral and written communication and the use of modern computational and statistical approaches to working with biological data.</p> <p>This degree offers you a route to an exciting and varied career in biology and, like our previous graduates, you could go on to employment in areas such as cancer research, medical microbiology and the pharmaceutical and biotechnology industries. Another popular route for our graduates is further study at MSc or PhD level or to train as a teacher.</p>	
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Entry requirements	Applicants should normally have 32 UCAS Tariff points. We will also welcome applications from students with few or no formal Level 3 qualifications who wish to return to education and applicants may be asked to attend an interview.	
About the course		
	<p>During the foundation year, you'll study the core sciences of biology, chemistry and physics as well as study skills and introductory level maths. This year is designed to give you a solid grounding in science and prepare you for study at degree level.</p> <p>You'll start the degree by learning key concepts and skills in biochemistry and genetics and you'll explore the vast diversity of life on earth. You'll then go on to learn about concepts of animal and plant anatomy and physiology and you'll develop practical skills in molecular biology. As you progress through the course, you'll select optional modules that will enable you to study specialist areas of interest.</p> <p>The course includes an option to take a summer work placement as part of your studies and you'll also be able to apply for internships over the summer breaks. These usually involve working with lecturers on their research projects in collaboration with external partners and potential employers in industry and research.</p>	The running of the optional Work Placement module at level 5 and summer internship positions will depend upon the COVID-19 situation in the summer of 2022.
Module information Please note that the list of optional modules and their availability may be subject to change. We continually review and where appropriate, revise the range of modules on offer to reflect changes in the subject and ensure the best student experience. Modules will vary when studied in combination with another subject.		
Foundation Year		
	<p>Advancing Biology Core module</p> <p>The aim of this module is to build on material learned in the module 'Biological Concepts'. Elements of genetics and molecular biology are extended and you will be introduced to various facets of the environmental sciences, including ecology</p>	

	and conservation, agricultural science, and pollution science. You will also extend your practical skills within the life sciences.	
	<p>Advancing Chemistry Core module</p> <p>This module aims to build on the knowledge acquired in Principles of Chemistry. You'll explore different fields within the subject of chemistry (physical chemistry, organic chemistry, biochemistry and environmental chemistry) and you will further develop your laboratory skills.</p>	
	<p>Biological Concepts Core module</p> <p>In this module, you'll study the central principles of biology, namely the basic structure, function and variety of living organisms and how they reproduce. You'll also develop basic transferable skills needed to understand scientific reasoning and to undertake scientific investigations.</p>	
	<p>Physical Laws of the Natural World Core module - (20 Credits)</p> <p>The aim of this module is to introduce you to the physical concepts that underpin all of science and how physics are studied in the natural sciences. You will develop an understanding of how physical laws are used to describe natural phenomena and how they may be applied to gain a deeper knowledge of particular systems and processes.</p>	
	<p>Principles of Chemistry Core module</p> <p>In this introductory module, you'll learn about fundamental chemical concepts such as atomic structure, chemical nomenclature, bonding, stoichiometry and a range of chemical reactions. You'll also develop your basic chemistry laboratory skills.</p>	This core module has changed its name to Introduction to Chemistry. The module content remains unchanged.
	<p>Study Skills Core module</p> <p>You'll develop the basic transferable skills needed to understand and practice scientific reasoning, to undertake scientific</p>	This core module has changed its name to General Science Skills. The module content remains unchanged.

	investigations and to communicate effectively scientific ideas and outcomes.	
Core year 1		
	<p>Biochemistry Core module - (20 Credits)</p> <p>You will be introduced to the basic concepts and chemical foundations of biochemistry and cell biology to develop your understanding of structure and function of animals at the molecular level. You will be introduced to the basics of immunology and endocrinology and you'll undertake a number of practicals based on the theory you have learnt.</p> <p>Combined honours core module.</p>	<p>The practical sessions associated with this module are part of an intensive practical week.</p> <p>The practical week will be supported by supplementary online demonstrations of key laboratory techniques. In the event of further COVID 19 interruptions, further face to face contingency arrangements are planned to support student learning</p>
	<p>Chemistry Core module - (20 Credits)</p> <p>Chemistry is fundamental to the understanding of the reactions and processes that happen inside all organisms. This module aims to give you the necessary theoretical background and practical skills in chemistry, which will be essential for your study of biological sciences.</p>	<p>The practical sessions associated with this module are part of an intensive practical week.</p> <p>The practical week will be supported by supplementary online demonstrations of key laboratory techniques. In the event of further COVID 19 interruptions, further face to face contingency arrangements are planned to support student learning</p>
	<p>Diversity of Life Core module - (20 Credits)</p> <p>Life on earth is amazingly diverse, colourful and multifaceted. This module introduces you to this variety, tracing the tree of life from its roots to its branches. Beginning with simple, single-celled organisms like bacteria and protists, you'll discover the various forms of complex life that have evolved and how to classify them in a taxonomic system using characteristic features of each group. The module features a large number of practical sessions in which you'll engage with plants, animals and other organisms.</p> <p>Combined honours optional module.</p>	<p>The practical sessions associated with this module are part of an intensive practical week.</p> <p>This module is no longer a combined honours optional module as previously stated.</p> <p>The practical week will be supported by supplementary online demonstrations of key laboratory techniques. In the event of further COVID 19 interruptions, further face to face contingency arrangements are planned to support student learning</p>
	<p>Genetics and Evolution Core module - (20 Credits)</p>	<p>The practical sessions associated with this module are part of an intensive</p>

	<p>You will learn about key concepts in genetics and evolutionary biology, providing you with a broad knowledge of Mendelian genetics and the mechanism of evolution. You will undertake a number of practicals in cell biology and DNA methods and will utilise bioinformatics to access, evaluate and interpret genetic and phylogenetic data.</p> <p>Combined honours core module.</p>	<p>practical week.</p> <p>The practical week will be supported by supplementary online demonstrations of key laboratory techniques. In the event of further COVID 19 interruptions, further face to face contingency arrangements are planned to support student learning</p>
	<p>Microbiology Core module - (20 Credits)</p> <p>This module will introduce you to principal taxonomic groups of microorganisms; you will examine their growth, physiology and culture, and their importance to humans and the biosphere. The module equips you with the necessary skills to carry out safe, aseptic practices with such organisms in a laboratory environment.</p>	<p>The practical sessions associated with this module are part of an intensive practical week.</p> <p>The practical week will be supported by supplementary online demonstrations of key laboratory techniques. In the event of further COVID 19 interruptions, further face to face contingency arrangements are planned to support student learning</p>
	<p>Science Skills and Introduction to Statistics Core module - (20 Credits)</p> <p>You will develop the necessary background in science communication, skills and methods essential for a degree in life sciences. You will learn how to analyse quantitative biological data, including statistics and experiment design and how to understand scientific publications and write scientific papers.</p> <p>Combined honours core module.</p>	
Optional year 1		
	N/A	
Core year 2		
	<p>Animal Anatomy and Physiology Core module - (20 Credits)</p> <p>By examining mammalian anatomy and physiology and comparing these systems with those of a range of other animal groups, you will develop an integrated understanding of animal form and function. Throughout this module, communication, evolutionary history and homeostatic</p>	

	<p>processes are used as unifying themes. You will investigate dysregulation of these systems and carry out a number of practical sessions based on the theory you have learnt in the lectures.</p> <p>Combined honours core module.</p>	
	<p>Data Handling Core module - (20 Credits)</p> <p>In this module, you'll develop the techniques necessary to handle quantitative biological data analysis and you'll start to explore bioinformatics. You will be introduced to the powerful statistical programming language, R, which is critical to current approaches to handling/analysing data, particularly "big data".</p> <p>Combined honours optional module.</p>	
	<p>Molecular Biology and Biotechnology Core module - (20 Credits)</p> <p>This module offers you a unique practical experience of diverse laboratory skills associated with the isolation, handling and manipulation of DNA and proteins. You will cover the main areas of theoretical molecular biology knowledge and its practical applications in current research.</p> <p>Combined honours optional module.</p>	
	<p>Natural Product Chemistry Core module - (20 Credits)</p> <p>In this module, you'll develop further understanding of the chemistry of natural products, building on the chemical knowledge in earlier modules. You'll explore the chemistry of natural products and the links between molecular structure and properties, establishing connections with the behaviour of these compounds in biological systems. You'll also learn about purification methods and different analytical methods that can be used in the isolation and identification of these compounds.</p>	
	<p>Plant Physiology and Development Core module - (20 Credits)</p>	

	<p>In this module, you'll develop a sound knowledge of the basics of plant physiology and development. You'll develop your ability to analyse and interpret published data through student-led discussions of the role of plant hormones (plant growth regulators) in controlling physiological processes and developmental switches.</p> <p>Combined honours core module.</p>	
Optional year 2		
	<p>Animal Pests and Diseases Optional module - (20 Credits)</p> <p>In this module, you'll study pests, parasites and pathogens which affect animals, and how they affect the wider world. You'll learn about the taxonomy and biology of these organisms, the economic impacts they have on societies around the world, and the ways in which animals have evolved to fight infection and infestation. You will then discuss and comment on the mechanisms by which humans have attempted to control pests, parasites and pathogens such as the use of antibiotics, pesticides, vaccination and biological control.</p>	
	<p>Chemistry of the Environment Optional module - (20 Credits)</p> <p>You'll develop an understanding of the fundamental theoretical concepts and practical applications of environmental chemistry in aquatic, terrestrial and atmospheric environments. You'll learn about some of the chemical analytical methods that can be used in the monitoring of these environments and you'll address issues of environmental pollution.</p>	
	<p>Plant Pests and Pathogens Optional module - (20 Credits)</p> <p>You'll develop knowledge of common important plant pests and diseases, their effects on plant growth and yield, and how to recognise them in the field. You'll also learn how to analyse and interpret published data through student-led discussions about specific pests and</p>	

	diseases and their control.	
	<p>Work placement Optional module - (20 Credits)</p> <p>This module provides you with the opportunity to develop key skills and experience while working in a commercial environment. You will be enabled to develop critical reflection skills as you review your own competencies as they expand and diversify.</p>	This optional module may be available depending upon the COVID-19 situation in 2022.
Core year 3		
	<p>Advanced Plant Physiology and Development Core module - (20 Credits)</p> <p>In this module, you'll develop advanced knowledge of plant physiology and development. You'll learn to to analyse, interpret and critically discuss published data through student-led discussions of the molecular basis of acclimation responses to abiotic stresses.</p> <p>Combined honours optional module.</p>	
	<p>Animal Reproduction and Development Core module - (20 Credits)</p> <p>In this module, you'll examine the genetic and endocrine control of reproductive behaviour and other aspects of reproduction, embryological growth and subsequent ontogeny of selected vertebrates and invertebrates. You'll develop an understanding of how the processes underpinning animal reproduction and development function have evolved.</p> <p>Combined honours optional module.</p>	
	<p>Current Science Issues Core module - (20 Credits)</p> <p>In this module, you will develop a wider understanding of how science influences and affects society. You will develop your independent research and analysis skills as you comment on important science issues. The weekly section research / visiting speaker lecture will be used as a base to discuss topics.</p>	

	<p>Optional for single honours students. Core module for combined honours.</p>	
	<p>Honours Project Core module - (40 Credits)</p> <p>In this module, you'll undertake a piece of commercially/socially relevant research. You'll be required to identify an area of biological research related to the course content and you'll undertake appropriate experiments. During the module, you'll gain experience of carrying out independent research and analysis, as well as presenting findings effectively in two styles: a written scientific paper and a poster presented to a non specialist audience.</p> <p>Combined honours optional module.</p>	
Optional year 3		
	<p>Animal Health and Husbandry Optional module - (20 Credits)</p> <p>The aims of the module are to explore the importance of animals in society and the scientific background to animal welfare issues. This includes the study and analysis of nutrition, good husbandry, disease control, pain perception, the ability of animals to cope with their environments and the physiological and behavioural aspects of welfare.</p>	
	<p>Bioinformatics 1 Optional module - (20 Credits)</p> <p>In this module, you'll develop a systematic understanding of the role of computing in biological research, the fundamentals of molecular biology and the key concepts and techniques in bioinformatics. A major focus will be on computer practicals to reinforce the theory within the interactive lectures.</p>	<p>Computer practical sessions for this module will be online-based. Lectures will be pre-recorded and the theory will be reinforced using interactive online workshops.</p>
	<p>Immunology and Cancer Biology Optional module - (20 Credits)</p> <p>In this module, you'll develop a comprehensive understanding of the biology and genetics of cancer and of the role of the immune system in tumour development in humans and other animals. You'll explore a range of medical techniques</p>	

	<p>used to diagnose cancer and you'll study the latest cutting-edge treatments and the molecular mechanisms targeted by these treatments. You will also participate in discussions on the impact of cancer on lives and how patients are cared for, including end of life care.</p>	
	<p>Molecular Plant Microbe Interactions Optional module - (20 Credits)</p> <p>In this module, you'll develop skills in critical analysis, interpretation and presentation of experimental data. You'll develop a detailed knowledge of the molecular and genetic processes that underpin the interaction of plants with a range of different microbes.</p>	

How you'll learn

<p>Teaching</p>	<p>You will be taught through a combination of lectures, laboratory practicals, field trips, visits to employers, seminars, guest speaker lectures and practical workshops. You'll also benefit from tutorial sessions where you can discuss your work and progress with an individual personal tutor, and small group seminars focusing on specific topics.</p> <p>The course is designed to support you in becoming a confident, independent learner and some of your learning will be through experimentation and observation.</p> <p>In the first year, two thirds of each module are delivered as practical experimentation either in laboratories, IT labs or in the field. These sessions are supplemented by lectures, and seminars/workshops where you feedback from your structured independent study.</p> <p>In the second year, you'll continue laboratory and field based experimentation and you'll start analysing published research.</p> <p>In the final year the teaching will move into student-led workshops where you'll discuss published research papers.</p> <p>All teaching material is posted on the virtual learning environment.</p> <p>Your actual contact hours depend on the optional modules you select.</p> <p>All courses are informed by the University's Learning and Teaching Strategy 2015-2022.</p>	<p>The practical component will be condensed into an intensive practical week rather than being spread across the semester and so minimise your time on campus due to the COVID-19 situation.</p> <p>We will use a "blended learning" approach in your studies that consists of a mix of timetabled face-to-face sessions and intensive practical weeks on campus, together with timetabled interactive workshops online. This will involve "flipped learning" approach, which means that it is essential that you read material, watch video content or undertake tasks in preparation for a session.</p> <p>The practical week will be supported by supplementary online demonstrations of key laboratory techniques. In the event of further COVID 19 interruptions, further face to face contingency arrangements are planned to support student learning</p>
<p>Independent study</p>	<p>When not attending lectures, seminars, workshops or other timetabled sessions you will continue learning through self-study. Typically, this involves reading journal articles and books, undertaking research in the library, working on projects, and preparing for coursework assignments/examinations, workshops and seminars. Your module director will direct you towards specific readings and/or activities to complete before class through</p>	

	<p>the virtual learning environment.</p> <p>For the 40 credit Honours Project in your final year, you will undertake independent research working under the supervision of a member of the teaching team who you will meet with regularly.</p>	
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<p>Overall workload</p>	<p>Each 20 credit module requires 200 hours of study which includes formal contact (lectures, practicals, tutorials, workshops), structured independent learning (prescribed reading and/or online exercises) and independent learning.</p> <p>Each module in Year 1 has 60 hours of formal contact, supplemented with 40 hours of structured independent learning. As you develop and become more independent, formal contact and structured learning reduces to 50 hours of contact and 30 hours of structured independent learning per module in Year 2 and 40 hours of contact and 20 hours of structured independent learning per module in Year 3.</p>	<p>Each 20 credit module requires 200 hours of study but the proportion and delivery methods will be more varied. At Level 0 and at Level 4, each module will have 48 hours of face-to-face contact supplemented by structured independent learning. You will also receive an intensive week (30 hours) of practical laboratory sessions in each semester to give you the essential laboratory skills relevant to your modules.</p> <p>At Level 5, your sessions will be delivered as a blended learning mix of on-campus face-to-face sessions and online interactive class workshops. You will have 9 hours of face-to-face sessions on campus dedicated to your programme with 9 hours of interactive online class workshops. We will employ a “flipped learning” approach where we will expect you to prepare for the online class workshops by undertaking the directed study beforehand. You will also receive an intensive week (30 hours) of practical laboratory sessions each semester to give you the essential laboratory skills relevant to your modules.</p> <p>At level 6 substantial elements of programme delivery will be interactive online delivery using the “flipped learning” approach. Each programme has a 3-hour programme specific session with each module consisting of 12 hours of online interactive workshops. In addition, your Honours Project module will have 96 hours timetabled in each semester to enable you to carry out your research.</p>
<p>Academic input</p>	<p>The teaching team consists of highly qualified academics with a range of expertise and experience. They are research-active and have experience in delivering research-informed teaching.</p>	

	<p>All our core team members hold doctoral qualifications and most hold or are working toward postgraduate teaching qualifications. You can find out more about the current teaching on our Meet the Team web page.</p> <p>Postgraduate students sometimes assist in teaching and assessing some modules, however, experienced academics teach the vast majority of lectures and seminars.</p> <p>You should note that members of the teaching team might change.</p>	
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How you'll be assessed

	<p>Assessment is by both coursework and examination. The course provides you with opportunities to test your understanding of the subject informally before you complete the formal assessments that count towards your final mark. Each year you will be set formative assignments to go through with your tutor. There will also be 'formative' assessment within some of the modules. Practice assessments are developmental and any grades you receive for them do not count towards your module mark.</p> <p>There are also formal or 'summative' assessment. Assessment methods include written examinations and a range of coursework assessments such as essays, reports, portfolios, performance, presentations and your final year Honours project. The grades from formal assessments count towards your module mark.</p> <p>Coursework assessments permit you to develop key scientific and transferable skills and assignments include: scientific lab/log books, written reports, written scientific papers, discursive essays, PowerPoint presentations and poster presentations. There is a maximum of two assessments per 20 credit module studied.</p>	Examinations may take the form of take-home online examinations.
Foundation Year	100% coursework	
Year 1	60% coursework 40% written exams	
Year 2	50% coursework 50% written exams	
Year 3	65% coursework 35% written exams	
Fees		
UK/EU	Full-time - Foundation Year 0 £7,050	
	Full-time - years 1-3 * £9,250	
	Part-time £4,625	
Overseas	Full-time - Foundation Year 0 £9,910	
	Full-time - years 1-3 * £13,000	
	Part-time N/A	

Course specific costs		
Learning Materials	Textbook "Biology: How Life Works, by Morris et al", ISBN-13: 978-1464138263. Currently £39.99. Includes one year's access to Launchpad, an interactive web e-book which is integrated into some of the modules.	We recommend that you use the textbook "Life, The Science of Biology", by Hillis <i>et al</i> ", 12 th ed. ISBN-13: 978-1-319-31578-8.
Professional accreditation	N/A	
Industry links	N/A	
Other important information		
Related courses	<ul style="list-style-type: none"> • Animal Science with Foundation Year • Ecology with Foundation Year • Plant Science with Foundation Year 	
Date of publishing	29/6/2020	