Science Degrees
Applied Plant Science

4th in the UK – The Complete University Guide 2019 (Agriculture and Forestry category).

Animal Science

Agriculture

Agri-Business Management

Science Degrees

Marine Biology

8th in the UK - Earth and Marine Sciences category - The Guardian University Guide 2019

Environmental Science

Earth Science

Marine Zoology
Applied Plant Science
4th in the UK – The Complete University Guide 2019 (Agriculture and Forestry category).

Animal Science

Agriculture

Agri-Business Management

Chemistry
Our degrees are professionally accredited by the Royal Society of Chemistry.

Biology

Zoology

Physics

Science Degrees

Marine Biology
8th in the UK - Earth and Marine Sciences category - The Guardian University Guide 2019

Earth Science

Marine Zoology

Dentistry
No 1 for Health Professions - The Guardian League Table (2019)

Psychology

Biomedical Science

Sport and Exercise Science

Food and Human Nutrition

92nd Worldwide – Life Sciences category – Times Higher Education World University Rankings by Subject 2018

Medical

Pharmacy

5th in the UK - The Guardian University Guide 2019 (Medicine)

We are ranked 7th in the UK – The Complete University Guide 2019 (Food Science category).
Case Study
Case Study

Emma - Marine Biology

I chose Newcastle because of its excellent facilities including the Dove Marine Laboratory and our uniquely designed research vessel, The Princess Royal, which students use to conduct surveys throughout their degree.

"In my final year I went on a field trip to Bermuda and did my dissertation in the Bahamas.

Since graduating I worked as a Marine Planner in Scotland then moved to Bristol to work for the Department of Environment, Food and Rural Affairs."

https://www.ncl.ac.uk/undergraduate.degrees/c161/studentprofile/emma.html
Case Study

Polly - BSc Pharmacology 2017

The design & Study of drugs, how they exert their effect and how the body interacts with the drug

Coordinates the studies and clinical trials for Arcinova to ensure that the drugs they create are having their desired effect.

Bioanalyst and Study Coordinator
Technology Degrees
Technology Degrees

Computer Science

Geospatial Engineering
Technology Degrees

**Computer Science**
First 2 years are the same

**Games Engineering**
We are a Centre of Excellence for Cyber Security - One of only 14 in the UK demonstrating our expertise in designing secure and resilient networks.

**Software Engineering**
Ranked 98th in the world for Computer Science by THE World University Ranking 2017

**Security and Resilience**

**Geospatial Engineering**
Technology Degrees

Computer Science
First 2 years are the same

Games Engineering
We are a Centre of Excellence for Cyber Security – One of only 14 in the UK demonstrating our expertise in designing secure and resilient networks.

Software Engineering
Ranked 98th in the world for Computer Science by THE World University Ranking 2017

Security and Resilience

Mapping and Geospatial Data Science MSc

Geospatial Engineering
We have dual accreditation from the Royal Institution of Chartered Surveyors (RICS) and the Chartered Institution of Civil Engineering Surveyors (CICES)

Geographic Information Science
60 second subjects

Newcastle University
Geographic Information Science
Case Study

Scott - BSc Computer Science 2011

Lead Developer at Pebble

Pebble is a company dedicated to helping schools with fundraising and marketing activities. "I lead the development of our products and am part of the senior management team that helps formulate the company's direction."

I took a placement made available to me with Pebble through the NWE programme and remain there to this day. I've worked my way up from an internship to a member of the management team leading the development of our products.

https://www.ncl.ac.uk/computing/undergraduate/alumni/scott/
Case Study  James - Surveying and Mapping Science BSc 2016

I’m working on a joint venture to put a 5km tunnel under the River Humber to join two above-ground gas installations. My role is to make sure that the client is happy, and that all parties can work together and survey everything in the right location.

The practicals helped me to obtain two summer placements, one at a Land Surveying company - Paragon Surveys. This gave me enough experience to apply for a paid summer internship at Skanska on a Crossrail project. Both jobs also helped my learning in the second and third year, with a real-world element cementing theories in my mind.

https://www.ncl.ac.uk/engineering/undergraduate/geomatics/alumn/james/
Engineering Degrees
Engineering Degrees

- Chemical Engineering
- Electrical and Electronic Engineering
- Marine Technology
- Mechanical Engineering
- Civil Engineering
Engineering Chartership

- After university, engineering graduates often work towards chartership.
- Becoming chartered shows you have reached a high level of both technical and leadership competencies.
- The title 'Chartered Engineer' is protected by law.
- To become chartered your degree needs to be accredited.
Engineering Careers
Case Study

Helen - MEng Chemical Engineering 2018

Graduate Process Engineer

Nuvia Ltd - Specialist Nuclear Consultant.
'Within the first few months of my job I was put on a £40 million project, designing a new power station'.

'Chemical Engineering at Newcastle has really set me up for success, being able to put theory into practice'.
Case Study

Graduate Engineer

Kuan - MEng Civil and Structural Engineering 2017

Works for Cundall on a variety of projects, from residential housing to the new Newcastle University sports centre to industrial laundry steelwork designs in various countries.

'Civil Engineering isn't as maths heavy as I first thought. I apply the technical knowledge and skills that I learned at University in my day-to-day job to run structural analysis models and sometimes perform hand calculations.'
Maths Degrees
Maths Degrees

Our mathematics and statistics degrees are accredited by the Institute of Mathematics and its Applications (IMA)

Mathematics

Mathematics and Statistics

Statistics
Maths Degrees

Our mathematics and statistics degrees are accredited by the Institute of Mathematics and its Applications (IMA)

Mathematics

Mathematics and Statistics

Statistics

Mathematics with Management

Mathematics with Finance
Maths Degrees

Our mathematics and statistics degrees are accredited by the Institute of Mathematics and its Applications (IMA)

Mathematics

Mathematics with Management

Mathematics with Finance

Mathematics and Statistics

Mathematics and Accounting

Statistics

Mathematics and Economics

Psychology and Mathematics


52.
Maths Careers
Maths Careers

We're in the Top 20 Universities in the UK targeted by graduate employers during the past five years according to The Graduate Market.

pwc
Accountant

opta
Sports Statistician

LLOYDS BANK
Banker

CAPITA
Actuary

51 zero
Data Analyst

TeachFirst
Teacher

Quantity Surveyor

GORS
Operational Researcher

miller homes
Current role - Analyst at Goldman Sachs

"I work in the asset management division. I service European shareholders primarily and oversee the trading into GSAM funds. I also calculate rebates and trailers to be returned to some investors, setting up the legal agreements with clients and then calculating and paying these fees."

"My course allowed me to work on solving a huge range of problems. I don’t use all of it in my job, but I constantly use the valuable problem solving skills that these different courses gave me."
Case Study

Goldman Sachs

Becky - BSc Mathematics 2015

Current role - Analyst at Goldman Sachs

"I work in the asset management division. I service European shareholders primarily and oversee the trading into GSAM funds. I also calculate rebates and trailers to be returned to some investors, setting up the legal agreements with clients and then calculating and paying these fees."

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"My course allowed me to work on solving a huge range of problems. I don’t use all of it in my job, but I constantly use the valuable problem solving skills that these different courses gave me."
Case Study

Harry - Economics and Mathematics BSc 2017

Global Purchasing Operations
Business Partner at Jaguar Land Rover

I work at Jaguar Land Rover on the Purchasing Graduate Scheme, with my first 18-month role being in Global Purchasing Operations. In this role I support the National Sales Centres and Production plants outside of the UK, and integrate them with the central UK business, with the aim of ultimately being a Global company.

https://www.nd.ac.uk/maths-physics/undergraduate/alumni/harry/
Research at Newcastle

Science  Technology

Engineering  Mathematics
Science
Rescuing our Oceans

Animals from six of the deepest oceans on Earth have been found to contain man-made fibres and plastic in their stomachs.

The team tested samples of crustaceans found in the ultra-deep trenches that span the entire Pacific Ocean – the Mariana, Japan, Izu-Bonin, Peru-Chile, New Hebrides and Kermadec trenches.

An estimated 300 million tonnes of plastic now litter the oceans, with more than 5 trillion plastic pieces weighing over 250,000 tonnes currently floating on the surface.

https://www.ncl.ac.uk/research/impact/casestudies/ocean/
Science
Research at Newcastle

- Science
- Technology
- Engineering
- Mathematics
Future Bionics

There are over three million people living with upper-limb loss worldwide. Current prosthetic hands are controlled via myoelectric signals – Controlling them takes practice, concentration and, crucially, time.

We have developed a bionic hand fitted with a camera that instantaneously takes a picture of the object in front of it, assesses its shape and size and triggers a series of movements in the hand - Using Artificial Intelligence.

A number of amputees have already trialled these innovations at Newcastle University.

https://www.ncl.ac.uk/research/impact/casesudies/prosthetics/
Research at Newcastle

- Science
- Engineering
- Technology
- Mathematics
Engineering
Building a Smart Future

We are developing ‘smart’ bricks which can extract energy from wastewater, sunlight and the air and generate electricity to transform the places where we live and work.

The bricks fit together to create ‘bioreactor walls’ which could then be incorporated in housing, public buildings and office spaces.

https://www.ncl.ac.uk/research/impact/casestudies/smartfuture/
Engineering
Research at Newcastle

- Science
- Technology
- Engineering
- Mathematics
Mathematics
Bracing for Climate Change

We are using climate models to identify future changes in flooding, droughts and heatwaves affecting European cities.

The landmark study shows that, from 2050-2100, the incidence of extreme weather will exceed previous predictions.

In each scenario, the study of 571 cities predicted a worsening of heatwaves, increasing drought conditions and an increase in river flooding.

https://www.ncl.ac.uk/research/impact/casestudies/weather/
Mathematics
Research at Newcastle

- Science
- Engineering
- Technology
- Mathematics
Facilities at Newcastle

- Cockle Park Farm
- Nafferton Farm
- Towing Tank
- Emerson Cavitation Tunnel
- State of the Art Labs
- Dove Marine lab and research vessel
- Stu Bru
- Computing Labs with specialist software
- 24 hour clusters
- Clinical skills centre
- Sport and Exercise Science laboratory
Timetable

- High contact hours
- Small class sizes
- Labs/Workshops (these would be 'Problem Classes' if Maths)
- Seminars/Tutorials
Assessments

- Exams
- Individual and group projects
- Assignments and Dissertation
- Computer
- Group work
- Presentations
Study Abroad

Many degrees have the option for a period of studying abroad
Study Abroad
Many degrees have the option for a period of studying abroad

Through studying abroad you have the opportunity to

  Boost your CV

  Meet new people

  Learn a new language

  Experience a new culture
Study Abroad
Many degrees have the option for a period of studying abroad
Through studying abroad you have the opportunity to
Boost your CV
Meet new people
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Experience a new culture

Placement Year
Work placements are available on all undergraduate degrees
Study Abroad
Many degrees have the option for a period of studying abroad

Through studying abroad you have the opportunity to

  Boost your CV
  Meet new people
  Learn a new language
  Experience a new culture

Placement Year
Work placements are available on all undergraduate degrees

Work placements aid in professional development

  Gain confidence
  Secure a graduate job
  Earn a salary
  Try out a career
Elly's Year Abroad

Placement: Conversation Assistant

Barcelona

Erasmus student working as a Conversation Assistant at Vedruna Sant Elies, a local school within Vilfranca del Penedès

A way of pushing yourself and learning what you are capable of

Educational benefits and a chance to encounter different cultures

Further develop skills and experiences working with children aged 3-16
Benefits of Studying STEM courses
Benefits of Studying STEM courses

Develop Skills
Develop Skills
Develop Skills

- Analytical
- Independence
- Teamwork
- Time Management
- Communication
- Problem Solving
- Lab Skills
Benefits of Studying STEM courses

Develop Skills

- Analytical
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Benefits of Studying STEM courses

Job Opportunities

Develop Skills
- Analytical
- Independence
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Job Opportunities
Job Opportunities

There is a national shortage of STEM professionals so there are plenty of graduate opportunities. In 2018, 2.4 million STEM related jobs will go unfilled.
Job Opportunities

There is a national shortage of STEM professionals so there are plenty of graduate opportunities. In 2018, 2.4 million STEM related jobs will go unfilled.

<table>
<thead>
<tr>
<th>Job Category</th>
<th>Shortage Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity Surveyors</td>
<td>77%</td>
</tr>
<tr>
<td>Mechanical Engineers</td>
<td>72%</td>
</tr>
<tr>
<td>Vets</td>
<td>64%</td>
</tr>
<tr>
<td>Nurses</td>
<td>58%</td>
</tr>
<tr>
<td>R&amp;D Managers</td>
<td>57%</td>
</tr>
<tr>
<td>Programmers/Software Developers</td>
<td>56%</td>
</tr>
<tr>
<td>Financial/Accounting Technicians</td>
<td>54%</td>
</tr>
<tr>
<td>Estimators, Valuers, Assessors</td>
<td>52%</td>
</tr>
<tr>
<td>Engineering Technicians</td>
<td>77%</td>
</tr>
<tr>
<td>Civil Engineers</td>
<td>50%</td>
</tr>
<tr>
<td>Design/Development Engineers</td>
<td>49%</td>
</tr>
</tbody>
</table>

Data from UKECS Employer Skills Survey 2015
Benefits of Studying STEM courses

Job Opportunities

There is a national shortage of STEM professionals so there are plenty of graduate opportunities. In 2018, 2.4 million STEM related jobs will go unfilled.

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<tr>
<th>Profession</th>
<th>Unfilled Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity Surveyors</td>
<td>17%</td>
</tr>
<tr>
<td>Mechanical Engineers</td>
<td>12%</td>
</tr>
<tr>
<td>Notes</td>
<td>6%</td>
</tr>
<tr>
<td>Nurses</td>
<td>5%</td>
</tr>
<tr>
<td>R&amp;D Managers</td>
<td>7%</td>
</tr>
<tr>
<td>Architects</td>
<td>5%</td>
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Total from U.S. STEM Employers Job Survey 2015

Develop Skills

Analytical
Independence
Teamwork
Time Management

Communication
Problem Solving
Lab Skills
Benefits of Studying STEM courses

Job Opportunities

There is a national shortage of STEM professionals so there are plenty of graduate opportunities. In 2018, 7.4 million STEM related jobs will go unfilled.

- Quantity Surveyors (78%)
- Mechanical Engineers (72%)
- ITers (64%)
- Nurses (59%)
- R&D Managers (57%)
- Programmers/Software Developers (55%)
- Financial/Accounting Technicians (54%)
- Estimators/Valuers/Assurors (52%)
- Engineering Technicians (17%)
- Oil Engineers (50%)
- Building/Development Engineers (49%)

Data from Sates Employee Skills Survey 2015

Variety

Analytical
Independence
Teamwork
Time Management

Develop Skills

Communication
Problem Solving
Lab Skills
Variety
Variety

60% of Graduate Jobs are open to graduates from any degree
Benefits of Studying STEM courses

Job Opportunities

There is a national shortage of STEM professionals so there are plenty of graduate opportunities. In 2018, 2.4 million STEM related jobs will go unfilled.

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Data from U.S. E.R.E. Employee Skills Survey 2015

Variety

60% of Graduate Jobs are open to graduates from any degree

Analytical | Independence
Teamwork | Time Management

Develop Skills

Communication | Problem Solving
Lab Skills
Benefits of Studying STEM courses

Job Opportunities

There is a national shortage of STEM professionals so there are plenty of graduate opportunities. In 2018, 2.4 million STEM-related jobs will go unfilled.

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Data from Chartis Employee Skills Survey 2015

Higher Lifetime Earnings

Variety

60% of Graduate Jobs are open to graduates from any degree.

Develop Skills

Analytical

Independence

Teamwork

Time

Management

Communication

Problem Solving

Lab Skills
Higher Lifetime Earnings
Higher Lifetime Earnings

On average graduates earn £10,000 more per year than non-graduates
Higher Lifetime Earnings

On average graduates earn **£10,000** more per year than non-graduates.

BSc graduates earn **10%** more than BA graduates on average.
Why Newcastle?

Member of the Russell Group

Top 150 World Universities (QS World University Rankings 2019)

96% of our students progress into Employment or Further Study within six months of graduation

4th in the UK for Social Life

TEF Gold Teaching Excellence Framework

Number 1 place in the world to visit in 2018 (Rough Guides 2018)
Professional Accreditation

Most of our STEM degrees at Newcastle University, have a professional accreditation from a relevant institution or society.

Provides industry-wide recognition of the quality of your qualification.

Indicate a close link with industry, meaning you learn about developments at the cutting edge of professional practice.
Sports and Societies

65 Sports Clubs
- Elite (BUCs), Intramural, Beginner Level
- Sport Excellence Scholarship
  - eg. Mixed Martial Arts, Football, Basketball, Korfball

160+ Societies
- Course related societies
- Other societies
  - If there isn't one for you, you can set one up

Top 10 BUCS 2016/2017

20 Minute Society
Raising & Giving
Bakng Society
NUTS
Careers service

- Newcastle has an **award winning** careers service.
- You can benefit from the careers service **whilst you study** and for **up to 3 years** after you graduate.
Careers service

- Newcastle has an award winning careers service.
- You can benefit from the careers service whilst you study and for up to 3 years after you graduate.

Support you in searching for graduate careers, going on to further study, or starting your own business.

Marketing your skills and yourself in your CVs and job applications.

Mock interviews and CV surgeries.

Finding placements, internships, part-time jobs and work experience.

Advice for working during, and after your degree.
Starting your own business

- Master Classes
- Funding
Starting your own business

- Master Classes
- Funding

Simon Barker
Co-Founder & CTO of Radfan
PhD Electrical Engineering

Brigitte West
Founder & CEO of Beauty by the Geeks
BSc Biomedical Sciences

Roland Glancy
Co-Founder & CEO of Radfan
BA Architecture, MSc Renewable Energy
Student Support

There is lots of support available at Newcastle
Opportunities to Develop your Employability
Opportunities to Develop your Employability

- Placements
- Volunteering
- NCL+
- Career development module
- Work Experience
Not as Far as You Think...
Not as Far as You Think...

By Train:
1.5 hours from Leeds
1.5 hours from Edinburgh
2.5 hours from Manchester
3 hours from London

By Plane:
55 minutes from Belfast

By Metro:
30 minutes to airport
30 minutes to the coast
Open Days 2019

Friday 28th June
Saturday 29th June
Saturday 14th September
Keep in Touch...
Why STEM?

What is STEM?
Why STEM?

What is STEM?

Science
Why STEM?

What is STEM?

Science
Technology
Why STEM?

What is STEM?

Science
Technology
Engineering
Why STEM?

What is STEM?

Science
Technology
Engineering
Maths
Timeline Activity
Timeline Activity
Timeline Activity

- 1662: Last sighting of a Dodo
- 1708: The Pizza Cutter is invented
Timeline Activity

- 1662: Last sighting of a Dodo
- 1708: The Pizza Cutter is invented
- 1767: Invention of Carbonated Water
- 1858
- 1876
- 1912
- 1928
- 1963
- 1969
- 2007
Timeline Activity
Timeline Activity

- 1662: Last sighting of a Dodo
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- 1804: First working steam locomotive
- 1858: Charles Darwin publishes theory of evolution
- 1876: First successful telephone call is made
- 2007:
Timeline Activity

- Last sighting of a Dodo: 1662
- Invention of Carbonated water: 1767
- Charles Darwin publishes theory of evolution: 1858
- The lightbulb is invented: 1879
- First successful telephone call is made: 1876
- First commercial airline flight: 1913
- First car radio created: 1930
- Tectonic plates were discovered: 1953
- Penicillin is discovered: 1928
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- 1930: First car radio created
- 1953: Double helix structure of DNA discovered
- 1971: 2007
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- 1969: First man on the moon
- 1971: First email sent
- 2007
Timeline Activity

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1928: Penicillin is discovered
1930: First car radio created
1969: First man on the moon
1971: Double helix structure of DNA discovered
2007: First iPhone is produced
Why STEM?

What is STEM?

- Science
- Technology
- Engineering
- Maths
Module Muddle

Ship Hydrodynamics

Biology

Hydraulics

Circuit Theory
STEM Careers Map

- Pick 10 GCSEs, 3 A levels and 1 Degree that leads to the career a STEM career

- Pick some extra curricular activities you might be interested in, or you think would help with skills for your chosen career

- Pin your choices to the board and connect them together with the string to make your career map