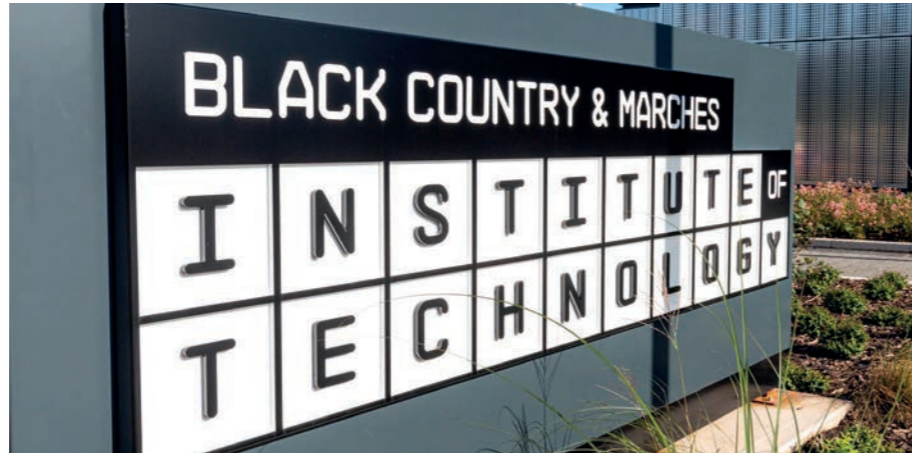
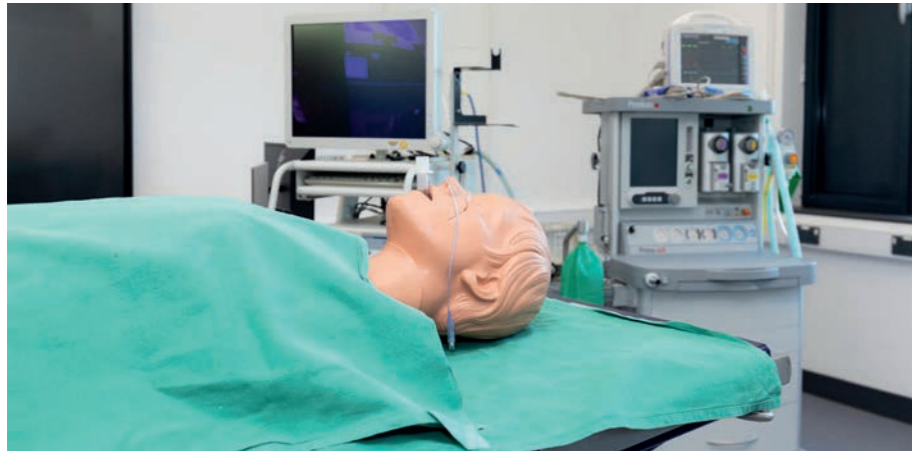


BLACK COUNTRY & MARCHES  
I N S T I T U T E O F  
T E C H N O L O G Y

# Healthcare & Medical Engineering: Short Courses and Apprenticeships





For more information or to discuss any of the courses available please contact Rob Smith, Employer Engagement Manger email: [rob.smith@dudleycol.ac.uk](mailto:rob.smith@dudleycol.ac.uk) call: 01384 363011

# Level 2 Healthcare Science

## Course overview:

The Healthcare Science Assistant (HCSA) support workforce contributes to safe patient care across all care pathways from conception to end of life in job roles within hospitals, general practice and other settings in the healthcare sector and across all areas of healthcare science. HCSAs perform a range of low risk, routine technical and scientific procedures usually within one broad area of HCS, following specific protocols and in accordance with health, safety, governance, and ethical requirements. HCSAs work using standard operating procedures, initially under direct supervision but increasingly with experience, under indirect supervision.

All HCSAs work effectively within a multi-professional team (MPT) within the limits of their competence but must seek help and support whenever this is required.

HCSAs must be aware of the requirements of Good Scientific Practice (GSP), which articulates the standards for the HCS profession and upon which this apprenticeship standard is based. Using these professional standards, the HCSA must adhere to employers' policies and protocols to ensure safe and consistent practice within the working environments of HCS.

## Professional Recognition:

On completion of the HCSA Apprenticeship individuals will be eligible to apply to join the Academy for HCS (AHCS) accredited register

## What you need to know:

- This programme runs for 12 months with an additional up to 12 weeks for End Point Assessment
- This programme is delivered via virtual delivery on MS Teams one session per month
- Your workplace assessor will contact you every 6 weeks and you will have work placed observations throughout the duration of your apprenticeship
- Your assessor will arrange a date for practical, face to face delivery at the Black Country and Marches Institute of Technology, West Midlands
- The AHCS will require the Level 2 Diploma in Healthcare Science as an underpinning qualification for the HCSA apprenticeship
- In order to proceed to EPA gateway you will be required to complete Level 1 Functional Skills and sit the Level 2 exam
- You must be working in a role in a relevant setting with scope, opportunity and support to meet the requirements of the Apprenticeship Standard.

**Programme structure** - On this Apprenticeship standard you can choose to follow one of two pathways depending on your role and the needs of your employer.

**Clinical Engineering** - Healthcare science staff in this field design equipment for monitoring, diagnosis, treatment, rehabilitation, or research. They may design laser equipment, electronic aids for patients with disabilities, custom design, and manufacture of aids such as wheelchairs or speech synthesisers and investigate the mechanics of the body.

**Decontamination Science** - Staff working in decontamination science are responsible for ensuring that reusable medical devices, such as endoscopes and other surgical devices eg instruments and equipment are cleaned, sterilized and repackaged to high standards, ready for reusing in operating theatres and other areas of health care.

## Course Content:

Across all of our Medical Engineering Apprenticeships, you will have the opportunity to select from a range of optional units and courses similar to those listed below. These will be selected and coordinated during your apprenticeship programme, to enable you specialise and enhance your skills according to your personal and organisational requirements.

Example of Optional Units available to Undertake:

- Bio-Medical Equipment Electrical Safety
- Cardiovascular Equipment
- Physiological Monitoring and Infusion Equipment
- Medical Therapeutic Equipment
- Operating Theatre and Surgical Equipment
- Benchtop Sterilisers (Type N) – Maintenance and Testing
- Combined Anaesthetic and Ventilation Equipment
- Medical Imaging Equipment
- Dental Equipment
- Electro-Mechanical Assistive Equipment
- Trolleys, Beds and Operating Tables.



Delivered by Dudley College of Technology at the Black Country and Marches Institute of Technology in collaboration with Avensys medical.



# Level 3

## Healthcare Engineering Specialist Technician

### Course overview:

They work in sites where healthcare engineering takes place. This includes hospitals, dental hospitals and practices, clinics, prisons, ambulance trusts, care centres, health centres, hospices, GP practices, and mental health hospitals and secure units.

They work for NHS trusts, private healthcare providers, healthcare medical devices suppliers, healthcare estates suppliers and owners, or PFI (Private Finance Initiative) contractors.

Healthcare medical devices technicians work on medical devices. Healthcare estates technician work on plant, building services and systems. Most technicians work across a wide range of healthcare devices or healthcare estates.

They work in clinical settings and often have contact with patients. They may complete work where patients are present or where the medical device is connected to the patient. They witness patients in various stages of their illness or recovery.

They are responsible for completing their duties in line with company procedures and priorities. They must ensure a safe and secure environment for patients, staff, and visitors. And ensure patient dignity, respect and Caldicott principles (patient confidentiality) are met. They must comply with health and safety, environmental, sustainability, and engineering regulations and standards including specific healthcare requirements. They must comply with medical protocols for infection prevention and

biohazard control. This may include wearing specialist healthcare Personal Protective Equipment (PPE). They work under limited direct supervision, ensuring the quality and accuracy of their own work and sometimes the work of others.

### What you need to know:

- This programme runs for 36 months with an additional up to 14 weeks for End Point Assessment
- This programme is delivered via virtual delivery on MS Teams two sessions per month
- Your workplace assessor will contact you every 6 weeks and you will have work placed observations throughout the duration of your apprenticeship
- Your assessor will arrange a date for practical, face to face delivery at the Black Country and Marches Institute of Technology, West Midlands
- In order to enrol on this standard you are to have GCSE Grade C/4 or above in English and Mathematics. Initial Assessments will be carried out prior to enrolment
- Students on this standard should hold a relevant Level 2 qualification. Learners will be assessed on an individual basis as workplace experience is considered
- You must be working in a role in a relevant setting with scope, opportunity and support to meet the requirements of the Apprenticeship Standard.

### Course Content:

Across all of our Medical Engineering Apprenticeships, you will have the opportunity to select from a range of optional units and courses similar to those listed below. These will be selected and coordinated during your apprenticeship programme, to enable you specialise and enhance your skills according to your personal and organisational requirements.

Example of Optional Units available to Undertake:

- Bio-Medical Equipment Electrical Safety
- Cardiovascular Equipment
- Physiological Monitoring and Infusion Equipment
- Medical Therapeutic Equipment
- Operating Theatre and Surgical Equipment
- Benchtop Sterilisers (Type N) – Maintenance and Testing
- Combined Anaesthetic and Ventilation Equipment
- Medical Imaging Equipment
- Dental Equipment
- Electro-Mechanical Assistive Equipment
- Trolleys, Beds and Operating Tables.



# Level 4 Healthcare Science Associate

## Course overview:

The Healthcare Science (HCS) Associate workforce supports the work of HCS Practitioners and Clinical Scientists in performing high quality, safe diagnostic, therapeutic and monitoring technical and scientific procedures from conception to end of life in job roles within hospitals, general practice, and other settings in the healthcare sector and across all areas of HCS. They perform a wide range of routine technical and scientific procedures, with minimal supervision, within one of the Divisions in HCS, following specific protocols and in accordance with health, safety, governance, and ethical requirements. The clinical scientific environment determines the context of the HCS Associate work/role.

Associates work within a multi-disciplinary team (MDT) within the limits of their competence and must seek help and support whenever this is required. They must be aware of the requirements of Good Scientific Practice (GSP), which articulates the standards for the HCS profession and upon which this apprenticeship standard is based.

Using these professional standards, the HCS Associate must adhere to employers' policies/protocols to ensure safe, person-centred/consistent practice in HCS working environments, including paying close attention to detail, working effectively within a team, and acting as a role model for more junior members of staff.

## What you need to know:

- This programme runs for 24 months with an additional up to 36 weeks for End Point Assessment
  - This programme is delivered via virtual delivery on MS Teams two sessions a month
  - Your workplace assessor will contact you every 6-8 weeks and you will have work placed observations throughout the duration of your apprenticeship
  - Your assessor will arrange a date for practical, face to face delivery at the Black Country and Marches Institute of Technology, West Midlands
  - The AHCS will require the Level 4 Diploma in Healthcare Science as an underpinning qualification for the HCSA apprenticeship
  - Apprentices must achieve Level 2 English and Mathematics prior to End Point Assessment. In order to proceed to EPA gateway, you will be required to complete Level 1 Functional Skills and sit the Level 2 exam
  - You are to have GCSE Grade C/4 or above in English and Mathematics. Initial Assessments will be carried out prior to enrolment, where you are to achieve a minimum of Level 1.8
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- Students on this standard should hold a relevant Level 2/3 qualification. Learners will be assessed on an individual basis as workplace experience is considered
  - You must be working in a role in a relevant setting with scope, opportunity and support to meet the requirements of the Apprenticeship Standard.

## Programme structure:

On this Apprenticeship standard you can choose to follow one of two pathways depending on your role and the needs of your employer.

Clinical Engineering - Healthcare science staff in this field design equipment for monitoring, diagnosis, treatment, rehabilitation, or research. They may design laser equipment, electronic aids for patients with disabilities, custom design, and manufacture of aids such as wheelchairs or speech synthesisers and investigate the mechanics of the body.

Decontamination Science - Staff working in decontamination science are responsible for ensuring that reusable medical devices, such as endoscopes and other surgical devices eg instruments and equipment are cleaned, sterilized and repackaged to high standards, ready for reusing in operating theatres and other areas of health care.

## Course Content:

Across all of our Medical Engineering Apprenticeships, you will have the opportunity to select from a range of optional units and courses similar to those listed below. These will be selected and coordinated during your apprenticeship programme, to enable you specialise and enhance your skills according to your personal and organisational requirements.

Example of Optional Units available to Undertake:

- Bio-Medical Equipment Electrical Safety
- Cardiovascular Equipment
- Physiological Monitoring and Infusion Equipment
- Medical Therapeutic Equipment
- Operating Theatre and Surgical Equipment
- Benchtop Sterilisers (Type N) – Maintenance and Testing
- Combined Anaesthetic and Ventilation Equipment
- Medical Imaging Equipment
- Dental Equipment
- Electro-Mechanical Assistive Equipment
- Trolleys, Beds and Operating Tables.

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# Level 5 Operations or Departmental Manager - NHS and Clinical Settings

## Course overview:

An operations or departmental manager is someone who manages teams and/or projects, and achieving operational or departmental goals and objectives, as part of the delivery of the organisation's strategy. They are accountable to a more senior manager or business owner. Working in the private, public or third sector and in all sizes of organisation, specific responsibilities and job titles will vary, but the knowledge, skills and behaviours needed will be the same. Key responsibilities may include creating and delivering operational plans, managing projects, leading, and managing teams, managing change, financial and resource management, talent management, coaching and mentoring. Roles may include Operations manager, Regional manager, Divisional manager, Department manager and Specialist managers. Within the NHS effective leadership is crucial as this

can directly influence the quality of care and performance for departments and hospitals. How staff are treated can impact performance, this programme aims to give leaders an understanding of how to make sure key workers feel valued, supported and respected which in turns improves the standards and quality of care within the trust.

On completion, apprentices can register as full members with the Chartered management institute and/or the Institute of leadership and management, and those with 3 years' of management experience can apply for Chartered manager status through the CMI.

## What you need to know:

- This programme runs for 30 months with an additional up to 36 weeks for End Point Assessment.
- This programme is delivered via day release to the Black Country and Marches Institute of Technology one day per month
- Your workplace assessor will contact you every 6-8 weeks and you will have work placed observations throughout the duration of your apprenticeship
- You are to have GCSE Grade C/4 or above in English and Mathematics. Initial Assessments will be carried out prior to enrolment
- Students on this standard should have completed a relevant Team Leading qualification or Clinical qualification such as Registered Nurse, Midwife or Allied Health Professional. A relevant Level 3 qualification will be considered. Learners will be assessed on an individual basis as workplace experience is considered
- You must be working in a role in a relevant setting with scope, opportunity and support to meet the requirements of the Apprenticeship Standard.



# Level 4 Data Analyst - NHS and Clinical Settings

## Course overview:

The broad purpose of the occupation is to ascertain how data can be used to answer questions and solve problems. Data analysis is a process of requirement-gathering, inspecting, cleansing, transforming, and modelling data with the goal of discovering useful information, informing conclusions, and supporting decision-making. Data analysis has multiple facets and approaches, encompassing diverse techniques under a variety of names. In today's world, data analysis plays a crucial role in making decisions more evidence-based and helping organisations operate more effectively.

Within the NHS Data Analysts will research facts and figures to check national healthcare standards are being met. These skills can be used to research patient waiting times, gather facts and statistics from staff reports and computer records to monitor patterns and trends, where targeted implementation of new strategies can be implemented.

## What you need to know:

- This programme runs for 24 months with an additional up to 16 weeks for End Point Assessment
- This programme is delivered via day release to the Black Country and Marches Institute of Technology one day per week
- Your workplace assessor will contact you every 6-8 weeks and you will have work placed observations throughout the duration of your apprenticeship
- You are to have GCSE Grade C/4 or above in English and Mathematics. Initial Assessments will be carried out prior to enrolment
- A relevant Level 3 qualification will be considered. Learners will be assessed on an individual basis as workplace experience is considered
- You must be working in a role in a relevant setting with scope, opportunity and support to meet the requirements of the Apprenticeship Standard.

## Core modules:

- Data Sources
- Standardisation
- Deploying Compiled Data
- Presenting the data
- Data Analysis as decision support.



## CPD and Short courses

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### We are also offering a range of CPD including:

- Clinical Coding
- Advanced Life Support
- Audit, Research, Development, and Innovation
- Infection Control including principles of Decontamination Science.
- In development:
  - Cardiac physiology
  - Critical care science
  - Respiratory physiology

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### We also offer fully funded (subject to eligibility) places on the following Level 5 short programmes.

- Medical Imaging Equipment (Level 5)
- Patient Monitoring and Infusion Equipment (Level 5)
- Anaesthetic and Theatre Equipment (Level 5)
- Management of Medical Equipment (Level 5).





# Get in touch

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For more information or to discuss any of the courses available please contact Rob Smith, Employer Engagement Manger

**email: [rob.smith@dudleycol.ac.uk](mailto:rob.smith@dudleycol.ac.uk) or call: 01384 363011**

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