

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	Biomedical Science (BSc)	
Award level	BSc - Single honours only	
How do you want to study?		
Start Date	Sept 2020	
Modes of study	Full-time Part-time	
Duration	3 years full-time 6 years Part-time	
UCAS code	B102	
Location	Canterbury	
Partner institution	N/A	
Available with a Foundation Year	Yes	
Overview		
	<p>The Biomedical Science field is calling out for well trained professionals with the knowledge and skills needed to help change people's lives.</p> <p>This course will provide you with the practical expertise desired by the industry. You will develop knowledge in human physiology, disease and genetics as well as strong lab and computer analytical skills.</p> <p>You will also have the chance to gain further skills as part of our 'Added Value' programme.</p>	<p>Please note that the optional 'Added Value' programme will depend on the current situation with COVID-19.</p> <p>There will still be a focus on the development on practical skills in the laboratory.</p> <p>Practical work 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>Opportunities to work with employers will depend upon the current COVID-19 situation.</p>
Why study Biomedical Science?		
	Working as a biomedical scientist, you could play a crucial role in supporting health professionals and driving innovation through research.	You will still develop practical skills through lab work throughout your degree.

	<p>This hands-on course will help you develop wide knowledge and expert skills in human biology, chemistry and bioinformatics, so that you have the confidence to reach your full potential and succeed in your chosen career path.</p> <p>During the foundation year, you'll learn essential study skills that you'll need as you progress through the degree. You'll also learn the fundamentals of chemistry, biology and physics so that you are prepared to study science in depth from Year 1 onward.</p> <p>There are many exciting aspects to this course, from exploring genetics and evolution to getting to grips with statistical programming and biotechnology, you'll develop advanced practical, analytical and research skills as well as transferable skills that employers are looking for.</p> <p>You'll spend much of your time in industry-standard labs, testing your ideas through experimentation and building your knowledge by observing science in action.</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 Life Sciences Industry Liaison Lab is located on Kent's leading science business park, Discovery Park, which is a thriving part of the South East's life science community. Here you'll be surrounded by scientists involved in research and development in the pharmaceutical, biotechnology and life sciences industries and you'll be able to gain valuable experience to help your CV stand out from the crowd.</p>	<p>Practical work 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>Visits to the Industry Liaison Lab will depend on the situation with COVID-19.</p>
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Entry requirements	<p>Entry at Level 4 (BSc (Hons) Biomedical Science and MSci Biomedical Science) requires 96 UCAS tariff points or equivalent of which 32 UCAS tariff points or equivalent (e.g. A level grade C or BTEC grade Merit) are in a science subject: for example biology, chemistry.</p> <p>Entry at other levels is by accredited prior learning.</p>	
About the course		
Year 1	<p>During Year 1, you'll study subjects including biochemistry and biological chemistry, human anatomy and physiology, genetics and evolution and microbiology relating to human health. Throughout the year, you'll develop analytical skills and a knowledge of statistics.</p>	
Year 2	<p>In Year 2, you'll deepen your knowledge of statistics, experimental analysis and molecular biology and you'll study human disease, analytical chemistry, molecular biology and biotechnology.</p>	
Year 3	<p>In Year 3, you'll be able to demonstrate your scientific competence and independence by devising and undertaking a piece of novel research which you present as a professional fully referenced scientific paper. You'll also develop skills in bioinformatics and you'll further your understanding of human physiology, immunology and cancer biology, reproduction and development and human disease and pathology.</p>	
<p>Module information</p> <p>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.</p>		
Core year 1		
	<p>Introduction to Biochemistry and Biological Chemistry Core module - (40 Credits)</p> <p>You'll explore basic concepts and chemical foundations of biochemistry and cell biology to develop your understanding of structure and function at the molecular level. This module prepares you for further study in</p>	<p>The practical sessions associated with this module will run as 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</p>

	<p>more advanced topics in biochemistry and biological chemistry.</p>	<p>contingency arrangements are planned to support student learning.</p>
	<p>Human Anatomy and Introduction to Human Physiology Core module - (20 Credits)</p> <p>In this module, you'll develop an understanding of how Homo sapiens have evolved into a complex overall form that is made up of several coordinated physiological systems. You'll study both the macro- and micro-anatomy of the key physiological systems that govern all essential processes required to support normal, healthy human function. This module will highlight how each system is specially adapted for specific roles.</p>	<p>The practical sessions associated with this module will run as 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>Microbiology and Human Health Core module - (20 Credits)</p> <p>You'll develop an understanding of how microorganisms can influence both human health and disease. You will acquire knowledge of the classification of microorganisms as well as an overview of the general features of microbial anatomy and physiology. In addition, you'll develop laboratory skills in aseptic technique.</p>	<p>The practical sessions associated with this module will run as 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>Genetics and Evolution Core module - (20 Credits)</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>The practical sessions associated with this module will run as 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>Fundamentals of Neurobiology and Neuroscience Core module - (20 Credits)</p> <p>You will explore how the higher order functions of our nervous systems – how we sense, feel, motivate, behave, learn and</p>	<p>The practical sessions associated with this module will run as part of an intensive practical week.</p> <p>The practical week will be supported by supplementary online demonstrations of key laboratory techniques. In the</p>

	remember – are related to the structure and function of the system’s component cells. The processes and neural basis of sensation, cognition, and behaviour will be introduced and studied at systems, cellular and molecular levels. The module will cover nervous system structure and function, and will also introduce how these are studied in both research and clinical settings.	event of further COVID 19 interruptions, further face to face contingency arrangements are planned to support student learning.
Optional year 1		
	N/A	
Core year 2		
	<p>Data Analysis for Biomedical Scientists Core module - (20 Credits)</p> <p>In this module, you will be developing the techniques necessary to handle quantitative biological data analysis and introduce the beginnings of bioinformatics. Central to the first aim will be introducing the powerful statistical programming language, R. This “programming” language is critical to current approaches to handling/analysing data, particularly “big data”. The module will also introduce critical biological sequence analysis techniques that form the foundation of more complex bioinformatics techniques.</p>	
	<p>Human Anatomy and Physiology 2 Core module - (20 Credits)</p> <p>This module complements the learning outcomes of Human Anatomy and Physiology 1, focussing on the role of the nervous system in physiology and emphasising the experimental basis for our knowledge of how physiological systems function.</p>	<p>The practical sessions associated with this module will run as 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>Human Disease Core module - (20 Credits)</p> <p>In this module, you'll learn about the</p>	<p>The practical sessions associated with this module will run as part of an intensive practical week.</p>

	<p>aetiology and pathobiology of a number of disease processes specifically relevant to human biology and public health. You'll develop a detailed understanding of the processes that underpin the occurrence of disease and how the process of ageing may be relevant. This will support your understanding of the principles behind disease diagnosis and treatment procedures.</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>Human Anatomy and Physiology 1 Core module - (20 Credits)</p> <p>In this module you will develop a deeper understanding of how the key anatomical and physiological systems are combined and coordinated to ensure normal, healthy human function. Emphasis will be placed on how these systems act together in concert to sustain human life.</p>	<p>The practical sessions associated with this module will run as 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>Analytical Techniques Core module - (20 Credits)</p> <p>In this module you will be familiarised with up-to-date techniques used to identify and understand physical and chemical properties of matter. Analytical techniques covered will include gas chromatography, high performance liquid chromatography, nuclear magnetic resonance, atomic absorption/emission spectroscopy and ion chromatography.</p>	<p>The practical sessions associated with this module will run as 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>Optional year 2</p>		
	<p>Human Genetics Optional module - (20 Credits)</p> <p>This module includes a detailed overview of the key topics relating to human genetics. You'll learn how our DNA is associated with specialised proteins that facilitate its packaging within the nucleus, and how the organisation of the genome acts to regulate gene expression. You'll also cover the regulatory mechanisms involved in</p>	

	transcription and translation as well as chemical modifications to the structure of DNA that facilitate the epigenetic control of gene expression.	
	<p>Work Placement in Biomedical Science Optional module - (20 Credits)</p> <p>Here, you will have the opportunity to develop key employability skills while working in an academic/commercial research environment or a healthcare institution placement directly relevant to the field of Biomedical Science.</p>	This optional module may be available depending upon the COVID-19 situation in 2022.
Core year 3		
	<p>Biomedical Science Individual Study Core module - (20 Credits)</p> <p>You will undertake a short piece of independent scientific research on a topic relevant to biomedical science, which you will communicate in the form of a written scientific paper.</p>	
	<p>Techniques in Clinical Laboratory Specialities Core module - (20 Credits)</p> <p>You will study a range of clinical laboratory techniques used by biomedical scientists, such as haematology, transfusion science, histology and specialist microbiology and analytical techniques.</p>	<p>The practical sessions associated with this module will run as 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>Systems Project in Pathobiology Core module - (20 Credits)</p> <p>You will undertake a project integrating your skillset with your knowledge of human diseases to investigate and report on an important case study in human pathobiology.</p>	
	<p>Immunology and Cancer Biology Core module - (20 Credits)</p> <p>In this module, you will obtain a</p>	

	<p>comprehensive understanding of the biology and genetics of cancer and the role of the immune system in tumour development in humans and other animals. You'll explore a range of medical techniques used to diagnose cancer and you'll study the latest cutting-edge treatments and the molecular mechanism used by those treatments. You will participate in discussions on the impact cancer has on people's lives and how patients are cared for including end of life care.</p>	
	<p>Bioinformatics I Core 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>Human Reproduction and Development Core module - (20 Credits)</p> <p>This module covers a broad range of topics encompassing human reproduction and early development up to the formation of an infant at full gestational term. You will learn the stages of gametogenesis in depth, as well as the events that occur during fertilisation, embryogenesis, gastrulation and organogenesis. In addition, you'll cover the genetic and non-genetic causes of infertility/subfertility in males and females. Assisted reproductive technologies will be described and you'll be encouraged to participate in discussions regarding the controversies of their use in fertility treatment.</p>	
Optional year 3		
	N/A	

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. It is based on 'research-involved teaching', which means all your modules are led by experienced academic staff who are specialists and active researchers in relevant areas.</p> <p>In Year 1, two thirds of each module is delivered as practical experimentation either in laboratories, IT labs or in the field. These sessions are supplemented by lectures and seminars/workshops where you will feed back from your structured independent study.</p> <p>Throughout the course you'll have opportunities to develop skills and gain experience by engaging with research as part of taught modules or via extra-curricular internships and volunteering.</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>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>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>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 tutor will direct you towards specific readings and/or activities to complete before class through the virtual learning environment.</p> <p>For the 40 credit Individual Study in your final year, you will undertake independent</p>	

	research working under the supervision of a member of the teaching team who you will meet with regularly.	
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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>In Year 1, each module 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 Research Project module will have 48 hours timetabled in each semester to enable you to carry out your research.</p>
<p>How you'll be assessed</p>		
	<p>Assessment is by both coursework and examination. Individual modules are assessed either solely by coursework or by</p>	<p>Examinations may take the form of take-home online examinations.</p>

	<p>an equally weighted combination of coursework and examination. Examination allows assessment of a student's understanding of important key concepts and accounts for less than half the assessment of the course. Coursework assessments permit students 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>	
Fees		
UK/EU	<p>Tuition Fees for some 2020/21 have not yet been finalised. These course web pages will be updated with Tuition Fee information once they have been agreed.</p>	
Overseas		
<p>* The tuition fees of £9,250 / £13,000 / £4,625 relate to 2020/21 only. Please read the 2020/21 Tuition Fee Statement for further information regarding 2020/21 tuition fees and year on year fee increases.</p>		

Course specific costs		
Travel	<p>Additional costs include travel to and from Canterbury to Kent Science Park, Sittingbourne or Discovery Park, Maidstone or CCCU Medway campus as when required for learning.</p> <p>Also possible opportunities to visit Industrial facilities on the Isle of Sheppey, Medway, Maidstone, Ashford and Discovery Park, Maidstone and partner institutions in Europe.</p>	These travel costs will be dependent on the COVID-19 situation.
Professional accreditation	N/A	
Industry links	<p>The University's Industry Liaison Lab works with many companies in healthcare research and development, drug discovery and equipment design and manufacture.</p> <p><i>"Venomtech have been very impressed with our partners at Canterbury Christ Church University, this partnership has enabled us to progress projects much faster than we could on our own. This includes being able to generate novel data on the use of our products through student projects, advancing research into new antibiotics and cancer therapies from venoms and increasing the understanding of invertebrate welfare. Generation of this proof of concept data has, and continues to have, a positive influence with our potential customers and therefore our business. I also impart my 10+ years industrial drug discovery experience directly to the students as part of the Drug Discovery and Development module.</i></p> <p><i>As a science employer in the area, Venomtech benefit greatly from being directly involved in the curriculum to make sure the new graduates have the skills useful to employers. This includes an understanding of applied drug discovery that will make CCCU graduates stand out from others in job interviews."</i></p> <p>Steve Trim, CEO, Venomtech Ltd</p>	
Other important information		
Specialist	This course is associated with the	Access to the Liaison Labs will be

Facilities	university's Industry Liaison Labs at Discovery Park, Sandwich. You will have the opportunity to undertake laboratory work at this site. The location of these specialist facilities within an industrial setting facilitates access to and collaboration with biotechnology and pharmaceutical companies.	dependent on the situation with COVID-19.
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