A Future in STEM
What is STEM?

- Science
- Technology
- Engineering
- Maths
STEM Courses

- High contact hours
- Small class sizes
- Practical opportunities
- Interesting and enjoyable
- Career options are varied
- Higher starting salaries
# Course Options

<table>
<thead>
<tr>
<th>Maths and Statistics</th>
<th>Mechanical Engineering</th>
<th>Physics</th>
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<tbody>
<tr>
<td>Earth Science</td>
<td>Surveying</td>
<td>Marine Biology</td>
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<td>Chemistry</td>
<td>Ecology</td>
<td>Electrical Engineering</td>
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<td>Civil Engineering</td>
<td>Marine Technology</td>
<td>Agriculture</td>
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<td>Computer Science</td>
<td>Biochemistry</td>
<td>Biology</td>
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<td>Chemical Engineering</td>
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The Life of a STEM Student
Study

Statistics

Semester 1

Timetable

Assessments

- Exams
- Laboratory and field reports
- Essays
- Presentations
- Posters
- Group work
- Computer assessments

Study abroad or placement year
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<tr>
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<th>9-10</th>
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<th>2-3</th>
<th>3-4</th>
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<td>Laboratory Workshop</td>
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Assessments

- Exams
- Laboratory and field reports
- Essays
- Presentations
- Posters
- Group work
- Computer assessments
Study abroad or placement year
Sports and Societies

63 sports clubs - examples netball, ultimate frisby, rugby
    Elite, Intramural and Novice levels

+200 societies - examples MathSoc, NUTTS, Gaming Society
    If there isn't one you like you can set your own up
University Careers Support

Accreditation
- Quality or approved
- Accredited by professional bodies
- Many companies look for graduates with a recognised degree
- Accreditation is a seal of quality that employers have to meet

Careers Service
- Work experience
- Appointments and advice
- Careers fair and events
- Many useful resources
- Drop-in service
- Career Development Centre
- 2nd floor, Clement 06
- Many opportunities for students
- Information about different careers
- Guidance and interviews

Links with Industry
- Career Development Centre
- 2nd floor, Clement 06
- Many companies offer higher and summer placements
- Research projects collaborate with industry partners
- Information links across a range of sectors
Newcastle University has an award winning Careers Service

They offer:

- One-to-one advice
  - Appointments and drop-in

- Workshops and events
  - 'How to write the perfect CV'
  - Employers on campus
  - Business start-up masterclasses

- Online resources
  - Vacancies online
  - Information about different careers
  - Graduate destinations
Accreditation

• Stamp of approval
• Awarded by professional bodies
• Often companies look for graduates with accredited degrees
• Accreditation is a set of standards that university's must meet
Links with Industry

- Career Development Module
  - Includes an in-work placement
- Many companies offer year and summer placements
- Research projects collaborate with industrial partners
- Industrial links across a range of sectors
A Future Career in STEM
Benefits of a STEM Career

Job Opportunities

Higher Lifetime Earnings

Opportunities To Work In Different Areas

Develop Skills
Average starting salaries for Newcastle University Graduates

In 2015 STEM graduates from earned 10% more than HaSS graduates.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Course</th>
<th>Average Graduate Starting Salary</th>
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<tbody>
<tr>
<td>1</td>
<td>Dentistry</td>
<td>£30,348</td>
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<tr>
<td>2</td>
<td>Medicine</td>
<td>£28,674</td>
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<tr>
<td>3</td>
<td>Chemical Engineering</td>
<td>£28,641</td>
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<tr>
<td>4</td>
<td>General Engineering</td>
<td>£27,452</td>
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<tr>
<td>5</td>
<td>Economics</td>
<td>£26,630</td>
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<tr>
<td>6</td>
<td>Mechanical Engineering</td>
<td>£26,420</td>
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<tr>
<td>7</td>
<td>Electrical Engineering</td>
<td>£25,191</td>
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<tr>
<td>8</td>
<td>Physics</td>
<td>£24,976</td>
</tr>
<tr>
<td>9</td>
<td>Aeronautical Engineering</td>
<td>£24,969</td>
</tr>
<tr>
<td>10</td>
<td>Civil Engineering</td>
<td>£24,764</td>
</tr>
</tbody>
</table>
Skills Developed

Motivation

Teamwork

Independence

Communication

Technical

Analytical
94.1% of Newcastle University Graduates were in further study or employment after six months of graduating

82% of our graduates that entered employment achieved a professional or managerial position
What do Newcastle University Graduates do in business?

Tesco | Coca Cola | Pagegroup | Cundall
STEM Opportunities in the North East

- Merck - Pharmaceuticals
- Siemens - Electronics
- P&G
- Nissan - Mechanical Engineering
- Bede Gaming - Computer Science
- Northern Institute for Cancer Research
- Centre for Life - Biomedical Research
- Sage - Financial Systems Software
- Northumbrian Water
- R&R Ice cream
- Pearson Engineering
Wildlife Conservationist

**Roles:**

- Protect wild plants, animals and their habitats
- Includes making sure habitats are free from disease, harmful insects and fire

**Requirements:**

- BSc degree related to wildlife conservation from an accredited university
- A levels in Biology and other related subjects

**Prospects:**

- Opportunities to work outdoors in many different locations
- Protect nature for generations to come
Fran, BSc Zoology

Wild Woods Project Officer
Durham Wildlife Trust

Career path:
• Degree
• Year out traveling
• Gateshead Council - Countryside Project

"Every day is different. Tasks involve - surveying areas of land for butterflies, felling trees, leading school groups"

Do as much voluntary work as possible, learn to identify species, get involved with local groups (sometimes its who you know not what you know)
Sports Statistician

**Roles:**
- Try to model sporting events
- Help clubs put the best possible team on the field by developing statistical models to measure player value, forecast future performance, answer questions about game strategy and tactics
- Sports betting industry

**Requirements:**
- BSc Maths related degree at an accredited university
- Maths A level

**Prospects:**
- Work in the sports industry within an academic context
- Increasing demand for statisticians in some sports as technology develops
Katie, MMath Mathematics and Statistics

Data and Research Analyst
Cancer research

Graduate job

"I work on analytical projects to support Cancer Research's priorities relating to cancer prevention, early diagnosis and access to treatment. In addition to these analytical projects, we also generate cancer statistics for the UK and local areas which are provided on Cancer Research's cancer statistics website"

Think outside the box - Maths is in lots of different industries
Marine Engineer

**Roles:**

- Design and construction of boats, ships, submarines, oil rigs and other marine vessels or structures
- The sea is the most demanding environment on earth - vessels and structures must be able to withstand the wind, waves and salt exposure

**Requirements:**

- Maths and Physics/ Chemistry A level
- BEng/ MEng in Marine Engineering from an accredited university

**Prospects:**

- Demand is expected to rise as the increase in energy from wind and tides combine with traditional ship design and oil platform work
- Many opportunities to travel
Gareth, BEng Marine Technology

Marine Engineering

Global Maritime Consultancy

Career path:
- Engineer for P&O cruises
- Private Yacht Engineer
- Engineer for other Marine companies

"I do Dynamic position Trials (testing) on private boats. I organise logistics, prepare for visits and do lots of traveling"

Do something you enjoy and find challenging
Biomedical Engineer

Roles:
- Combining medical knowledge with technical expertise
- Designing new artificial joints, investigating new materials to assist in the repair of the soft tissues reviewing effectiveness of rehabilitation treatment

Requirements:
- MEng degree from an accredited university
- Maths and at least one of Physics, Chemistry or Further Maths A level

Prospects:
- Exciting new projects
- In February Newcastle University was given £1.4m boost for their bionic limb project, producing a prosthetic hand that can sense pressure and temperature and send the information back to the brain
Games Developer

Roles:
- Produce games for PCs, games consoles, the internet and mobile phones
- There are many stages to producing a game including creating ideas and characters as well as programming and testing

Requirements:
- BSc Computer Science from an accredited university
- Also Maths or Physics
- No specific A levels required

Prospects:
- Growing field with increasing demand
- If you love games, work on what you love to do
Daniel, Computer Science

Games developer
Bede Gaming

First job - headhunted, lots of jobs in this sector

"My job involves programming, checking code, promotion, data management and passing knowledge around in the company"

Keep your options open, get experience, don't be afraid to try anything
Consumer Taste Tester

Roles:
- Test food products
- Help with ideas for new products, developing recipes and making sure that existing products stay ahead of the competition

Requirements:
- BSc Food and Human Nutrition from an accredited university
- Placement year opportunity with industry
- Biology and another science subject at A level

Prospects:
- Have the opportunity to work on different products at different companies
- Get paid to eat products you love

Wine Buyer
Sainsbury's

Education:
• Postgraduate degree - business management in agricultural and food industries

"My job involves sourcing South African and Italian wines, negotiating cost prices, setting retail prices, promotional strategy, traveling and tasting wine"

Try and get on a training scheme, look at jobs outside supermarkets to gain experience, need to be good with numbers
Where could STEM lead you?
Why Newcastle?

- Top 1% of world universities
- Member of the Russell Group
- UK top 20 for employability
- UK's happiest city
- 16th in the UK for research power
- 4th in UK for student quality of life
More information...

- www.thestudentroom.co.uk
- https://microsites.ncl.ac.uk/oncoursetoncl/
- www.ncl.ac.uk
- @StudentsNCL

- PARTNERS programme - reduced offer