



WARWICK
THE UNIVERSITY OF WARWICK

THINKING ABOUT SCIENCE?

A GUIDE TO CAREERS AND OPTIONS
2016

About this booklet

THINKING ABOUT SCIENCE?

Congratulations!

If you've picked up this booklet, you've already taken your first steps to a future that can save lives, answer questions, solve problems, test theories and change the world.

Making Choices

We know that the next few years are full of tough choices. This guide will give you the information you need to make informed choices about options for studying science subjects at university. We have tried to show you the range of different science subjects out there, including ones you might not have studied at school.

Some of the company names or job titles in this guide might be unfamiliar – why not search online for them and find out what science graduates get up to?

A future in science

What A levels should I take?

This is a question we hear a lot from young people! So if you're a bit bewildered by all the options open to you, you're not alone.

Our advice would be that you should always take subjects that you enjoy, and that you are interested in. However, if you are keen to take science further, there are certain A level choices that will leave more options open to you, and some that are essential for certain subjects.

For each subject in this guide, we've indicated which A levels universities and employers will be looking for.

We've focused on A levels here, but there are other options such as apprenticeships, vocational qualifications and returning to university later in life. Contact us if you'd like advice on these routes.

Careers

All careers data given in this guide is taken from the destinations of actual Warwick graduates (students who have completed their degree).

As you will see from the following pages, many graduates go on to have very successful careers in the science and technology industries.

A degree in science is also great preparation for a wide range of graduate jobs in other fields, such as banking/finance, law, accountancy, research and communications.

Scientists are good problem-solvers, work well in teams, and have advanced mathematical and communication skills, all of which are valued by employers.

CHEMISTRY

Chemistry is everywhere in the world around you. The food you eat, the air you breathe, the water you drink, the cosmetics you use...all of these are made up of chemicals. An understanding of chemistry can be a bridge to other sciences, such as geology, environmental science, and medicine.

What A level subjects should I take?

An A level in Chemistry is essential, along with Maths and/or Physics.

What grades do I need?

Entry requirements for chemistry degrees range from A*AA - BCC.

At Warwick, we ask for AAA - AAB, including Chemistry and Mathematics

Is chemistry for me?

Chemistry might be for you if:

- ▶ you like asking questions and are curious about the world around you
- ▶ you want to help others
- ▶ you enjoy testing theories through practical activities
- ▶ you like technology
- ▶ you are good with numbers

£21,000

Average starting salary
6 months after graduating

What do Chemistry graduates do?

First jobs for chemistry graduates include:

- ▶ Research and Development Scientist
- ▶ Patent Attorney
- ▶ Business Development Manager
- ▶ Trainee Accountant
- ▶ Forensic Analyst
- ▶ Technical Sales Consultant
- ▶ Inorganic Materials Specialist

Companies that Warwick chemistry graduates work for include:

- ▶ EDF Energy (energy company)
- ▶ Kraft (food and drink manufacturer)
- ▶ Unilever (food, cosmetics & cleaning manufacturer)
- ▶ PricewaterhouseCoopers (accountants)
- ▶ Hogan Lovells (law firm)
- ▶ MacDermid (specialty chemicals)

"I chose to study Chemistry as it offers many routes into the job market for a variety of professions. The thing I like most is the lab work which is intellectually stimulating"

Alex Parker,
Chemistry Graduate



Chemists help to solve the world's problems - big and small.

COMPUTER SCIENCE

Computer science brings together mathematics, engineering, natural sciences, psychology and linguistics to understand and create systems. You'll study topics such as software engineering, artificial intelligence, computer graphics, and sensor networks.

What A level subjects should I take?

An A level in Maths is essential. As long as you have this, a wide range of other A level subjects will be accepted. Computer Science at A level can be useful but is not essential.

What grades do I need?

Entry requirements for computer science degrees range from A*AA - CCC. At Warwick, we ask for AAA.

Is computer science for me?

Computer science might be for you if:

- ▶ you enjoy logic puzzles and working things out
- ▶ you have a creative mind
- ▶ you like technology
- ▶ you are good with numbers

£23,000

Average starting salary 6 months after graduating

At its heart, computer science is a science of problem solving, communication, and information.

What do computer science graduates do?

First jobs for computer science graduates include:

- ▶ Software consultant
- ▶ Financial analyst
- ▶ Web services developer
- ▶ Software engineer
- ▶ Games developer
- ▶ Consultant
- ▶ Network engineer

Companies that Warwick computer science graduates work for include:

- ▶ BT (telecommunications)
- ▶ Cisco Systems (networking)
- ▶ Deloitte (accountancy firm)
- ▶ Goldman Sachs (investment bank)
- ▶ Thales (electrical systems for aerospace, transport)
- ▶ Microsoft (software/electronics)
- ▶ IBM (technology/consulting)
- ▶ Morgan Stanley (financial services)

"I enjoyed studying Mathematics before university and I've always had an interest in technology, particularly video games. Now I'm a Warwick graduate with experience in the video games industry I'm ready to pursue my dream of working for a game studio in Canada, which is where I'm heading."

Sarah Marshall,
Computer Science Graduate

ENGINEERING

There are many different types of engineering including civil, electronic, automotive, manufacturing and mechanical. You can choose to specialize in one of these or do a broad engineering degree that includes aspects of all of them.

What A level subjects should I take?

Ideally, both Maths and Physics though some universities including Warwick will consider other combinations. A wide range of third subjects including Further Maths are accepted.

What grades do I need?

Entry requirements for engineering degrees range from A*AA - BBB. At Warwick, we ask for AAA - AAB.

Is engineering for me?

Engineering might be for you if:

- ▶ You like applying theory to produce practical solutions
- ▶ You have a creative and/or analytical mind
- ▶ You want to make a difference to daily life using technology
- ▶ You work well in a team

£26,000

Average starting salary 6 months after graduating

What do engineering graduates do?

Specific jobs for engineering graduates include:

- ▶ Reducing the weight of a car
- ▶ Gearbox design
- ▶ Design of a sanitation system for the developing world
- ▶ Tunnel design
- ▶ Weir design for energy supply
- ▶ Developing an in-car entertainment system

Companies that Warwick engineering graduates work for include:

- ▶ Jaguar Landrover
- ▶ Rolls Royce (Aero and automotive)
- ▶ ARUP (architecture / construction)
- ▶ Deutsche Bank
- ▶ Transport for London
- ▶ Virgin Media
- ▶ Morgan Sindall (construction/ infrastructure)

"I have used a variety of skills and knowledge that I have taken from my studies. Working with Bechtel, a project management company, requires graduates to have the technical capability but also be able to appreciate the commercial aspects of the business, including marketing, economic understanding, ethical behaviour and how to manage change"

Civil Engineering Graduate



As society develops, engineers are called upon to create a better, more sustainable world.

LIFE SCIENCES

You may have already studied 'biology' at school, and at university there is a whole range of related subjects that come under the umbrella of 'life sciences'.

What A level subjects should I take?

An A level in Biology is usually required, and some courses ask for Chemistry too. Other sciences are always welcome alongside these, as are a wide range of other subjects.

What grades do I need?

Entry requirements for life sciences degrees range from AAA - BCC.

At Warwick, offers range from AAB to ABB.

Is life sciences for me?

Life sciences might be for you if:

- ▶ you enjoy the excitement of unpredictable experiments and subjects
- ▶ you are patient, laid-back and flexible
- ▶ you are observant and a great note-taker
- ▶ you work well in a team

£20,000

Average starting salary 6 months after graduating



You'll explore the science of organisms, and understand more about the ways that plants, animals, humans and microbes function.

What do life sciences graduates do?

First jobs for life sciences graduates include:

- ▶ Director of Social Enterprise
- ▶ Laboratory Technologist
- ▶ Drug Safety Scientist
- ▶ Marketing Associate
- ▶ Graduate Management Trainee
- ▶ Clinical Research Associate
- ▶ Medical Communications Assistant
- ▶ Journal Developer

Companies that Warwick life sciences graduates work for include:

- ▶ NHS (healthcare)
- ▶ Johnson & Johnson (pharmaceuticals and consumer goods)
- ▶ Severn Trent Water
- ▶ iS Health Communications
- ▶ Scope (clinical research)

"The lectures I attended at Warwick covered a wide range of topics and were often given by leaders in their field. This gave me a wider insight into the potential career paths that use Biochemistry and initiated my interest in public health."

Rachel Evans,
Life Sciences Graduate

MATHEMATICS

Mathematicians use logic, skill, ingenuity and imagination to solve problems relating to numbers, measurement, shape and space. Mathematics is the language of nature, and our means of understanding the world around us.

What A level subjects should I take?

An A level in Maths is required, and often one in Further Maths too. Some top courses also require you to take an extension paper called 'STEP', which you can sit at your school/college.

Alongside Maths and Further Maths, most subjects are accepted for a third A level.

What grades do I need?

Entry requirements for maths degrees range from A*A*A* - BBC.

At Warwick, there are four offer options:

A*A*A in Maths, Further Maths and a third subject, Grade 2 at STEP

A*A*A in Maths, Further Maths and a third subject, Grade 1 at STEP

A*A*A* in Maths, Further Maths and a third subject

A*A*AA in Maths, Further Maths and a third and fourth subject

Is mathematics for me?

Maths might be for you if:

- ▶ you are excited by the mysteries of numbers, shapes and space
- ▶ you like to solve problems inventively and creatively
- ▶ you enjoy logic puzzles

£23,000

Average starting salary
6 months after
graduating



Mathematics is a science of deduction, reasoning and logic.

What do Mathematics graduates do?

First jobs for mathematics graduates include:

- ▶ Software designer
- ▶ Financial analyst
- ▶ Statistician
- ▶ Accountant
- ▶ Teacher
- ▶ Tax Inspector
- ▶ Business consultant
- ▶ Meteorological scientist
- ▶ Investment banker

Companies that Warwick mathematics graduates work for include:

- ▶ British Aerospace (defence)
- ▶ Barclays (financial services)
- ▶ Civil Service (government)
- ▶ KPMG (accountancy firm)
- ▶ Ministry Of Defence
- ▶ Network Rail (transport)
- ▶ Siemens (electronics/telecommunications)

"ATASS Sports is a specialist statistical consultancy specialising in sports modelling. We recruit top maths and stats graduates each year to join our research teams. We specifically target the top universities and consistently find Warwick mathematicians to be amongst the best."

Rich,
Atass Sports, Graduate Employer

PHYSICS

As a physicist, you'll study and develop theories about the laws of the universe, and find out ways to apply these to solve real-world problems.

You will learn about topics such as astrophysics, particle physics and quantum mechanics as well as having the opportunity to be involved in cutting edge research.

What A level subjects should I take?

A levels in Physics and Maths are usually required. Alongside these, a wide range of third subjects are accepted.

What grades do I need?

Entry requirements for physics degrees range from A*AA - BBC.

At Warwick, we ask for A*AA.

Is Physics for me?

Physics might be for you if:

- ▶ you have a curious mind and like asking questions
- ▶ you like applying maths to help you solve problems
- ▶ you are fascinated by new technology
- ▶ you can work methodically to solve logic puzzles
- ▶ you work well in a team

£26,000

Average starting salary 6 months after graduating

Physics is the study of the natural world and how it works - from tiny particles to huge galaxies and everything in-between.

What do physics graduates do?

First jobs for physics graduates include:

- ▶ Nanotechnology
- ▶ Medical Physics
- ▶ Environmental science (renewable energy)
- ▶ Telecommunications
- ▶ Engineering/Transport
- ▶ Finance
- ▶ IT
- ▶ Management consultancy
- ▶ Research Scientist
- ▶ Teacher

Companies that Warwick physics graduates work for include:

- ▶ The National Physical Laboratory
- ▶ Atkins Global (engineering/infrastructure)
- ▶ Bank of America (financial services)
- ▶ Cisco Systems (networking)
- ▶ Kings College Hospital
- ▶ NATO (defence)

"Studying Physics gave me skills such as critical deduction, the logical analysis of problems and the interpretation of research. Thanks to the skills I developed as a Warwick physicist, I have acquired an exciting role as an engineer at a major UK consultancy company."

Scott Whiteside,
Physics Graduate

PSYCHOLOGY

Psychology is the scientific study of the human mind, brain and behaviour.

You'll investigate human thought, memory, emotion, perception, sleep, experience, consciousness, reasoning and personality.

What A level subjects should I take?

At least one natural science (biology, chemistry, maths, physics) is desirable, as are subjects that show the ability to think critically and analytically (such as philosophy, modern languages, English literature). A level Psychology is not essential. Usually a B in GCSE Maths is required.

What grades do I need?

Entry requirements for psychology degrees range from AAA - BBC.
At Warwick, we ask for AAB.

Is psychology for me?

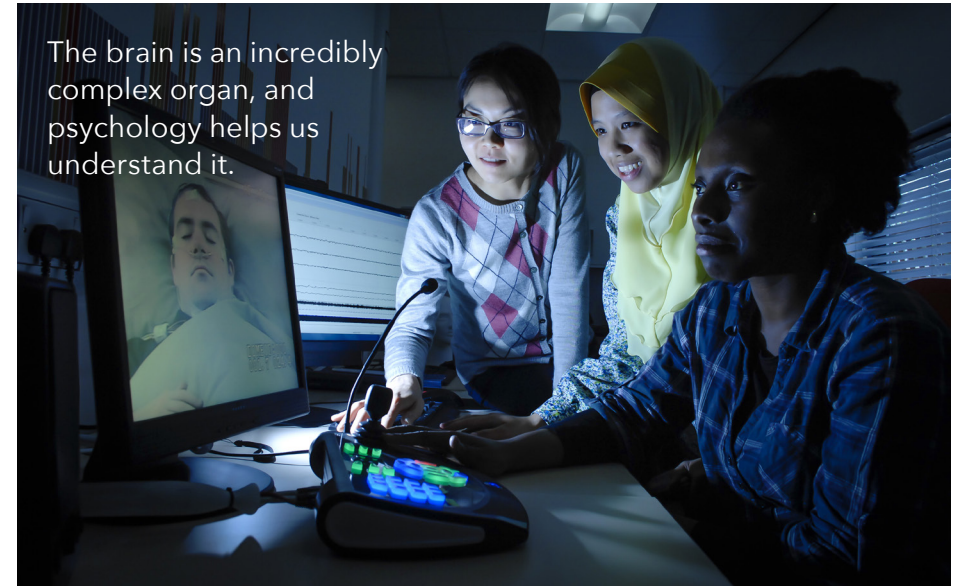
Psychology might be for you if:

- ▶ you are interested in people, society and behaviour
- ▶ you have an interest in both biology and mathematics
- ▶ you have an analytical and curious mind
- ▶ you are good at communicating with others

£20,000

Average starting salary 6 months after graduating

The brain is an incredibly complex organ, and psychology helps us understand it.



What do Psychology graduates do?

First jobs for psychology graduates include:

- ▶ Assistant Psychologist
- ▶ Advertising Executive
- ▶ Learning Support Assistant
- ▶ Research Assistant
- ▶ Recruitment Specialist

Companies that Warwick psychology graduates work for include:

- ▶ NHS (healthcare)
- ▶ Cabinet Office (government)
- ▶ Fuel PR (public relations/media)
- ▶ The Alzheimer's Society (support charity)
- ▶ Ernst & Young (professional services/auditors)
- ▶ Global Radio (media)
- ▶ HMP Brixton (prisons service)
- ▶ Birmingham Children's Hospital (healthcare)

"The diverse nature of Psychology sets you up with a degree that allows you to explore a range of options following University, from further study to heading straight into work. Personally, studying Psychology at Warwick helped me to secure a summer internship, with Diageo which has really helped me choose what I would like to do with my future."

George Coe,
Psychology Graduate

STATISTICS

Statistics is the science of using mathematics and data to make predictions in situations where there is uncertainty. Statistics involves the study of maths, data, probability and their application in a wide range of fields including computing, medicine, politics and finance.

What A level subjects should I take?

An A-level in Maths is required, and often one in Further Maths too. Any subjects with connections to Maths or Stats are encouraged, such as other sciences, psychology or economics.

What grades do I need?

Entry requirements for statistics degrees range from A*AA - BCC.

At Warwick, we ask for A*AA including Maths and Further Maths. If you do not have Further Maths, we ask you to take an AEA or STEP paper.

Is statistics for me?

Statistics might be for you if:

- ▶ you enjoy maths and can use it creatively to solve problems and answer questions
- ▶ you have an analytical brain
- ▶ you would be interested in acquiring programming skills to analyse data
- ▶ you can think about the 'big picture'

£23,000

Average starting salary 6 months after graduating



A knowledge of statistics can help us make intelligent and reasoned decisions.

What do statistics graduates do?

First jobs for statistics graduates include:

- ▶ Actuary
- ▶ Software Engineer
- ▶ Associate Management Consultant
- ▶ Marketing Data Analyst
- ▶ Trainee Tax Accountant
- ▶ Business Modeller
- ▶ Assistant Statistician (clinical trials, biomedical research, social sciences and more)

Companies that Warwick statistics graduates work for include:

- ▶ Amazon.com (e-commerce)
- ▶ AON Hewitt (human resources/consulting)
- ▶ Bank of England (finance)
- ▶ GlaxoSmithKline (pharmaceutical/healthcare)
- ▶ Lloyds of London (insurance)
- ▶ Office for National Statistics (government)
- ▶ PepsiCo (food and drink corporation)

"I really enjoyed studying the 3 year course in MORSE (Mathematics, Operational Research, Statistics, Economics). I developed important mathematical and statistical skills in my first year. During a recent internship at Ernst & Young, my employers were really impressed by how comfortable I was manipulating data using statistical software, and that is a credit to my degree course."

Jay Radia,
MORSE Graduate

Find out more...

Thinking About University?

An award-winning impartial guide to higher education for students, parents and teachers.

warwick.ac.uk/study/outreach/thinkinguni

Warwick STEM in Schools

Information on the activities and resources that Warwick undertake with local schools.

warwick.ac.uk/science/STEMinschools

Future Morph

Interactive career-planning games for young scientists and mathematicians.

futuremorph.org

IGGY

Social network and learning platform for gifted and talented young adults. Includes many interactive science modules.

IGGY.net

NASA

Explore the science of space with the experts at NASA.

jpl.nasa.gov/education/students

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