COUNCIL OF HEALTHCARE SCIENCE IN HIGHER EDUCATION

Do you want to make a real impact on patients' lives? Have you considered a healthcare science degree?

Ryan Arnold and Antonia Olaofe
Completing final year of healthcare science course in blood sciences.

WHAT IS HEALTHCARE SCIENCE?

Healthcare science is about using science and technology to diagnose and treat patients. Eighty percent of all diagnosis and treatment decisions are dependent on the work of healthcare scientists. People working in healthcare science follow an exciting and rewarding career – they make a direct impact on improving the healthcare provided for millions of patients and help save lives across the UK!

Lisa Pullen (left)
Final year student in infection sciences.

Rachel McDonald (right)
Final year student in cellular sciences.

Healthcare scientists make an important contribution to the specific work of the NHS, and to healthcare provision more widely. Careers in healthcare science offer a variety of roles and responsibilities – in some you will have daily contact with patients, whereas in others you may be more laboratory based.

You might even be working in a biomedical engineering role, making sure that life-saving equipment is functioning safely, or in medical physics, where you would work to develop and apply physical techniques, such as ultrasound and radiation, to support patient diagnosis and treatment.

HEALTHCARE SCIENCE PROGRAMMES

Healthcare science degrees are delivered in partnership between universities and workplace providers. For most of the time, you will be studying theory and knowledge in a renowned University, often at the forefront of research in science and technology.

Over a third of the degree is spent undertaking education and training in the clinical workplace, where you will develop a range of practical competencies and professional skills that are vital for future employers.

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Graduates can follow a comprehensive careers pathway which provides opportunities for further progression through a number of routes. You could go on to study for a Masters award in science, build specialist knowledge and practice skills, or even progress to become a consultant level healthcare scientist, with clinical responsibilities for patient care and treatment that are similar to a doctor in your specialist area.

HOW DOES THE DEGREE WORK?

Healthcare science degrees can open the doors to many different areas of study and work – across the NHS and the private healthcare sector. They include learning how to interact with patients in a professional manner.

The degree is very hands-on and practice based, combining academic learning with training in the busy healthcare workplace. In year 2 or 3 you will focus on the area of healthcare science that you find most interesting, and you are likely to follow a future career in this specialism.

Entry requirements are typically two or three A-levels, including some science subjects. You will also need GCSE A*–C grade in mathematics and English. Applications to the degree programmes are made through UCAS.

Matt Rutter
Diagnosed with leukaemia at 15 and saved by a bone marrow transplant, Matt now studies clinical physiology. He is using his understanding of his condition to improve practice, recently presenting a research paper in Sweden.

See: Physiological science

IF YOU LIKE...

If you like all or a few of the following subjects, many of which you will have experience of through your lessons at school, you might want to explore the opportunities offered by a healthcare science degree.

Science – From biology to chemistry and physics – using rigorous science is essential to a degree in healthcare science. You will be directly transferring your enthusiasm for science to provide high quality care for patients.

Technology – Roles in healthcare science use the latest technology, from electronics to mechanics. You will use complex and state of the art clinical or laboratory equipment whilst both studying at university and learning current practice in the workplace.

Computer science – Healthcare science puts the computer and IT skills you have learned into a real-life context, especially if you choose to go into certain exciting areas such as health informatics.

Working with people – Roles in healthcare science work with patients, as well as medical officers and other healthcare professionals. Good communication skills are important in helping patients understand their treatments and feel reassured.

Teamwork – Teamwork is vital to bring together the skills of healthcare scientists and professionals providing patient care. If you enjoy working with others then you might like to consider a degree in healthcare science.

Why not follow a career in healthcare science!

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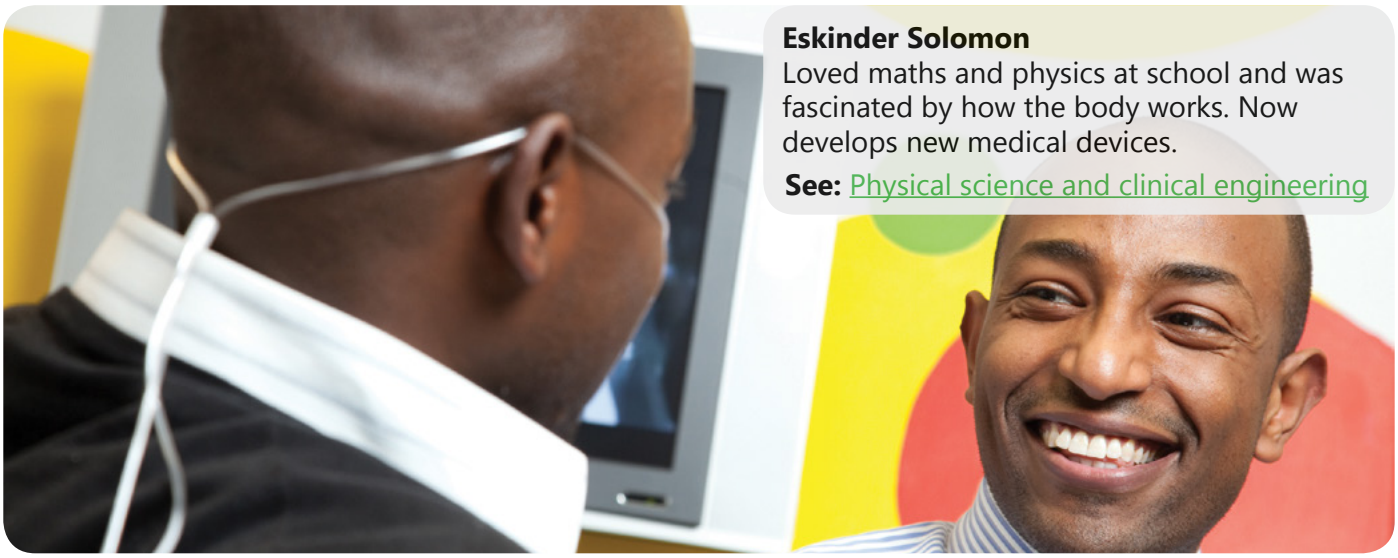

Eskinder Solomon
Loved maths and physics at school and was fascinated by how the body works. Now develops new medical devices.
See: Physical science and clinical engineering

CHOOSE FROM THE FOUR MAIN THEMES:

1 Life sciences – Focused on careers in hospital pathology laboratories as biomedical or clinical scientists, you will work as part of the multi-professional healthcare team, and will perform the scientific analysis and interpretation of patients' blood and tissue samples to identify disease processes. This allows clinical diagnosis to be made, and treatment to begin. Life sciences graduates will specialise in a particular diagnostic area, including blood, infection, cellular or genetics science. Alternatively they could follow careers in transplantation and blood transfusion, or even reproductive science.

2 Physiological science – working directly with patients in different healthcare settings, a variety of specialist techniques and equipment are used to assess the normal and abnormal functioning of the major organs of the body, and to monitor patients undergoing treatment where diseased conditions are identified. Physiological scientists focus on investigating particular systems, including the heart, lungs, eyes, hearing, the brain and nervous system, and even sleep patterns.

3 Physical science and clinical engineering – Supporting a range of diagnostic and therapeutic services. Medical physicists work in radiotherapy, radiation protection and imaging, while clinical engineers support medical equipment and provide technical services such as ensuring renal dialysis equipment operates safely, or designing artificial knee and hip joints. Clinical engineers could also provide assistive technology to meet the individual needs of a people with a disability.

4 Health informatics and genomics – Developing and improving the way that biological data is stored and analysed to support the delivery of patient care. Genomics is the study of human genes, and a great deal of data are being produced about the origins of inherited disease. Health informatics uses many areas of computer science and combines these skills with clinical knowledge to analyse these data in support of treatment and diagnosis. Careers in health informatics could also involve software design and development.

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STUDENT STORIES

Students

Deborah Day

"As this course includes placements in NHS laboratories, I feel that I will be well prepared for employment.

"It was important to me that the degree I studied was directed to a career. I think healthcare science is a great course and the fact that it incorporates placements gives me confidence that I'll find employment after I graduate."

Sarah Tattersall

"I was a bit nervous before going on my first placement but I had a really great time. Doing a placement alongside my studies helped me to make sense of what I have learned.

"Seeing patients on placement helped to remind me that there is a reason behind every test and that there is a patient at the centre of it all."

Graduates

Philippa D'Arcy-Grover

"I really enjoyed the healthcare science course... In particular, I really enjoyed my patient facing experiences in the third year.

"I work as an NHS Band 5 biomedical scientist and completing a degree in healthcare science meant I was able to apply for jobs in a higher pay band straight after graduation."

Andrea Geere

"The course opens up many other avenues due to the scientific knowledge, and technical and transferrable skills that are obtained during your studies.

"I currently work as a band 5 biomedical scientist in immunology. I began taking a real interest in immunology in my second year, so I was thrilled to have the opportunity to work in this field."

WHERE CAN I FIND OUT MORE?

For more information on healthcare science programmes and careers, try these links:

- Council of Healthcare Science in Higher Education
  www.councilofhealthcarescience.ac.uk
- NHS Careers
  www.nhscareers.nhs.uk/explore-by-career/healthcare-science
- Academy for Healthcare Science
  www.ahcs.ac.uk
- National School of Healthcare Science
  www.nshcs.org.uk
- Extraordinary You (great stories of real healthcare scientists)
  www.gov.uk/government/publications/extraordinary-you

"I would 100% recommend healthcare science to other students."
Healthcare science student (2013)