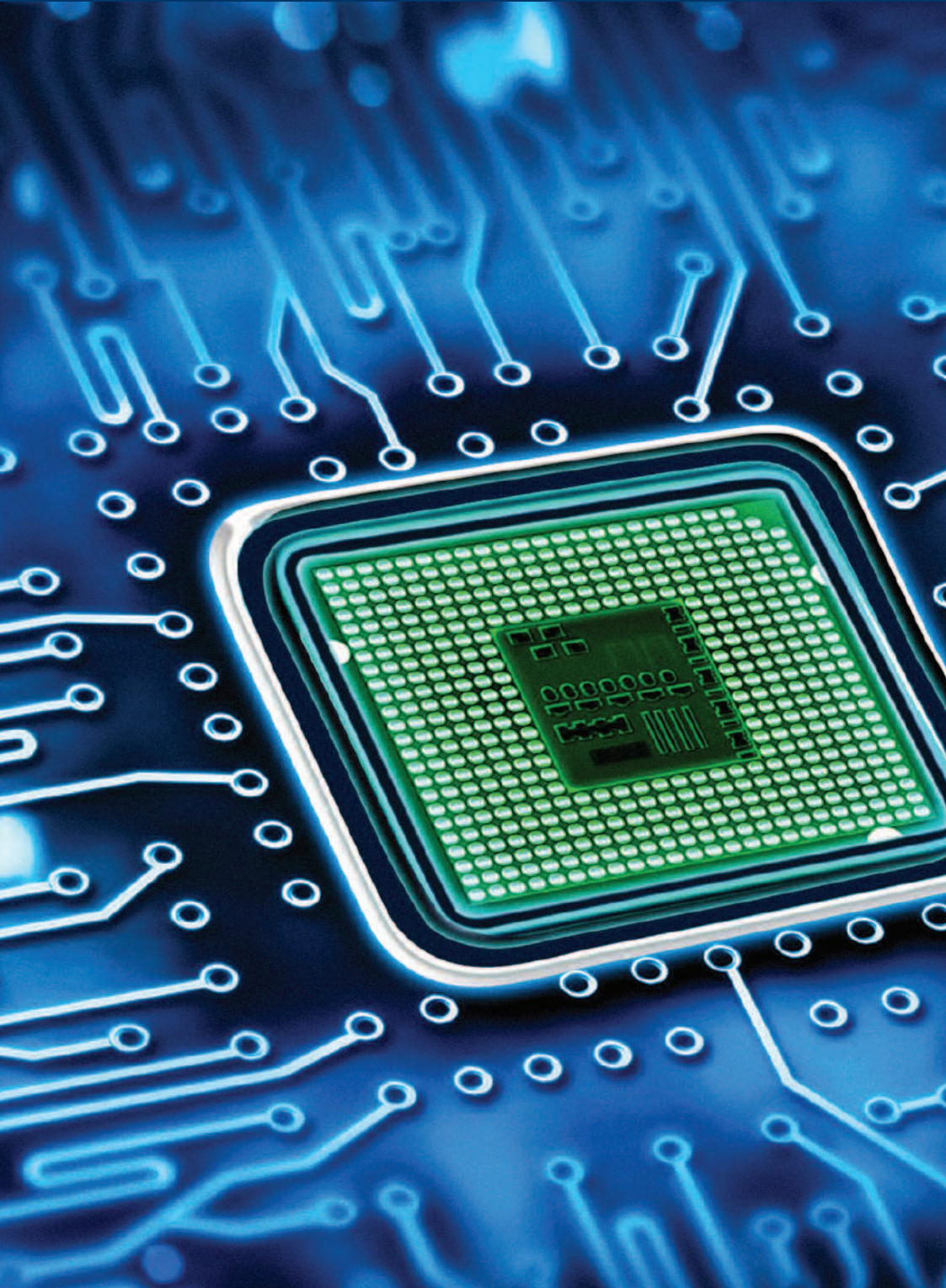




COMPUTER SCIENCE

Canterbury



COMPUTER SCIENCE

Computer Science is an exciting and rapidly evolving subject that offers excellent employment prospects and well-paid careers. At Kent, we teach you the fundamentals of computer science while offering you flexibility. You can specialise in AI or networks and spend a year in industry, sharpening your skills and improving your employability.

WHY STUDY COMPUTER SCIENCE AT KENT?

Work experience

If you choose to take a year in industry between Stages 2 and 3, you gain valuable work experience, the opportunity to make useful contacts and a chance to evaluate possible future career paths. Some students are even offered a graduate job.

Inspirational teaching

Great teachers inspire enthusiasm and provoke debate. Whether they're lecturing on databases or leading a discussion on computational creativity, our staff are skilled at bringing their subject to life and drawing you in to the conversation.

Flexible programmes

We offer a range of Computer Science degrees, including the option to specialise in areas such as artificial intelligence or networks. You can choose to take a year in industry between Stages 2 and 3, and we help you to find a placement.

World-leading research

You learn from leading experts. Our staff undertake research of international quality, write and contribute to journal articles and books and provide expert comment to the media. They put you in touch with the latest ideas.

Academic support

University is different to school. You need to be self-motivated and well organised to succeed. We help by assigning you an academic tutor and organising peer mentoring. You can also get help with academic skills, such as essay writing, from the University's dedicated service.

Career success

Employability is a priority at Kent. By studying, you broaden your subject knowledge and sharpen the skills that are useful in working life. You have opportunities to gain work experience and access to careers advice, workshops and employability events.

Professional recognition

All of our Computer Science courses offer full Chartered IT Professional (CITP) accreditation by BCS, the Chartered Institute for IT. This helps to raise your professional profile and gets you off to a good start in your career.

Study resources

You have access to The Shed, our open-access workshop which has 3D printers, laser-cutting facilities and other equipment for your course and personal projects. There's also a computer room as well as hundreds of computers across campus.

Historic location

Canterbury is a lovely city with a world-famous cathedral, medieval buildings and lively pubs and restaurants. There's a vibrant cultural scene and the coast and countryside are within easy reach. London is less than an hour away by high-speed train.



Gain IT consultancy experience

On our programmes you have the opportunity to gain work experience as a student consultant. Kent IT Consultancy (KITC) is an organisation run by the University of Kent which provides a project-based consultancy service for small businesses. Working under the guidance of professional IT staff, you try out different aspects of consultancy work, finding out what you like to do best and helping you plan your career. There are limited places available and you need to have completed your first two years before applying to the scheme.

Independent rankings

CS Rankings

- The independent website csrankings.com rates us in the top 10 worldwide for our research into programming languages since 2014.

Destinations of Leavers from Higher Education 2017

- Of Computer Science students who graduated in 2017 and completed a national survey, over 92% were in work or further study within six months.

Research Excellence Framework

- In the most recent research rankings, Computer Science at Kent was ranked 12th in the UK for research intensity by the *Times Higher Education*.

Teaching Excellence Framework

- Kent was awarded gold, the highest rating, in the UK government's Teaching Excellence Framework*



*The University of Kent's Statement of Findings can be found at www.kent.ac.uk/tef-statement



STUDENT VIEW

Rosie Watson is in the final year of her Computer Science degree, which included a year in industry.

Why did you chose to study your programme?

I have a mathematical background but didn't feel that a pure mathematics degree was for me. I enjoy the logical side of things, and with computing you can use logic to solve real-life problems.

What was it about the programme at Kent that appealed to you?

I enjoy the fact that everything is focused around learning from real life. There's a lot of focus on placements, and on applying your skills.

What have been the highlights of your programme so far?

I've enjoyed the wide range of modules, especially in the final year because we got to pick our own. I've picked a wide range of modules, from creative ones about 3D modelling to more technical ones about the Internet of Things.

Can you describe a piece of work you've particularly enjoyed?

I took a law and ethics module this year where I was given the topic of self-driving cars and I had to write a Wikipedia entry on it. I really enjoyed doing all my own reading, formulating my own opinions and piecing it all together.

This year, I'm also doing Kent IT Consultancy (KITC), which is a final-year module. You work with two to four clients over the year and the projects vary from a start-up website to automated testing or even helping the client digitalise something that they're already doing. It gives you useful experience of working with clients and being a project manager.

Where did you spend your year in industry?

I spent it at a small company called Holiday Extras. I was hired as a full-stack web developer. I worked on their websites; they have one main website and loads of other little ones. During my year, I got to go through various different teams and experience different sides of the website, from data to UI.

It was a well-structured placement that allowed me to grow both my technical and soft skills. It was perfect.

Which of the projects that you did there do you feel particularly proud of?

We had a brand on a really old legacy system that the company wanted to quickly move to the new system. They put me together with another engineer and we completed the project way before the deadline. It looked really good.

How did you change during your year in industry?

My organisational skills improved. I've always considered myself quite organised. But actually, once you've

done the year in industry and you get used to working your set times, you can take that through to your final year. I can get everything done during the day and then in the evening I'm free.

But the biggest thing for me was improving my technical skills. I now know how to apply them in real life and feel much more technically comfortable.

Would you recommend doing a year in industry?

Yes, it ties up everything you've learnt from the first and second year and shows you how to apply it. Using what you've learned at university in a work setting helps that knowledge stick in your mind and it makes third year a lot easier as well.

What are your plans for when you graduate?

I'd still like to go down the route of web development for now. If a few years down the line I change my mind, then thanks to my degree I can still switch to a different career path.

What advice would you give someone considering applying?

Don't be too concerned if you've never programmed before, I hadn't before I came here. This course starts from the ground up and tries to get everyone on a level playing field.

CHOOSING YOUR PROGRAMME

Our programmes focus on the technical aspects of computer science. You learn to code, focus on key areas of knowledge such as artificial intelligence and network technology, and develop your own software.

You learn to code in several languages, starting with the Java programming language, which is widely used in industry across a range of applications including mobile devices.

Building on these programming skills, you study various topics that teach you the principles and techniques that underpin the algorithms and systems that shape our world today, including artificial intelligence, computer security, network technology, software engineering, and human-computer interaction.

You will put these principles and techniques into practice to develop software in a variety of ways, from small-scale exercises to a major software project.

All the programmes listed in this brochure are based at the Canterbury campus. Computing, Computer Science for Health, Software Engineering and Business Information Technology programmes are available at the Medway campus. Please see our website for further details: www.cs.kent.ac.uk

Choice of programmes

We offer Computer Science as a 'general' degree and as a 'themed' degree.

With the general degree in Computer Science you take a broad range of compulsory modules in your first and second years and can select from a variety of options in your final year of study. If you want to keep your options open, then the general form of the degree is for you.

The themed degree is based on the general degree, but has a subject focus and this appears in the degree title.

We offer two themed degrees:

- Artificial Intelligence
- Networks.

Themed degrees give you a choice of options in the final year with the compulsory modules providing the focus of the subject. Having a themed degree on your CV identifies you as having greater knowledge in a particular area, and this may give you an advantage when you look for work after graduation. If you have a special interest that you would like to pursue, then a themed degree is for you.

Computer Science

www.kent.ac.uk/ug/124

This general degree covers the compulsory subjects of program design and implementation using Java, and software engineering, as

well as offering a broad range of computer science topics including operating systems, computer architectures, computer security, concurrent programming, theory, databases and the web.

Computer Science (Artificial Intelligence)

www.kent.ac.uk/ug/129

This degree covers the compulsory elements of Computer Science as well as a broad range of Artificial Intelligence (AI) techniques, including neural networks and evolutionary algorithms, which draw on philosophy and psychology.

Computer Science (Networks)

www.kent.ac.uk/ug/168

This degree covers the compulsory elements of Computer Science and looks at computer systems, communication, security and cryptography.

International students

If you are applying from outside the UK without the necessary qualifications, you may be able to take the Kent International Foundation Programme (IFP). Passing the Kent IFP at the standard required by the academic school administering your main degree programme guarantees you entry on to the first year of the degree programmes listed here. For more details, see: www.kent.ac.uk/ifp

YOUR STUDY PROGRAMME



Your study is divided into three one-year stages (four if you take the year in industry).

At Stage 1 you learn how to program for applications and the web, and you learn the fundamentals of computer science. At Stage 2, you will develop the breadth and scale of your understanding, and at Stage 3, your final year, you will be able to develop your own interests through a choice of modules in specialist areas.

Teaching and assessment

Each stage comprises eight modules, four in each teaching term. Each module has two or three lectures and up to two hours of classes each teaching week, making approximately 14 formal contact hours per week along with eight hours of available 'homework club' drop-in sessions. The marks from Stage 1 do not go towards your final degree grade, but you must pass to continue to Stage 2. If you choose to do the year in industry, your marks from Stage 1 are used by employers to assess your suitability for a placement.

Most Stage 2 modules are assessed by coursework and end-of-year examination. Marks from Stage 2 count towards your degree result.

Most Stage 3 modules are assessed by a combination of coursework and end-of-year examination. All students complete a project, which is assessed by your individual contribution to the final project, the final report and a viva examination. Your project counts for 25% of the year's marks. Marks from Stage 3 count towards your degree result.

YOUR STUDY PROGRAMME (CONT)

Module information

Please note, this list of modules is not fixed as new modules are always in development and choices are updated yearly. The details are correct at the time of publication (June 2019). Please see our website – www.kent.ac.uk/ug – for the most up-to-date information.

To read a full description of any of the modules listed, go to www.kent.ac.uk/courses/modules and search using the module code.

Stage 1

Students on all programmes take:

- Computers and the Cloud (CO337)
- Databases and the Web (CO323)
- Foundations of Computing 1 (CO322)
- Foundations of Computing 2 (CO325)
- Further Object-Oriented Programming (CO520)
- Human Computer Interaction (CO328)
- Introduction to Object-Oriented Programming (CO320)
- Problem solving with Algorithms (CO383).

Stage 2

- Algorithms, Correctness and Efficiency (CO518)
- Computer Systems (CO557)
- Database Systems (CO532)
- Functional Programming (CO545)
- Introduction to Cyber Security (CO558)
- Introduction to Intelligent Systems (CO528)
- Software Development (CO559).

You also take either:

- Theory of Computing (CO519) or
- Web Development (CO539).

Stage 3

All students take a project module on a topic of their choice. This may be a group project, a research project or an IT consultancy project.

Modules for all degrees:

- Group project (CO600) or Research Project* (CO620) or IT Consultancy Project* (CO650).

Students taking Artificial Intelligence or Networks programmes also take the following modules:

Computer Science (Networks)

Compulsory modules:

- Computer Networks and Communications (CO633)
- Computer Security and Cryptography (CO634).

Plus four modules from the optional modules listed below.

Computer Science (Artificial Intelligence)

Compulsory modules:

- Cognitive Neural Networks (CO636)
- Natural Computation (CO637).

Plus four modules from the optional modules listed below.

Optional modules

Students on all programmes have a choice of optional modules which currently include but are not limited to:

- Cognitive Neural Networks (CO636)
- Computer Graphics and Animation (CO641)
- Computational Creativity (CO659)
- Computing Law and Professional Responsibility (CO643)
- Computer Networks and Communications (CO633)• Computer Security and Cryptography (CO634)
- Computing in the Classroom (CO646)
- Data Mining and Knowledge Discovery (CO832)
- Embedded Computer Systems (EL667)
- Image Analysis & Applications (EL561)
- Internet of Things (CO657)
- Natural Computation (CO637)
- New Enterprise Development (CB612)
- Philosophy of Cognitive Science and Artificial Intelligence (PL583)
- Programming Language Implementation (CO658)
- Programming Languages: Applications and Design (CO663)
- Theory and Practice of Concurrency (CO661)
- Theory of Computing (CO519).
- Web Development (CO539).

*Enrolment on these modules is subject to certain conditions. For more information, please see www.kent.ac.uk/courses/modules and search using the module code.





A YEAR IN INDUSTRY

All of our programmes offer a year in industry, taken between Stages 2 and 3. We support more than 100 students to take this option every year.

Career and study benefits

Employers are very keen to employ graduates who already have work experience. The year in industry can greatly enhance your job prospects by providing you with real commercial experience. It also allows you to evaluate a career path and gain knowledge of the working environment. If your placement is a success, you may even be offered a job with the same employer after graduation.

The practical experience also improves your skills in many areas. This means it will be useful during your final year of study, helping you to gain a better degree.

Finding a placement

Our students have been on placements with leading companies such as Accenture, Citigroup, IBM and the Walt Disney Company.

Companies and organisations with placement opportunities frequently visit the University to talk about their placements and discuss them with students.

The School has a Placement Office, with a team dedicated to helping you to secure the right placement.



They also give advice on placements that are likely to enhance your career prospects, help you to write a winning CV and hone your interview skills. They maintain close contact with you during your year away to give you support during your placement.

Salary and benefits

Students usually work for an entire calendar year. Salary and holiday entitlements vary according to the employer you work for. Many students find that they earn enough to be able to save some of their income, and this helps them in their final year of study.

Assessment

Students have to pass Stage 2 to be able to go on a year in industry. Please see the School of Computing website for further details. Your placement is assessed and it contributes 10% to your overall degree mark.

“With the year in industry you get to experience the real world and see theories being applied. I was working with Accenture and had a great diversity of roles including project management.”

Jamie Howard
Computer Science with
a Year in Industry

KENT IT CONSULTANCY

You have the opportunity to gain work experience as a student consultant at Stage 3 of your degree.

What is the KITC?

The Kent IT Consultancy is an organisation operated by the University of Kent, providing a project-based consultancy service to small businesses in Kent. Current students provide the consultancy work under the guidance of dedicated professional IT staff employed by the University.

You gain academic credit for the work you do, which counts towards your degree.

How can the KITC help me?

Working for the KITC can significantly improve your employment prospects. It gives you work experience, which is invaluable to future employers. Also, when applying for jobs, it gives you the edge over other graduates who have not had this opportunity.

You can try out different aspects of IT consultancy work while still a student and find out what you like to do best, helping you to plan your career.

How do I become a student consultant?

You do not need any previous experience as a consultant but you do need to have successfully completed the first two years of your degree.



You also need to demonstrate a keen interest in IT and have an aptitude for consultancy work.

There are limited places available in KITC and you are required to go through an application process, including an interview, to compete for a role.

As a student consultant, your work in the KITC is part of your timetabled hours. It is different from the year in industry, where you spend an additional year away from the University on placement.

What help is provided?

KITC is directed by a team of professional consultants with a detailed knowledge of the consultancy business.

They help and support you through all stages of the process, supporting your relationship with the customer and the consultancy work that you do, as well as providing coaching and mentoring to help your career development and planning.

You are also assigned an academic supervisor to help with the academic aspects of the KITC experience.





SUPERB STUDY SUPPORT

We'll support you throughout your time at Kent, from helping you adjust to university study to discussing module choices with you.

You are assigned an academic adviser in your first year, and they help you get the most from your degree programme. They meet with you regularly to discuss general academic issues or specific assignments. They assist you in developing academic skills and refer you to other sources of help if you need it.

Peer support

The best advice often comes from people who've been in your situation.

The School's 'homework club' is a place that you can go to for help with material in your computing modules. It is staffed by students who are further on in their degrees and have been successful in your current year of study. There are several sessions a week during term time and you can attend all or part of any session.

Study skills advice

Successful students take control of their own learning. Kent's Student Learning Advisory Service (SLAS) can help you increase your competence and confidence and fulfil your potential. You can request



a one-to-one appointment or attend workshops on a diverse range of topics from making the most of lectures to writing well and avoiding plagiarism.

Student support and wellbeing

You might need extra help to get the most from university. If you have a medical condition, specific learning difficulty, mental health condition or disability, the Student Support and Wellbeing team is there to support you.

They are committed to improving access to learning for all students at Kent and can assist with many things, including:

- talking to your lecturers about any help you need in lectures or seminars
- arranging note-takers, signers and other support workers
- discussing exam access arrangements
- helping you with emotional, psychological or mental health issues
- applying for relevant funding to support you.

Find out more at:
www.kent.ac.uk/studentsupport

A SUCCESSFUL FUTURE



What do you hope to do once you have your degree? Whether you have a specific career path in mind, or haven't yet thought much beyond university, we can help you to plan for success in the future.

Find a great job

Your degree can lead to a wide range of fascinating careers – our graduates work in sectors including commerce, education, engineering, finance, government, health, insurance, IT and technology. Possible careers include:

- applications programming
- consultancy
- mobile applications development
- networking
- project management
- research and development

- software engineering
- systems analysis
- teaching and lecturing
- web design and e-commerce.

You can also visit the University's award-winning Careers and Employability Service for careers advice. For more information, see: www.kent.ac.uk/ces

Experience work

All of our programmes include the opportunity to take a year in industry in the UK or abroad. Our students have worked for leading companies and organisations including BT, Microsoft and Sky.

Your year in industry helps consolidate your learning and develop your skills and you may even be offered a graduate role by your placement employer. For more information, see p13.

Build your CV

Your degree studies help you to develop skills such as thinking critically, expressing yourself clearly, solving problems and working independently and as part of a team. These transferable skills are valued by employers and will also be vital if you go on to further study.

At Kent, you have lots of other great opportunities to enhance your skills. For instance, you could:

- join a society or sports club (even better – get involved in running it)
- volunteer with a community
- work in a part-time job or take up a summer internship
- represent your fellow students as a student rep, or become a student ambassador
- learn a new language or skill with Study Plus.

Getting involved like this means that you can earn Employability Points, which you can exchange for employability rewards. The more points you earn, the more valuable the rewards. We work with local, national and international employers to offer internships, work experience and a range of other activities that prepare you for the world of work.

Professional accreditation

Our programmes have full Chartered IT Professional accreditation from BCS, The Chartered Institute for IT.

NEXT STEPS

Adam Matthews is a graduate of Computer Science with a Year in Industry. He works as a Systems Engineer, End User Computing at VMware.

Why did you choose to study your programme?

The programme covered a wide range of topics. I thought that having a solid foundation of key concepts across disciplines would allow me to be flexible later on, especially as technology changes so quickly. The campus was also a massive draw, there were plenty of things to do and it was quick to get into town.

What did you particularly enjoy about your programme?

The range of people I met, some of whom remain good friends. I worked with people who were much smarter than me, which helped me learn and grow personally.

Where did you spend your year in industry? What did you do?

I was a Trade Support Analyst at Citigroup Global Markets, working with the equities trading desk in Canary Wharf.

What were the highlights of your placement?

I was part of the Citi Graduate programme even though I was only a placement student. I was given key risk reporting projects within

weeks of joining, allowing me to work with many different teams and get exposure across the bank. I was quickly recognised as someone who was able to adapt and adjust to challenging situations, and very quickly allowed to work independently.

What skills and knowledge did you gain during the year?

The most important skill I learned was how to be an employee. Kent gave me the ability to be a great technologist, so I had that covered. The placement helped me grow my interpersonal skills, engage with people and communicate successfully – the bedrock of a successful career.

How did doing a placement help you in your final year?

Having started work at 7:30am and often worked through to the early evening, coming back to University was a breeze! My teamwork skills improved and it boosted my confidence. I knew that I had the tools to approach any new role and demonstrate that I would be a valuable asset to any organisation.

Would you recommend doing a placement?

I believe a year in industry is essential to any degree. It will demonstrate you have the necessary academic qualities, as well as a proven track record in the workplace. It will also give you the skills and confidence to venture into the world of work knowing you can tackle anything.

What does your job involve?

I work with VMware's top Global Accounts (mostly Fortune 500 organisations), helping them deliver the workplace tools that enable you to work from anywhere, easily but also securely. I spend a lot of time travelling to customers in Northern Europe, meeting with executives and running technical pre-sales projects.

How did your time at Kent help your career progression?

Only a few months after graduating, I had a conversation with a very experienced networking professional, and I was able to understand the concepts and provide an opinion. I have also been able to progress into a role where most of my colleagues are 10-20 years or more into their careers and perform to the same levels. Kent helped me jumpstart my career and got me to where I am today.

What are your career plans?

I've held roles at three organisations since graduating, including an IT management position. I've now been at VMware for three-and-a-half years. In that time I've held three different roles, each giving me an increased exposure to bigger and bigger customers. I plan on remaining at VMware for the next few years, with plans to get promoted and build my personal brand as an End User Computing industry expert.



COME AND FIND OUT MORE

Choosing a university is a big step, so it's important to find out as much as you can before you make your decision. Come and visit us to see what we can offer you.

Open Days

Open Days are a great way to find out what life as a student at Kent is like. For instance, you can:

- learn more about the course you are interested in at a subject presentation
- ask questions – talk to the academic teams at the information stands
- find out about student finance, opportunities to study abroad and extracurricular activities such as those run by Kent Sport.

Explore the campus at your own pace on the self-guided walking tour. You can visit different types of accommodation, chat to current students and enjoy the views over the city of Canterbury.

Open Days are held in the summer and autumn. Book your place at www.kent.ac.uk/opendays

Applicant Days

If you apply to Kent, we will ask you to come for an interview during a selection day if you are based in the UK. Selection days run in the autumn and spring terms and are an opportunity to find out about the course in more detail. You spend time with your academic school meeting staff and current students,



and take part in activities that give you a flavour of your prospective course and university life.

Informal visits

If you can't make it to an Open Day, you can still visit us. We run tours of the campus throughout the year.

If you live outside Europe, we appreciate that you might find it difficult to attend our scheduled events, so we can arrange a personal campus tour for you and your family.

Let us know you're coming

Scheduled tours and personal campus tours (for international students) need to be booked in advance – you can do this via www.kent.ac.uk/informal

Meet us in your country

Our staff regularly travel overseas to meet with students who are interested in coming to Kent. We also have strong links with agents in your home country who can offer guidance and information on studying at Kent. Find out more at www.kent.ac.uk/courses/international

FIND OUT MORE (CONT)

Self-guided tours

If you prefer to explore on your own, you can download a self-guided walking tour at www.kent.ac.uk/informal or pick up a copy from us.

A self-guided audio tour is available too, which allows you to learn about Kent without even leaving home. See www.kent.ac.uk/courses/visit/informal/audio-tour.html

Contact us

If you would like more information on Kent's courses, facilities or services, please contact us on:
T: +44 (0)1227 768896
www.kent.ac.uk/ug

Location

Canterbury

Award

BSc (Hons)

Single honours

- Computer Science (G400)
- Computer Science with a Year in Industry (G404)
- Computer Science (Artificial Intelligence) (G4G7)
- Computer Science (Artificial Intelligence) with a Year in Industry (G4GR)
- Computer Science (Networks) (G421)
- Computer Science (Networks) with a Year in Industry (G420).

Offer levels

A level

AAB-BBB

IB Diploma

34 points overall or 15 points at HL including Mathematics 5 at HL or SL or Mathematics Studies 6 at SL.

Access to HE Diploma

Applicants are assessed on an individual basis. Please contact us for more information.

BTEC Level 3 Extended Diploma: DDD

Required subjects

All programmes: GCSE Mathematics grade 4/C.

Year in industry

This takes place between stages 2 and 3. For more information, see p13.

Scholarships and bursaries

Please see www.kent.ac.uk/ugfunding for details of scholarships and bursaries.

Offer levels and entry requirements are subject to change. For the latest course information, see: www.kent.ac.uk/ug

This brochure was produced in June 2019. The University of Kent makes every effort to ensure that the information contained in its publicity materials is fair and accurate and to provide educational services as described. However, the courses, services and other matters may be subject to change. For the most up-to-date information, see www.kent.ac.uk/ug and for full details of our terms and conditions, see www.kent.ac.uk/termsandconditions

For the University to operate efficiently, it needs to process information about you for administrative, academic and health and safety reasons. Any offer we make to you is subject to your consent to process such information and is a requirement in order for you to be registered as a student. All students must agree to abide by the University rules and regulations at: www.kent.ac.uk/regulations



COME AND VISIT US

To find out more about visiting
the University, see our website:

www.kent.ac.uk/visit