Queen Mary
University of London

NHS
Barts Health
NHS Trust

BARTS LIFE SCIENCES
DISCOVERY / DIVERSITY / DELIVERY

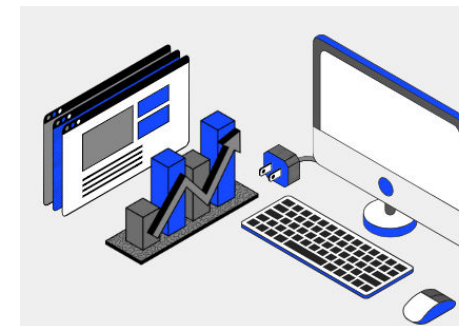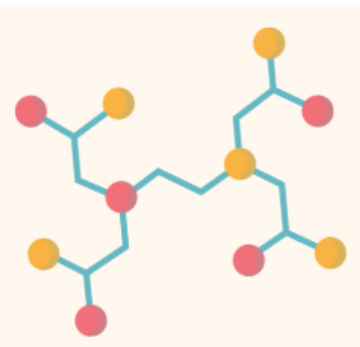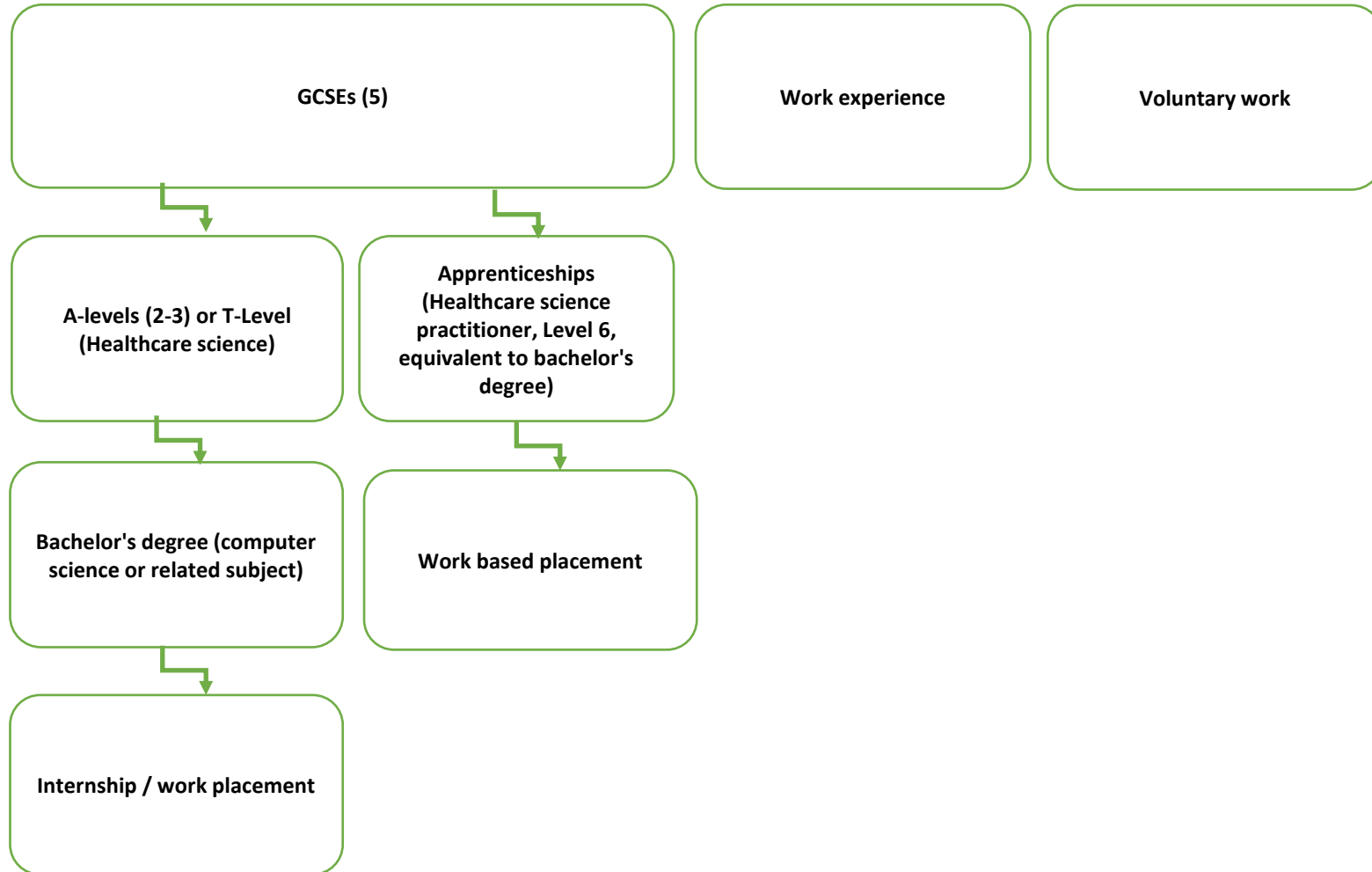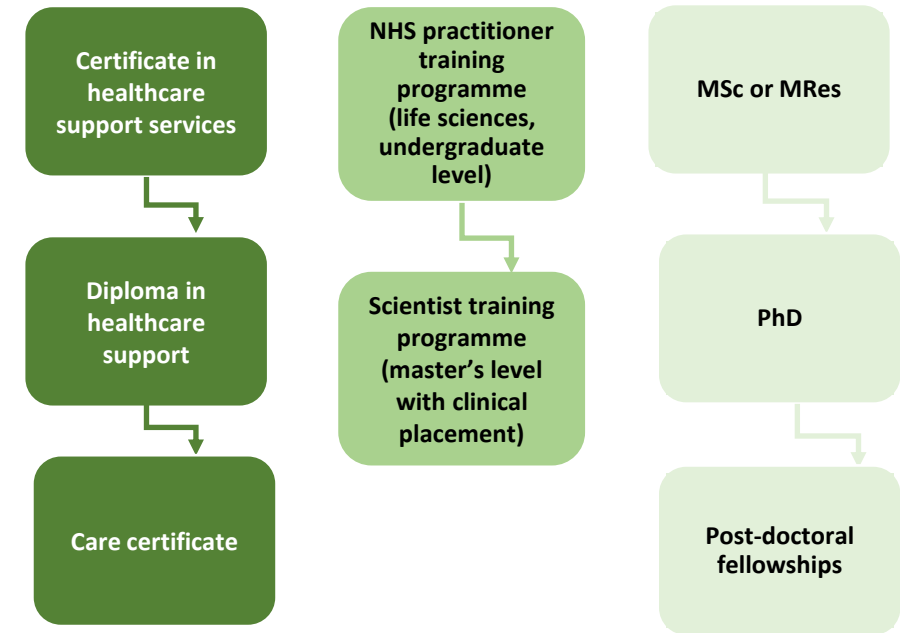# Career pathways in life sciences

Lab

Healthcare Scientist (no set entry requirements)

GCSEs (5)

Work experience

Voluntary work

Advanced Qualifications

A-levels (2-3) or T-Level (Healthcare science)

Apprenticeships (Healthcare science practitioner, Level 6, equivalent to bachelor's degree)

Bachelor's degree (computer science or related subject)

Work based placement

Internship / work placement

Certificate in healthcare support services

NHS practitioner training programme (life sciences, undergraduate level)

MSc or MRes

Diploma in healthcare support

Scientist training programme (master's level with clinical placement)
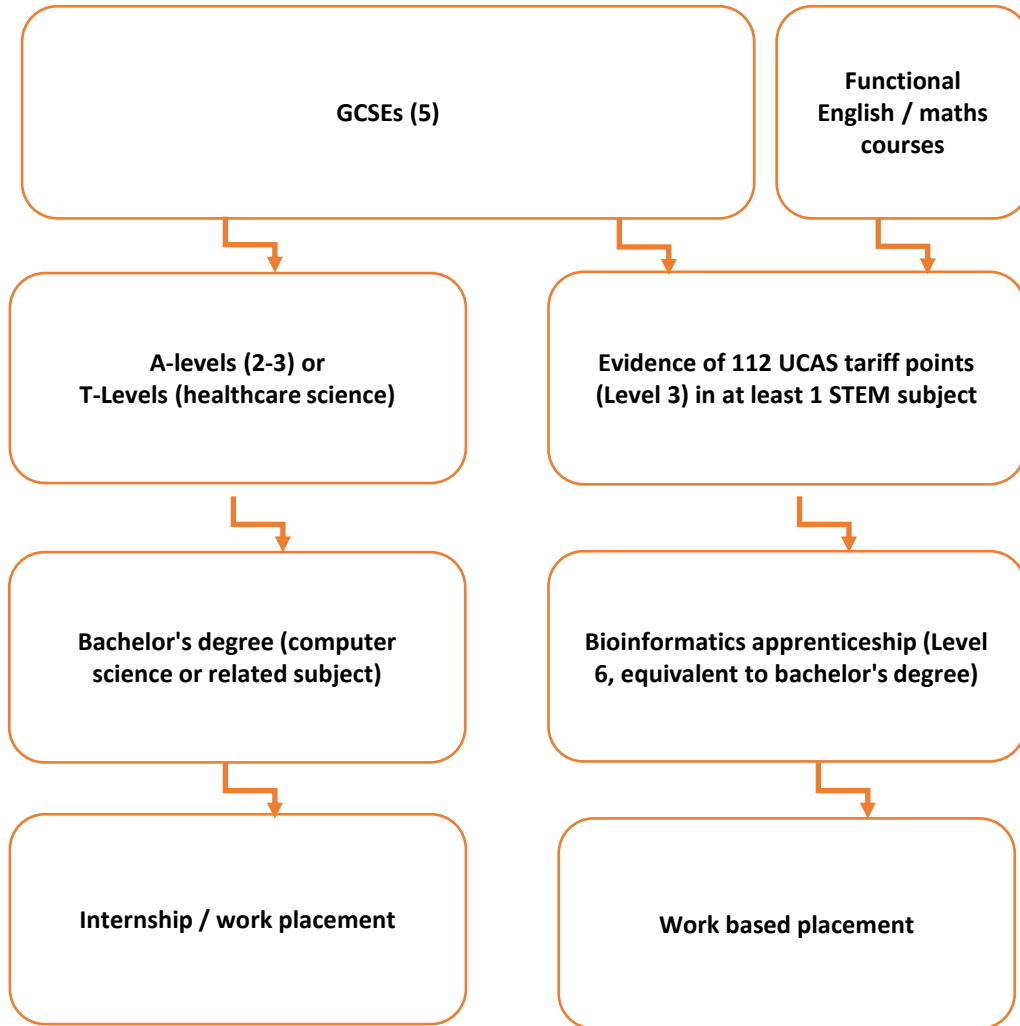
PhD

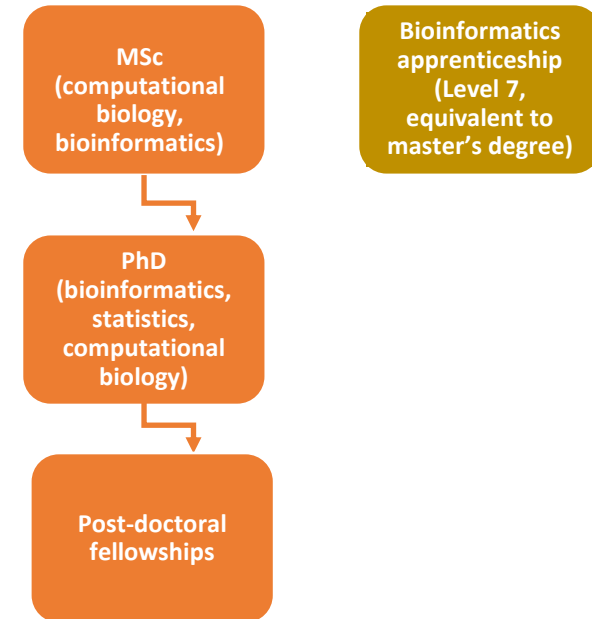Care certificate

Post-doctoral fellowships

Prospective careers

- Healthcare Science Assistant
- Healthcare Science Associate
- Healthcare Science Practitioner
- Clinical Scientist
- Consultant Clinical Scientist

Computational Biologist

GCSEs (5)

Functional English / maths courses

A-levels (2-3) or T-Levels (healthcare science)

Evidence of 112 UCAS tariff points (Level 3) in at least 1 STEM subject

Bachelor's degree (computer science or related subject)

Bioinformatics apprenticeship (Level 6, equivalent to bachelor's degree)

Internship / work placement

Work based placement

Advanced Qualifications

MSc (computational biology, bioinformatics)

Bioinformatics apprenticeship (Level 7, equivalent to master's degree)

PhD (bioinformatics, statistics, computational biology)

Post-doctoral fellowships
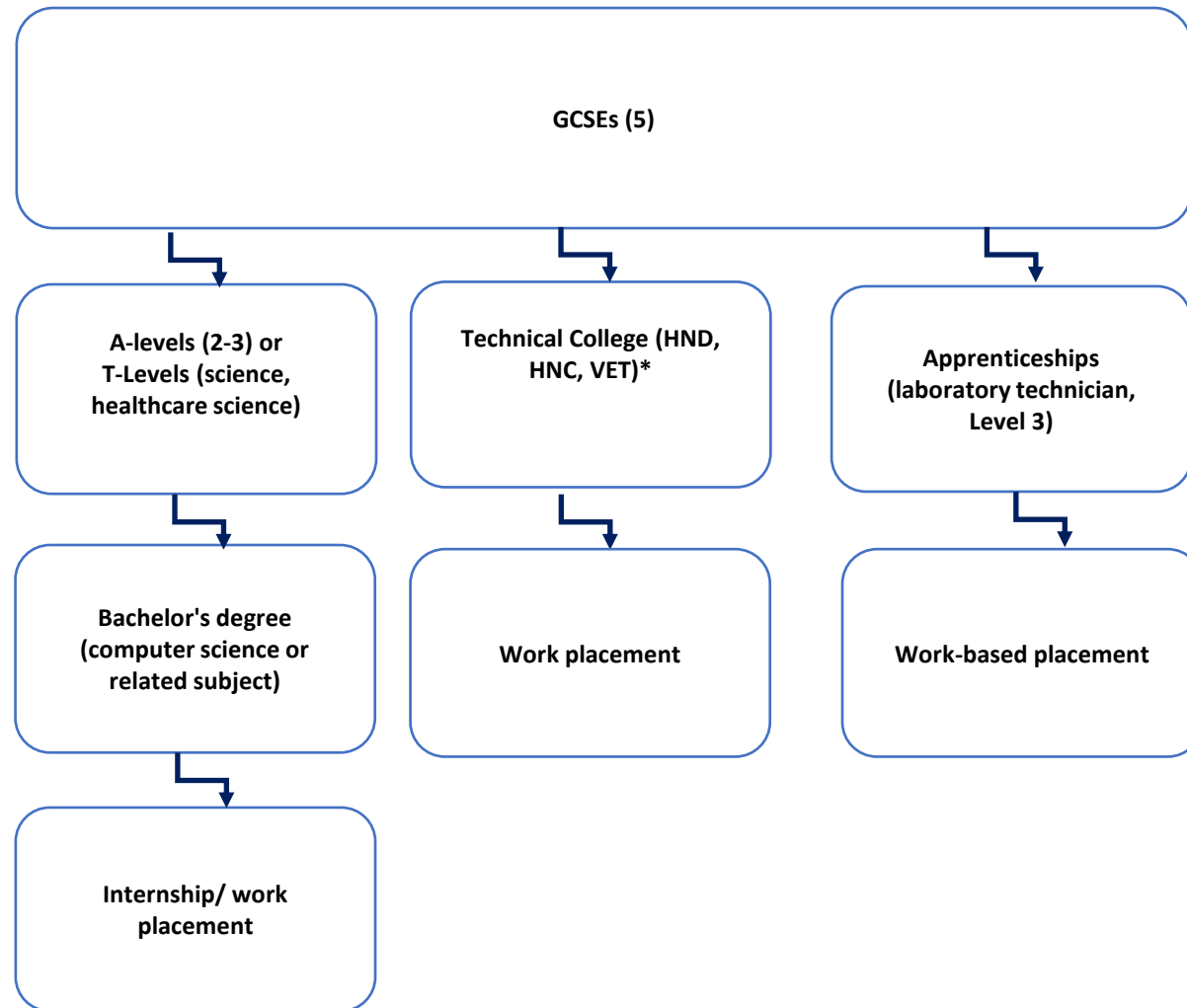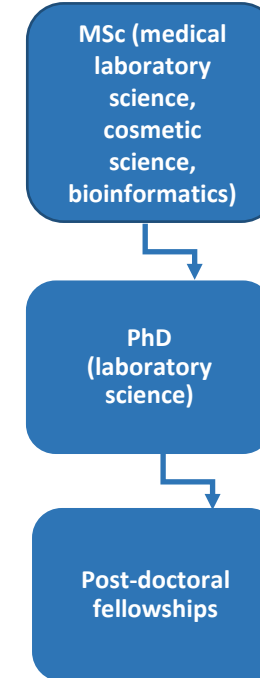
Prospective careers

- Bioinformatics Researcher
- Drug Development
- Genetics
- Biotech & pharmaceutical industries
- Lecturer / Senior Lecturer

Lab Technician

GCSEs (5)

A-levels (2-3) or T-Levels (science, healthcare science)

Technical College (HND, HNC, VET)*

Apprenticeships (laboratory technician, Level 3)

Bachelor's degree (computer science or related subject)

Work placement

Work-based placement

Internship/ work placement

*Higher diploma, higher certificate of education, vocational education and training qualification

Advanced Qualifications

MSc (medical laboratory science, cosmetic science, bioinformatics)

PhD (laboratory science)
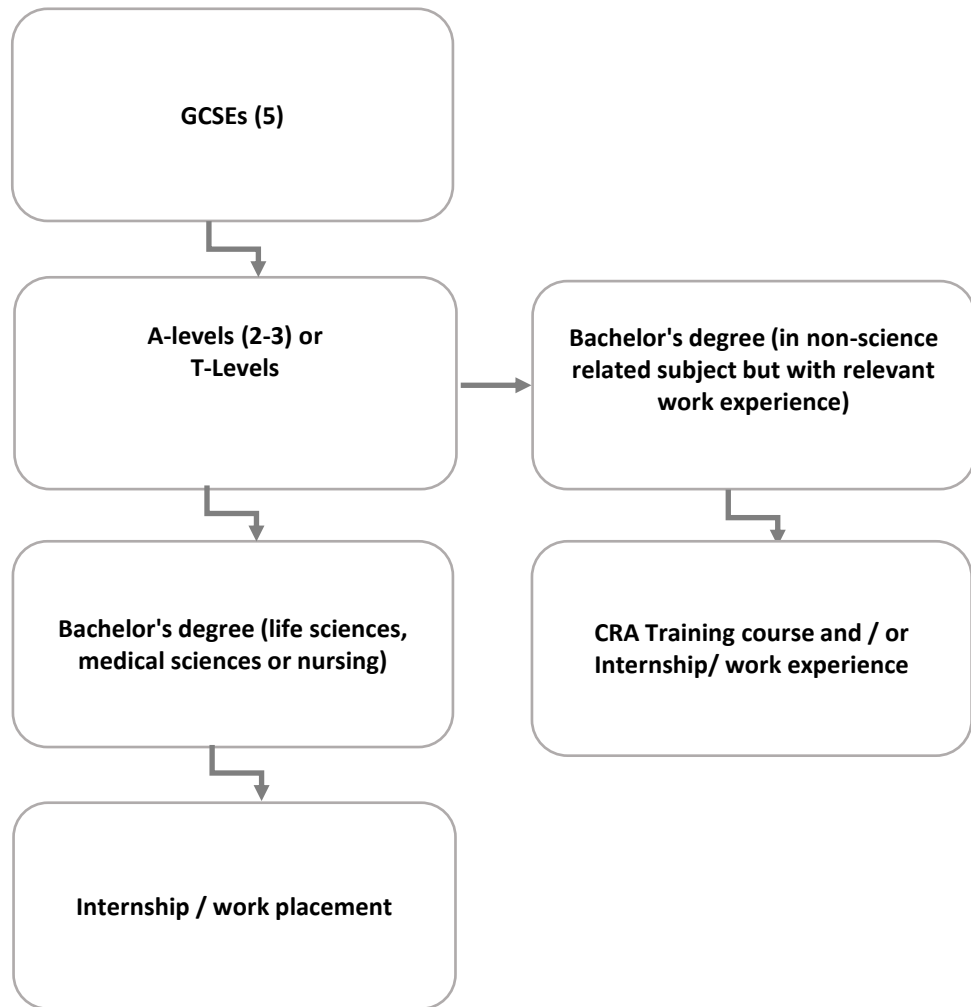
Post-doctoral fellowships

Prospective careers

- Junior Laboratory Technician
- Laboratory Support Technician
- Research and Development Laboratory Technician
- Quality Control Laboratory Technician
- Laboratory Manager
- Medical Laboratory Scientist

Fields:
- Medical
- Research
- Industrial

Clinical Research Associate

Advanced Qualifications

GCSEs (5)

A-levels (2-3) or
T-Levels

Bachelor's degree (in non-science related subject but with relevant work experience)

Bachelor's degree (life sciences, medical sciences or nursing)

CRA Training course and / or Internship/ work experience

Internship / work placement

MSc (clinical trials / clinical research

PhD clinical trials and methodology / clinical research

Association of Clinical Research Professionals certified CRA exam

Project and programme management qualifications, i.e. Prince 2

Prospective Careers

- Clinical Research Coordinator
- Clinical Trials Administrator
- Clinical Trials Management
- Clinical Data Management

- Clinical Project Management
- Clinical Team Management
- Clinical Operations Management

*Higher diploma, higher certificate of education, vocational education and training qualification

Health
(hospital)

Healthcare Assistant (no set entry requirements)

GCSEs (not always required)	Work experience	Voluntary work

BTEC (Health & Social Care) or
NVQ (Health & Social Care)
T Levels (Health)
Apprenticeships (Healthcare support, level 2)

Advanced Qualifications

Care certificate

NCFE CACHE Certificate in Healthcare Support Services

NCFE CACHE level 3 Diploma in Healthcare Support

Professional training (CPD) → **Assistant practitioner in chiropody or podiatry, occupational therapy, radiography / physiotherapy**

University degree (i.e. nursing, radiography dietetics, midwifery, social work

Prospective careers

- Community Healthcare Assistant
- Hospital Healthcare Assistant
- Primary Care Healthcare Assistant

Pharmacist

GCSEs (5)

GCSEs (not always required)

A-levels (3, chemistry, another science & maths)

A levels or T levels (health & science, not always required)

National Extended Diploma in Applied Sciences/ Access to HE Diploma

MPharm (4 year degree)

Foundation degree (2 years)

Foundation degree and/ or MPharm

Foundation training year (paid work placement)

MPharm and Foundation training year

Advanced Qualifications

MSc (advanced pharmacy practice)

Advanced Pharmacist Development Programme (APDP)

MSc (pharmaceutical science / analysis)

PhD

Post-doc

Prospective careers

- Pharmacy Assistant
- Pharmacy Technician
- Hospital Pharmacist
- Pharmacy manager
- Community Pharmacist
- Pharmacy Consultant
- Project Management
- Pharmacy Technician
- Pharmacy Manager
- Pharmacy Consultant

Healthcare Support Worker (no set entry requirements)

GCSEs
(English & maths), not always required

Work experience/ voluntary work

NVQ (Healthcare support Level 3)
T Levels (Health)

Work experience

Advanced Qualifications

Healthcare Support Worker Development Programme

Care certificate

University degree (i.e. health & social care, public health, nursing

MSc (health & social care)

MBA (health)

Prospective careers

- Mental health
- Children's services
- Community
- Learning disabilities
- Primary care
- Acute
- Midwifery

Allied Health Professional

```
┌─────────────────────────────────────┐
│                                     │
│            GCSEs (5)                │
│                                     │
└─────────────────────────────────────┘
                   │
                   ▼
┌─────────────────────────────────────┐
│       A Levels (at least 2)         │
│  T Levels (health, healthcare       │
│           science)                  │
└─────────────────────────────────────┘
        │                     │
        ▼                     ▼
```

Bachelor's degree (approved by the Health and Care Professions Council) or Degree level apprenticeship (AHP career progression)

Foundation programme - health professions

Registration with The Health and Care Professions Council or General Osteopathic Council

Bachelor's degree (approved by the Health and Care Professions Council)

Registration with The Health and Care Professions Council or General Osteopathic Council

Advanced Qualifications

MSc (advanced clinical practice, clinical exercise physiology
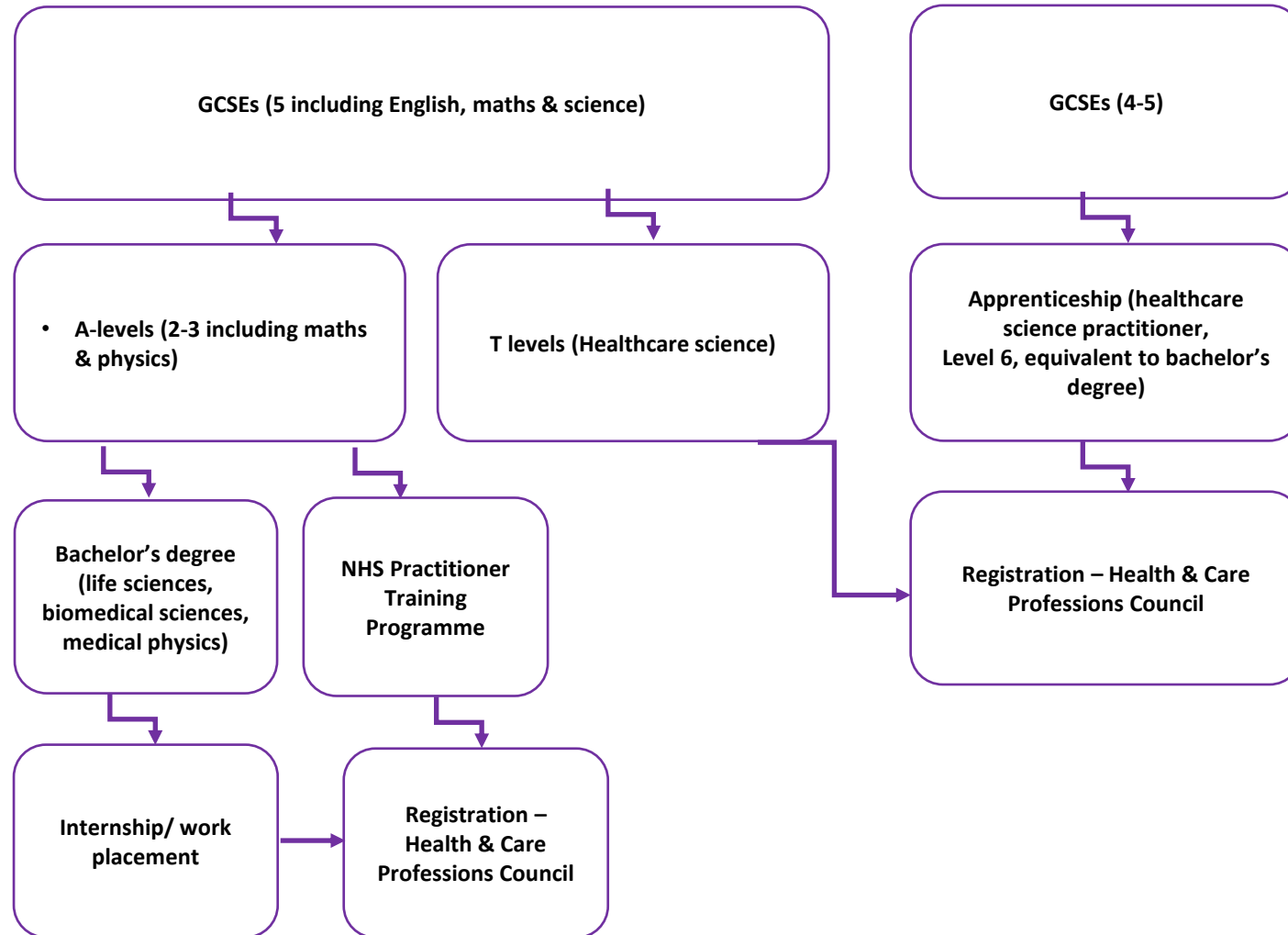
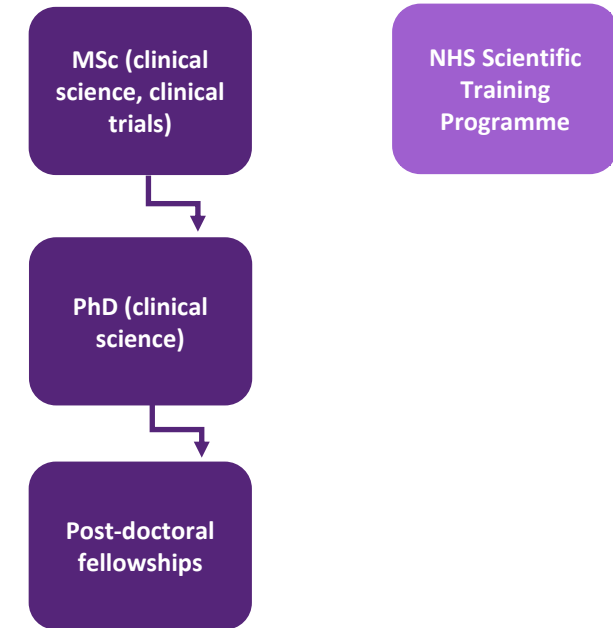**PhD (allied health professions)**

Post-doctoral fellowships

Prospective careers

- Diagnostic Radiographer
- Paramedic
- Podiatrist
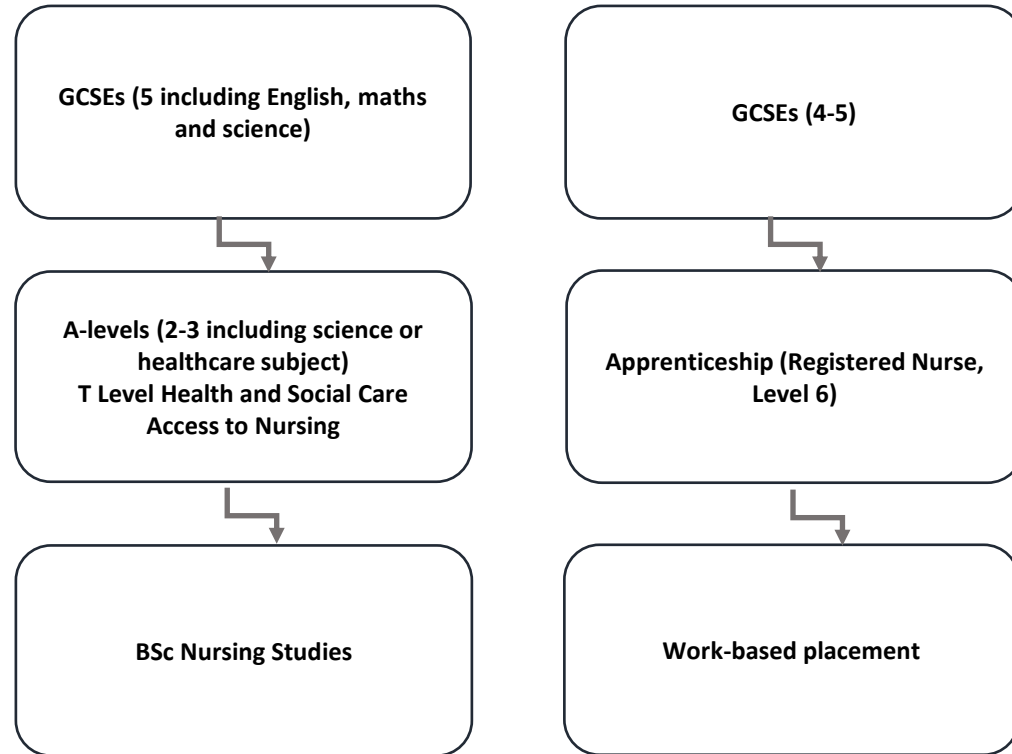- Physiotherapist
- Orthoptist
- Prosthetist

Clinical Scientist

GCSEs (5 including English, maths & science)

GCSEs (4-5)

• A-levels (2-3 including maths & physics)

T levels (Healthcare science)

Apprenticeship (healthcare science practitioner, Level 6, equivalent to bachelor's degree)

Bachelor's degree (life sciences, biomedical sciences, medical physics)

NHS Practitioner Training Programme

Registration – Health & Care Professions Council

Internship/ work placement

Registration – Health & Care Professions Council

Advanced Qualifications

MSc (clinical science, clinical trials)

NHS Scientific Training Programme

PhD (clinical science)

Post-doctoral fellowships

Prospective careers:

• Laboratory (pathology) sciences
• Physiological sciences
• Medical physics
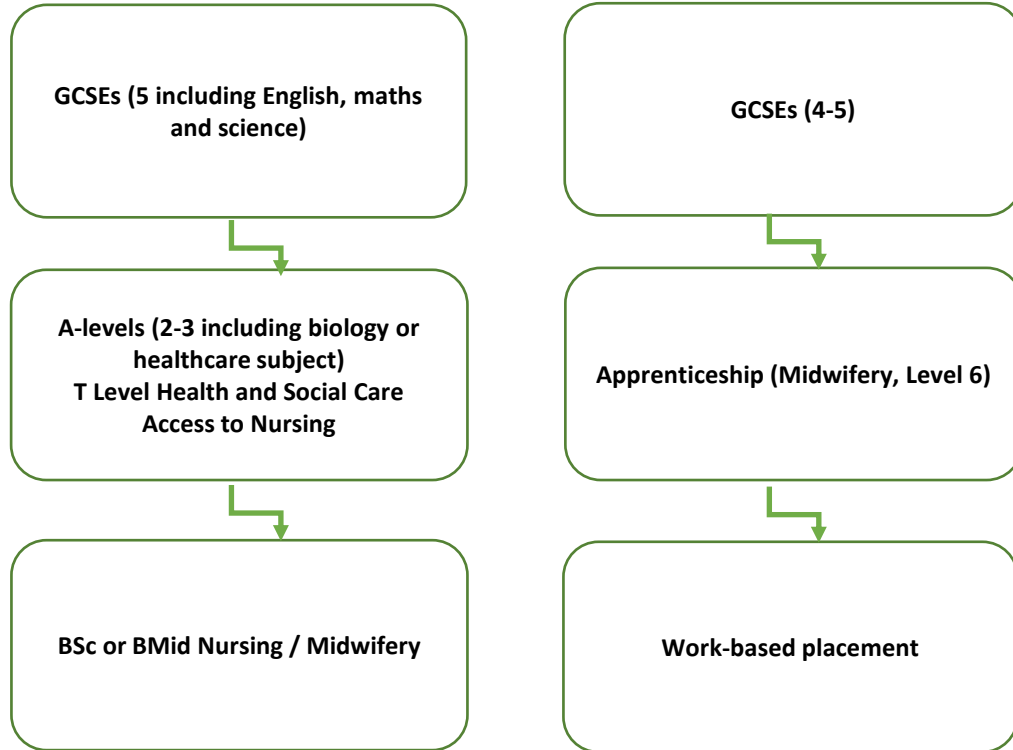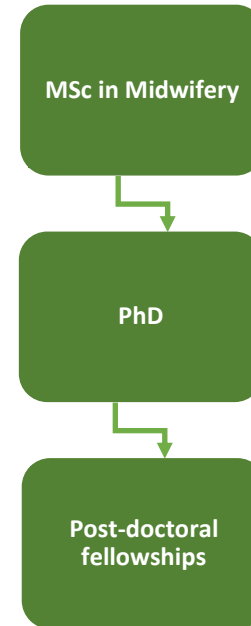• Clinical engineering
• Bioinformatics

Nursing

GCSEs (5 including English, maths and science)

↓

A-levels (2-3 including science or healthcare subject) T Level Health and Social Care Access to Nursing

↓

BSc Nursing Studies

GCSEs (4-5)

↓

Apprenticeship (Registered Nurse, Level 6)

↓

Work-based placement

Advanced Qualifications

MSc Nursing

↓

PhD

↓

Post-doctoral fellowships

Prospective careers:

- **Registered Nurse**
- **Clinical Nurse Specialist**
- **Nurse Educator**
- **Research Nurse**
- **Nurse Manager**
- **Nurse Consultant**
- **Director of Nursing**

Midwifery

GCSEs (5 including English, maths and science)

↓

A-levels (2-3 including biology or healthcare subject)
T Level Health and Social Care
Access to Nursing

↓

BSc or BMid Nursing / Midwifery

GCSEs (4-5)

↓

Apprenticeship (Midwifery, Level 6)

↓

Work-based placement

Advanced Qualifications

MSc in Midwifery

↓

PhD

↓

Post-doctoral fellowships

Prospective careers:

- Certified Nurse-Midwife
- Certified Midwife
- Direct Entry Midwife (apprenticeships)
- Midwife Educator
- Research Midwife
- Public Health Midwife
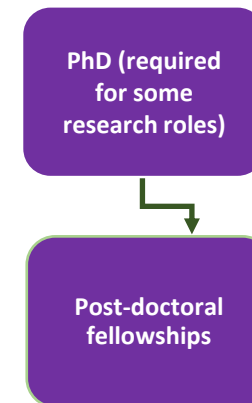- Midwifery Policy Maker

Health Tech

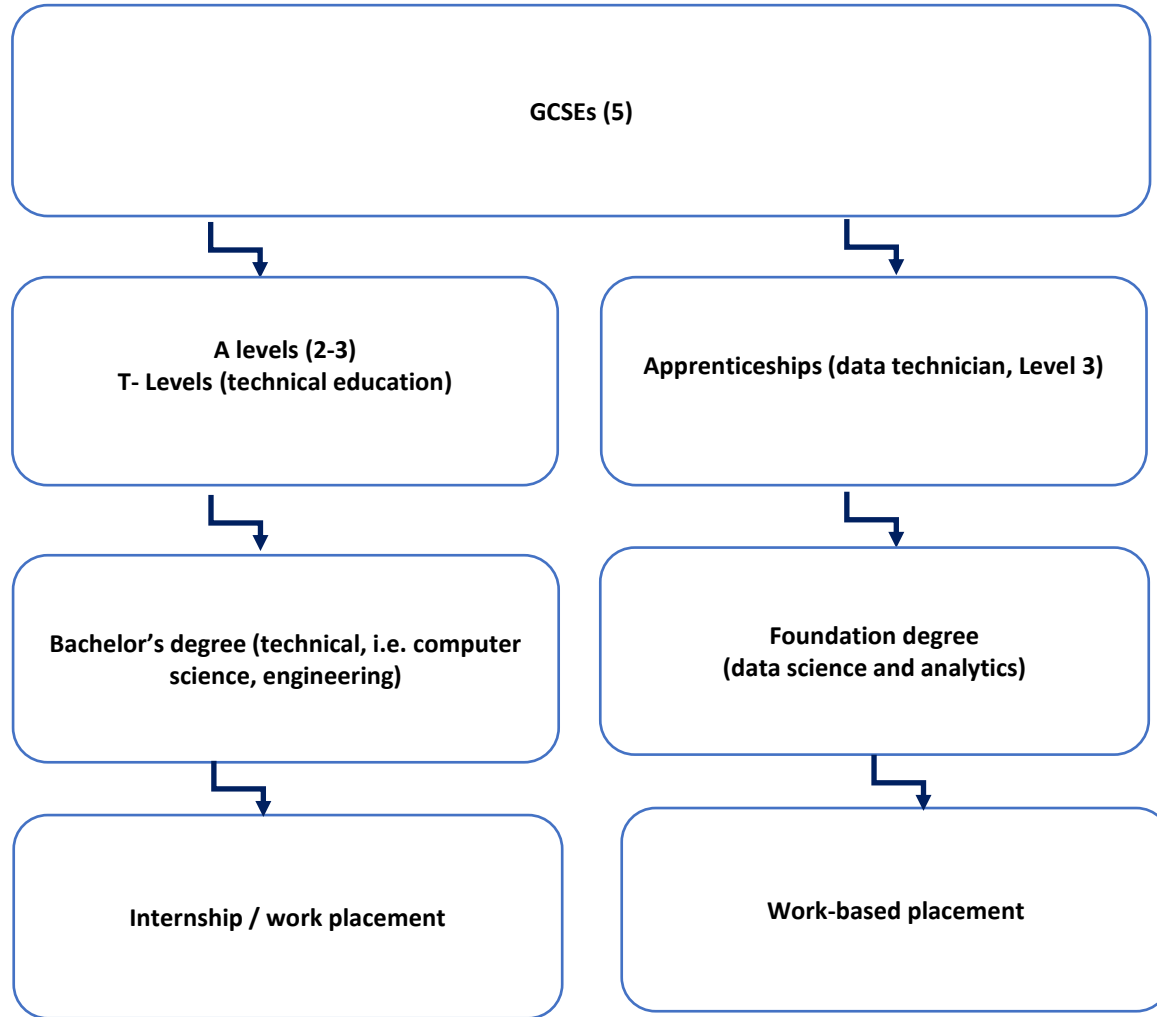# Healthcare Data Scientist (formal qualifications not required but recommended)

GCSEs (5 including English, maths & science)

↓

A-levels (2-3 including maths)
T levels (Healthcare science)

↓

Bachelor's Degree (STEM)

↓

MSc (Recommended)

Internship / work placement

↓

Internship / work placement

NHS Graduate Digital, Data and Technology Scheme

GCSEs (5 including English and maths)

↓

A or T levels (not always required)

↓

Apprenticeship (data science, Level 6)

Career accelerator courses (e.g., data analytics, coding

Advanced Qualifications

PhD (required for some research roles)

↓

Post-doctoral fellowships

Prospective careers:

- Data Scientist
- Research Data Scientist
- Senior Data Scientist
- Digital Fellow
- Data Analyst
- Head of Data Science
- Director of Data Science

Data Centre Technician

GCSEs (5)

A levels (2-3)
T- Levels (technical education)

Apprenticeships (data technician, Level 3)

Bachelor's degree (technical, i.e. computer science, engineering)

Foundation degree
(data science and analytics)

Internship / work placement

Work-based placement

*Certified Data Centre Technician Professional

Advanced Qualifications

MSc
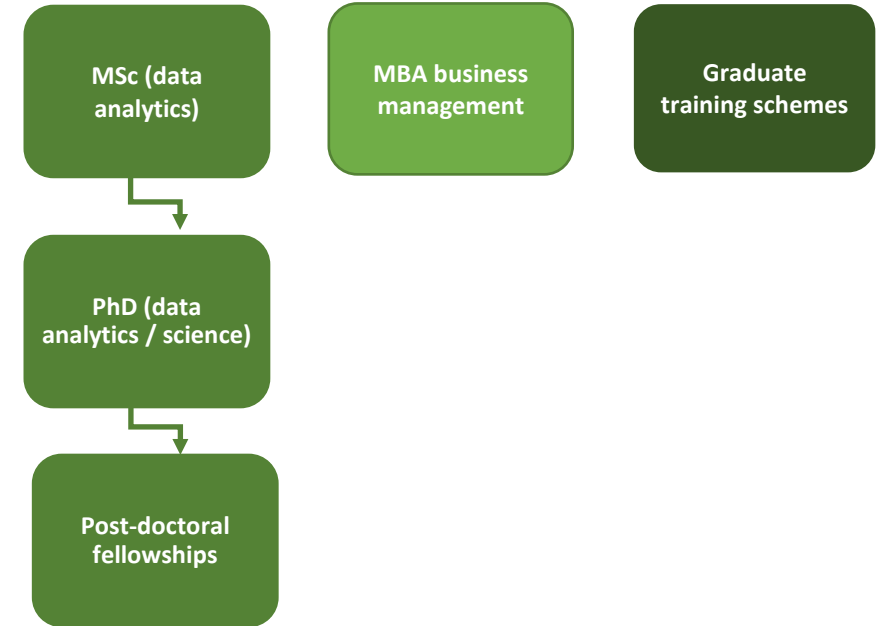(Data centre leadership and management)

Prospective careers:

- Data Centre Administrator
- Network / Computer Systems Engineer
- Data Warehouse Manager
- Data Centre Engineer
- Data Centre Operations Manager
- Technical Consultant
- Technical Architect
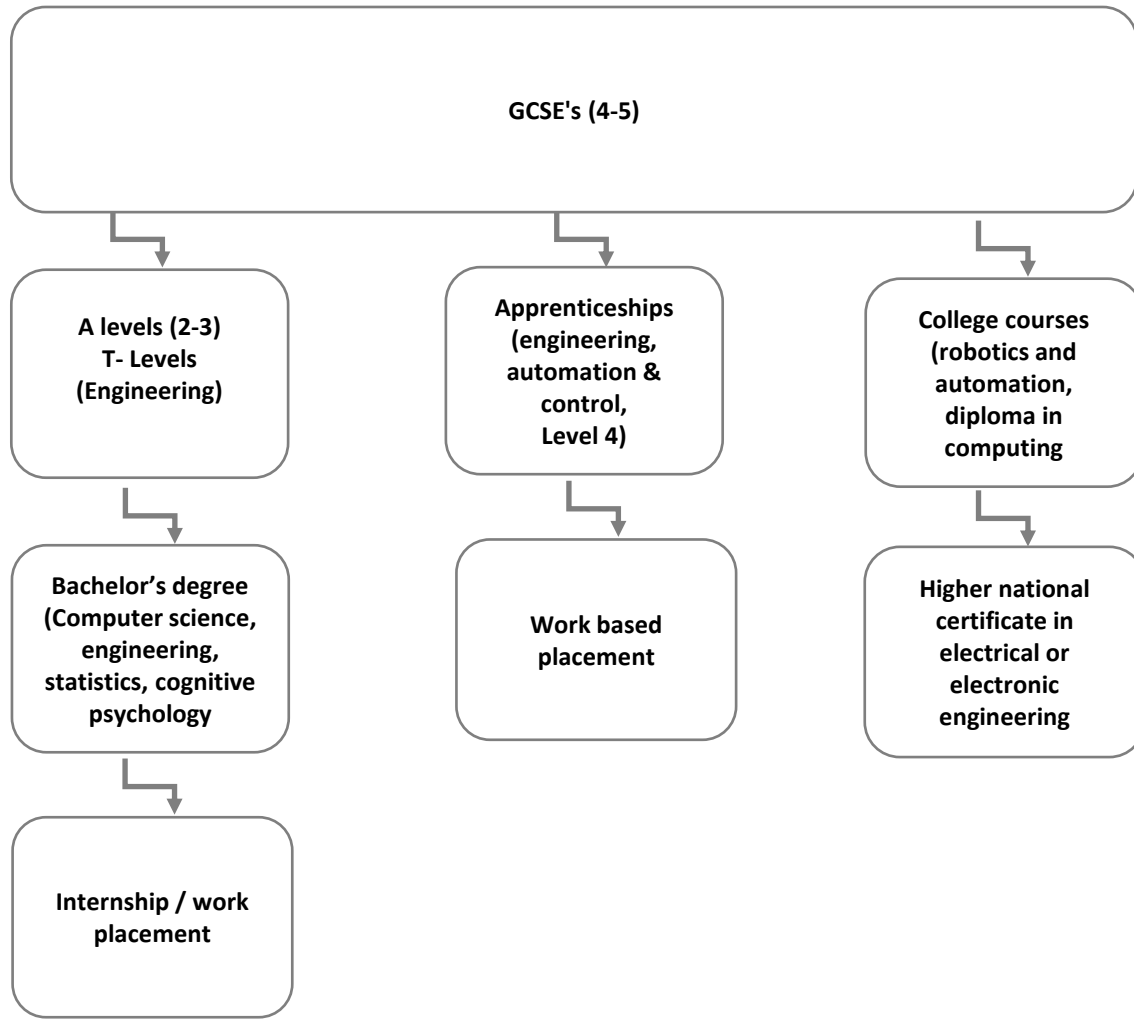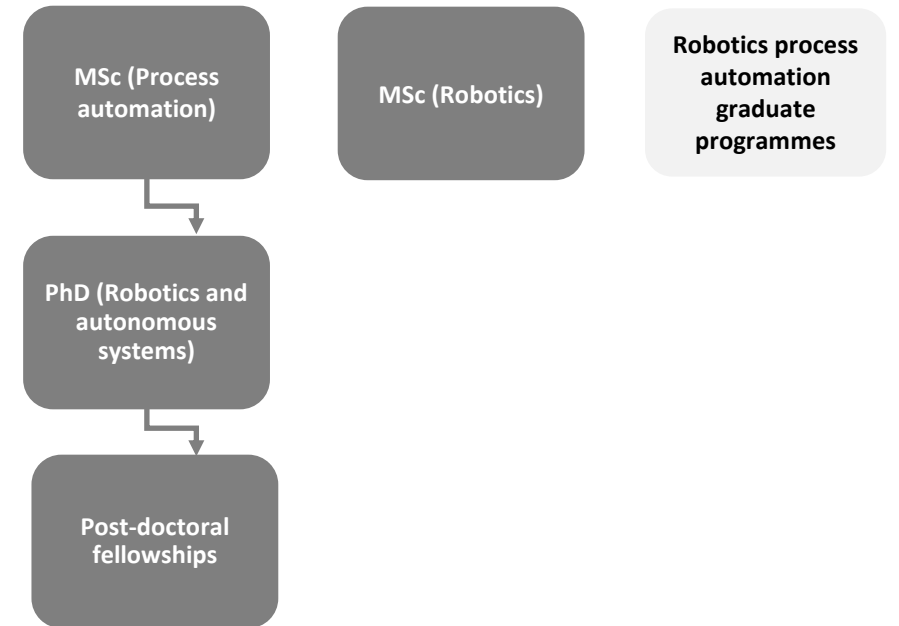- Information Technology Manager

Data Analyst

GCSEs (4-5)

GCSEs (English & maths)

Advanced Qualifications

A levels (2-3 including maths)

T- Levels (Digital Business Services)

Apprenticeships (data technician, Level 3)

Data analyst courses

MSc (data analytics)

MBA business management

Graduate training schemes

Bachelor's degree (statistics, maths, economics, psychology)

Bachelor's degree (computer science or related subject)

Work-based placement

PhD (data analytics / science)

Internship / work placement

Post-doctoral fellowships

Prospective careers:

- **Senior Data Analyst**
- **Statistician**
- **Business Intelligence**
- **Data Assurance**
- **Data Quality**
- **Finance**

Robotics Process Automation

GCSE's (4-5)

A levels (2-3)
T- Levels
(Engineering)

Apprenticeships
(engineering,
automation &
control,
Level 4)

College courses
(robotics and
automation,
diploma in
computing

Bachelor's degree
(Computer science,
engineering,
statistics, cognitive
psychology

Work based
placement

Higher national
certificate in
electrical or
electronic
engineering

Internship / work
placement

Advanced Qualifications

MSc (Process
automation)

MSc (Robotics)

Robotics process
automation
graduate
programmes
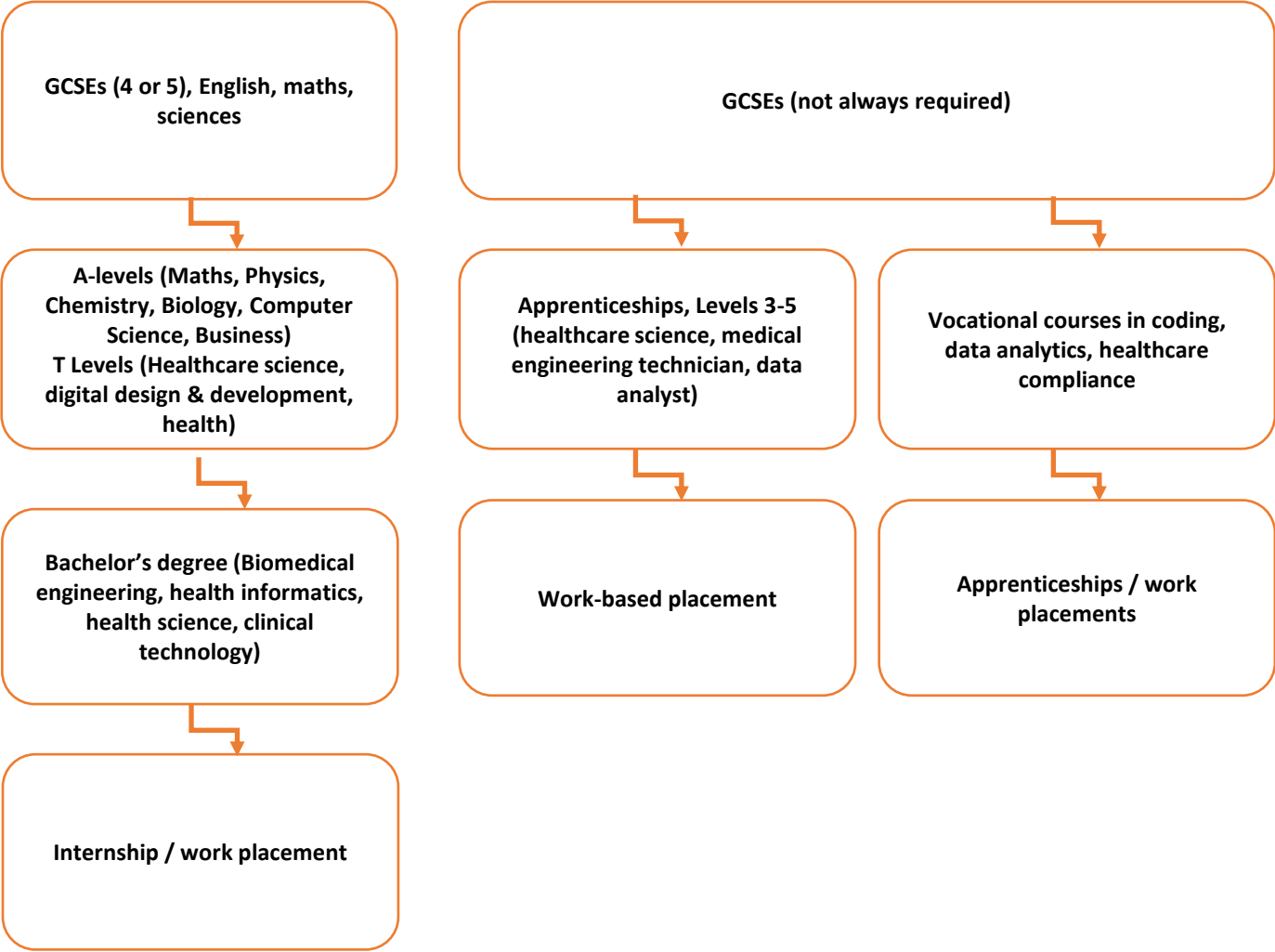
PhD (Robotics and
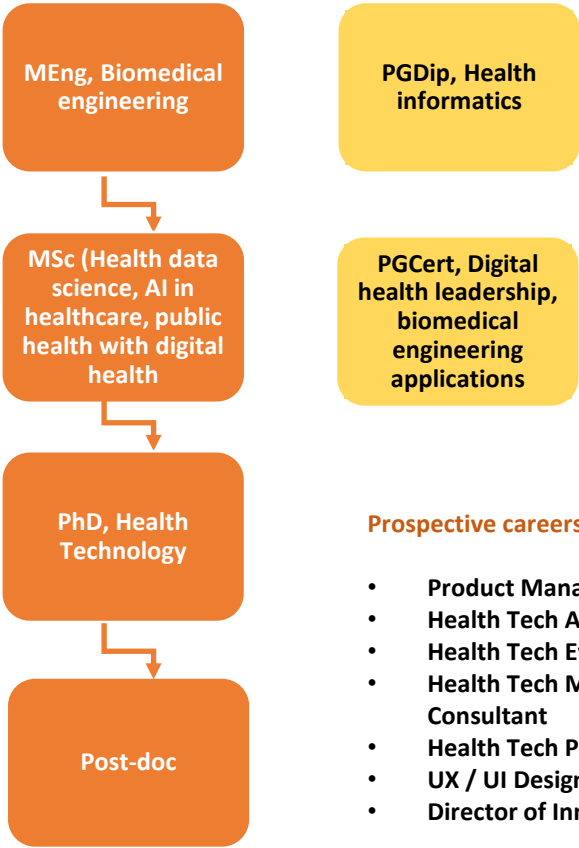autonomous
systems)

Post-doctoral
fellowships

Prospective careers:

- **Robotics Process Automation Analyst**
- **Robotics Process Automation Developer**
- **Robotics Process Automation Champion**
- **Robotics Process Automation Architect**
- **Robotics Process Automation Specialist**
- **Robotics Process Automation Lead**

Health Tech Advisory & Management

GCSEs (4 or 5), English, maths, sciences

GCSEs (not always required)

A-levels (Maths, Physics, Chemistry, Biology, Computer Science, Business)
T Levels (Healthcare science, digital design & development, health)

Apprenticeships, Levels 3-5 (healthcare science, medical engineering technician, data analyst)

Vocational courses in coding, data analytics, healthcare compliance

Bachelor's degree (Biomedical engineering, health informatics, health science, clinical technology)

Work-based placement

Apprenticeships / work placements

Internship / work placement

Advanced Qualifications

MEng, Biomedical engineering

PGDip, Health informatics

MSc (Health data science, AI in healthcare, public health with digital health)

PGCert, Digital health leadership, biomedical engineering applications

PhD, Health Technology
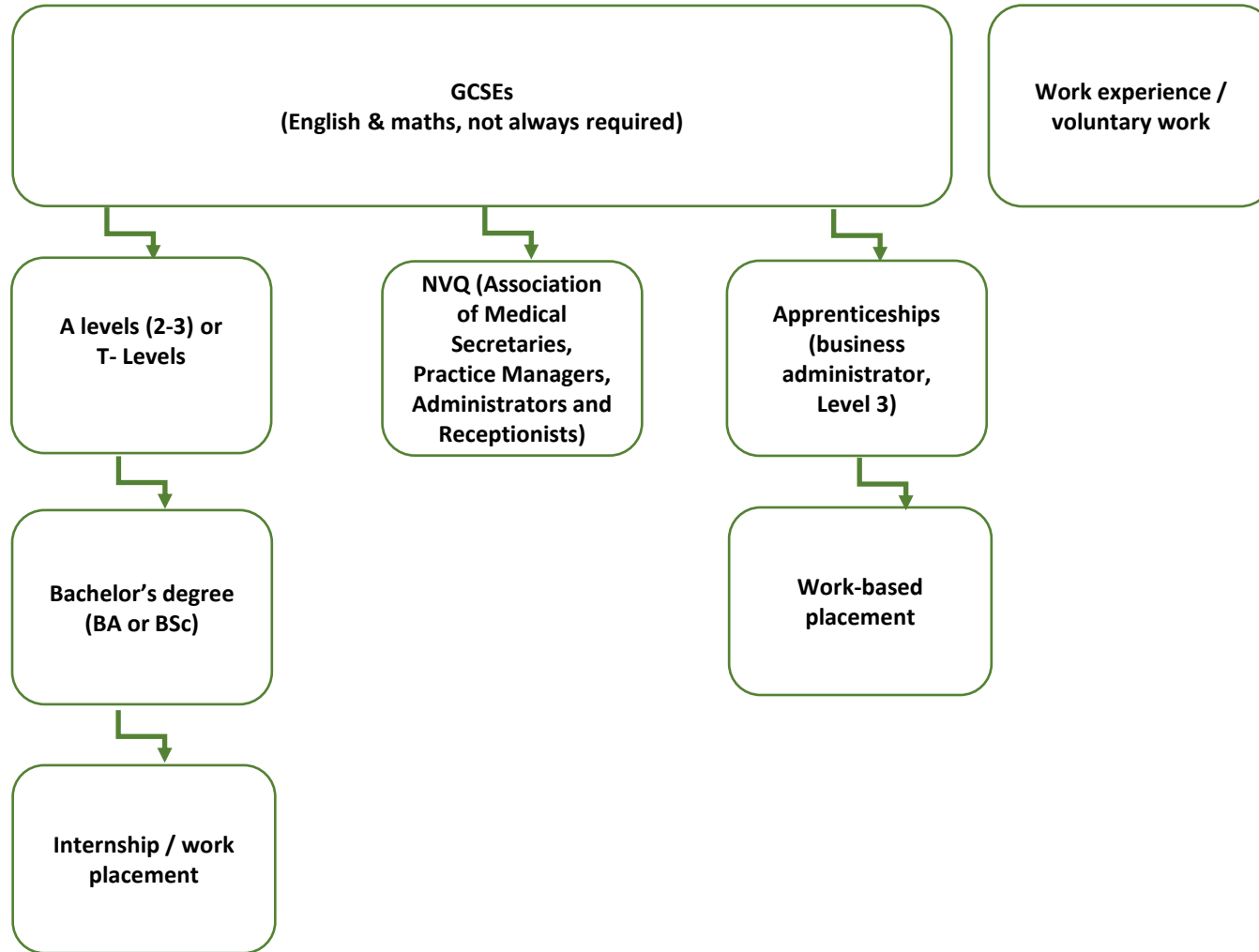
Post-doc

Prospective careers

- Product Manager
- Health Tech Advisor
- Health Tech Evaluation
- Health Tech Management Consultant
- Health Tech Project Manager
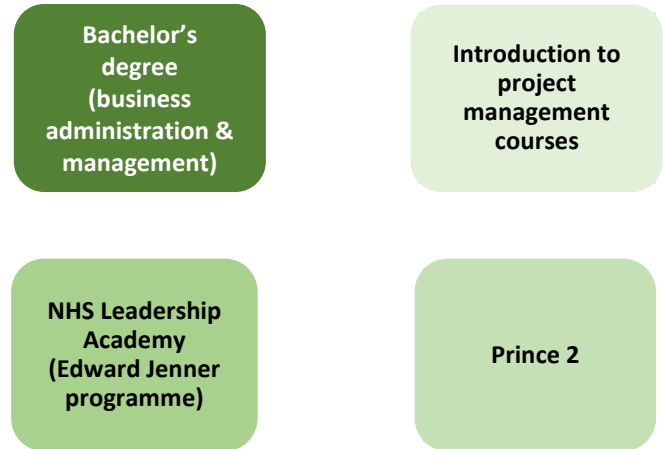- UX / UI Designer, Healthcare
- Director of Innovation

Office

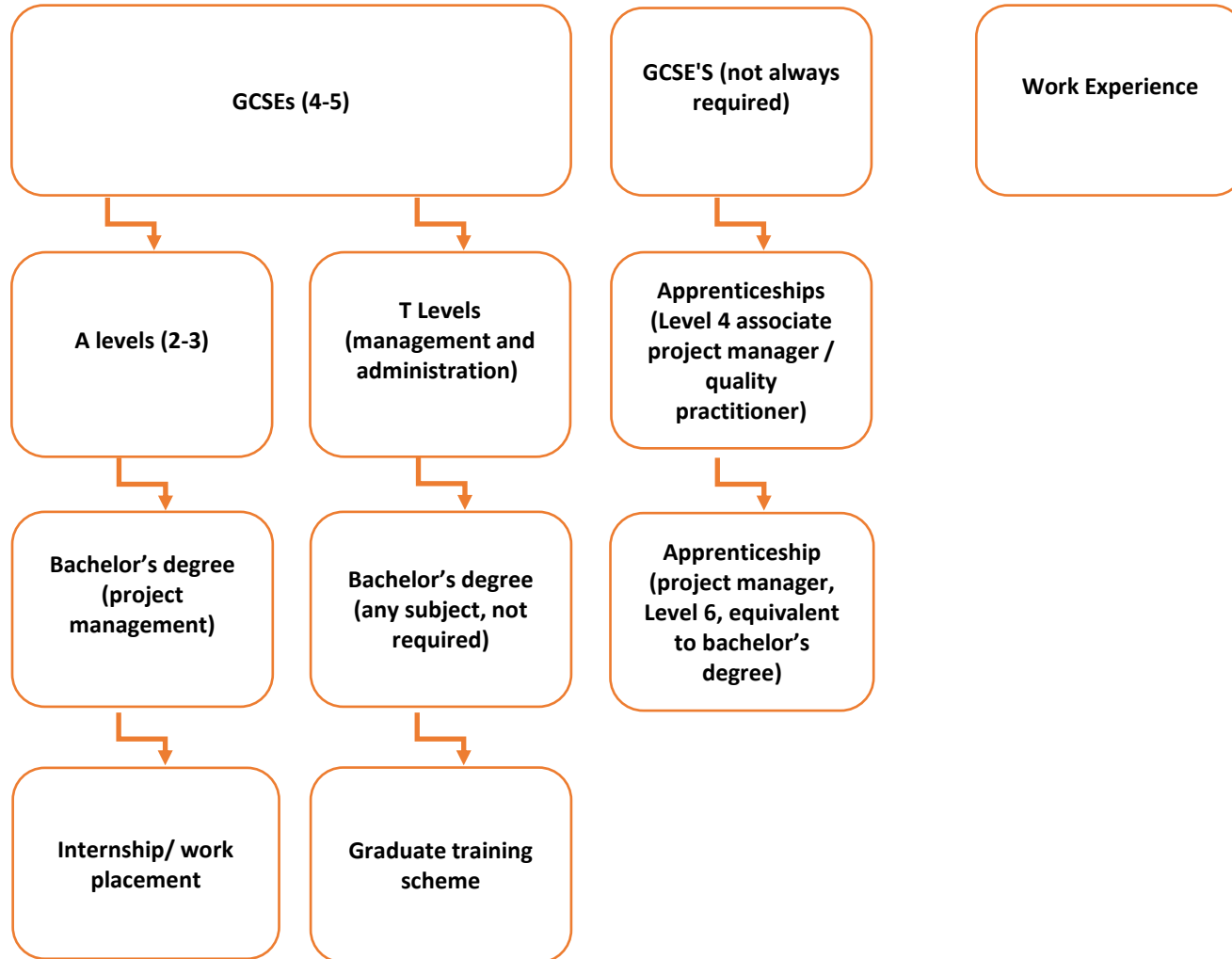# Receptionist / Administrator (no set entry requirements)

GCSEs
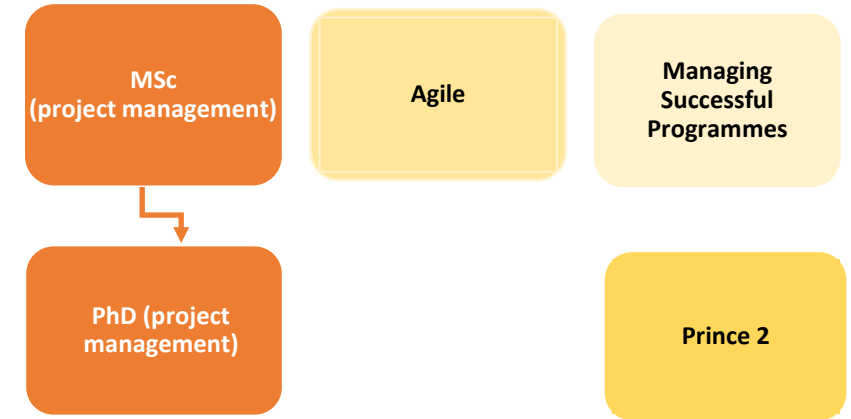(English & maths, not always required)

Work experience / voluntary work

A levels (2-3) or T- Levels

NVQ (Association of Medical Secretaries, Practice Managers, Administrators and Receptionists)

Apprenticeships (business administrator, Level 3)

Bachelor's degree (BA or BSc)

Work-based placement

Internship / work placement

Advanced Qualifications

Bachelor's degree (business administration & management)

Introduction to project management courses

NHS Leadership Academy (Edward Jenner programme)

Prince 2

Prospective careers:

- **Receptionist**
- **Secretary**
- **Telephonist / Switchboard Operator**
- **Health records staff**
- **Ward Clerk**
- **Medical Secretary**
- **PA**
- **EA**
- **HR, Informatics, Estates or Finance administrator**
- **Administrative Team Leader**

Project Management (no set entry requirements)

```
GCSEs (4-5)
    │
    ├──────────────┐
    ▼              ▼
A levels (2-3)   T Levels
    │            (management and
    │            administration)
    ▼              │
Bachelor's degree  ▼
(project         Bachelor's degree
management)      (any subject, not
    │            required)
    ▼              │
Internship/ work   ▼
placement        Graduate training
                 scheme
```

```
GCSE'S (not always required)
    │
    ▼
Apprenticeships
(Level 4 associate
project manager /
quality
practitioner)
    │
    ▼
Apprenticeship
(project manager,
Level 6, equivalent
to bachelor's
degree)
```

Work Experience

Advanced Qualifications

MSc
(project management)
    │
    ▼
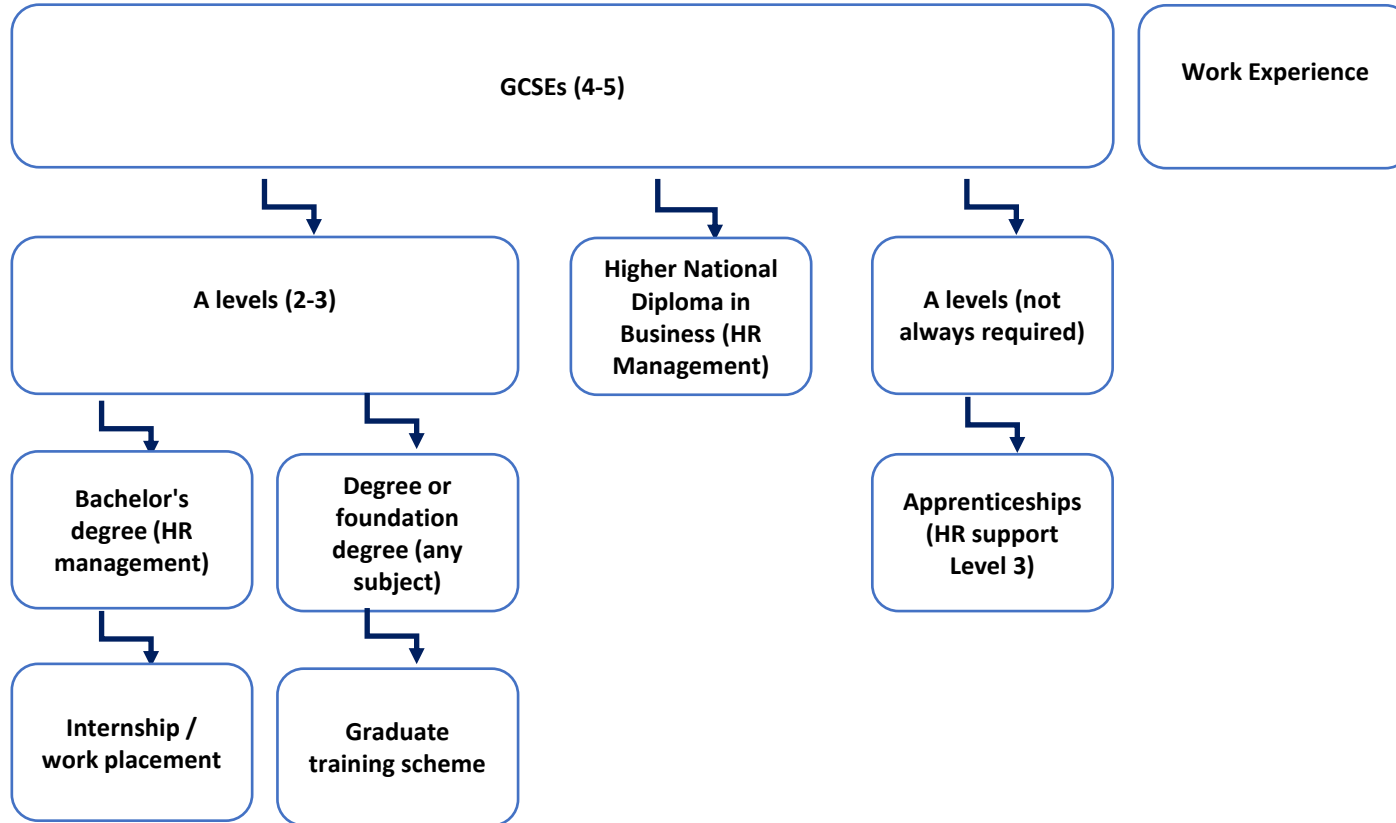PhD (project management)

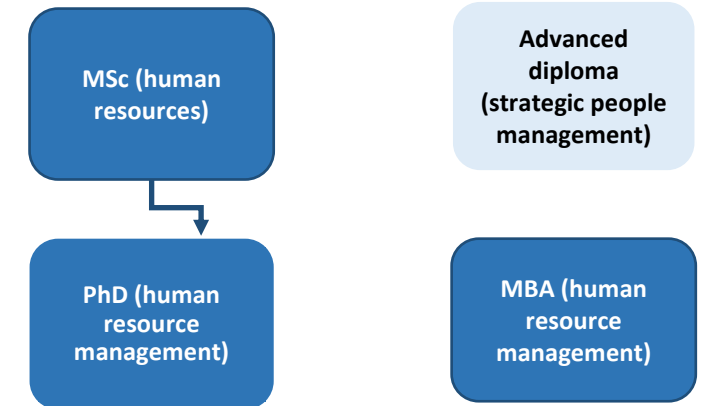Agile

Managing Successful Programmes

Prince 2

Prospective careers:

- Project Coordinator
- Assistant Project Manager
- Project Manager
- Senior Project Manager
- Resource Manager
- Programme Manager
- Programme Director
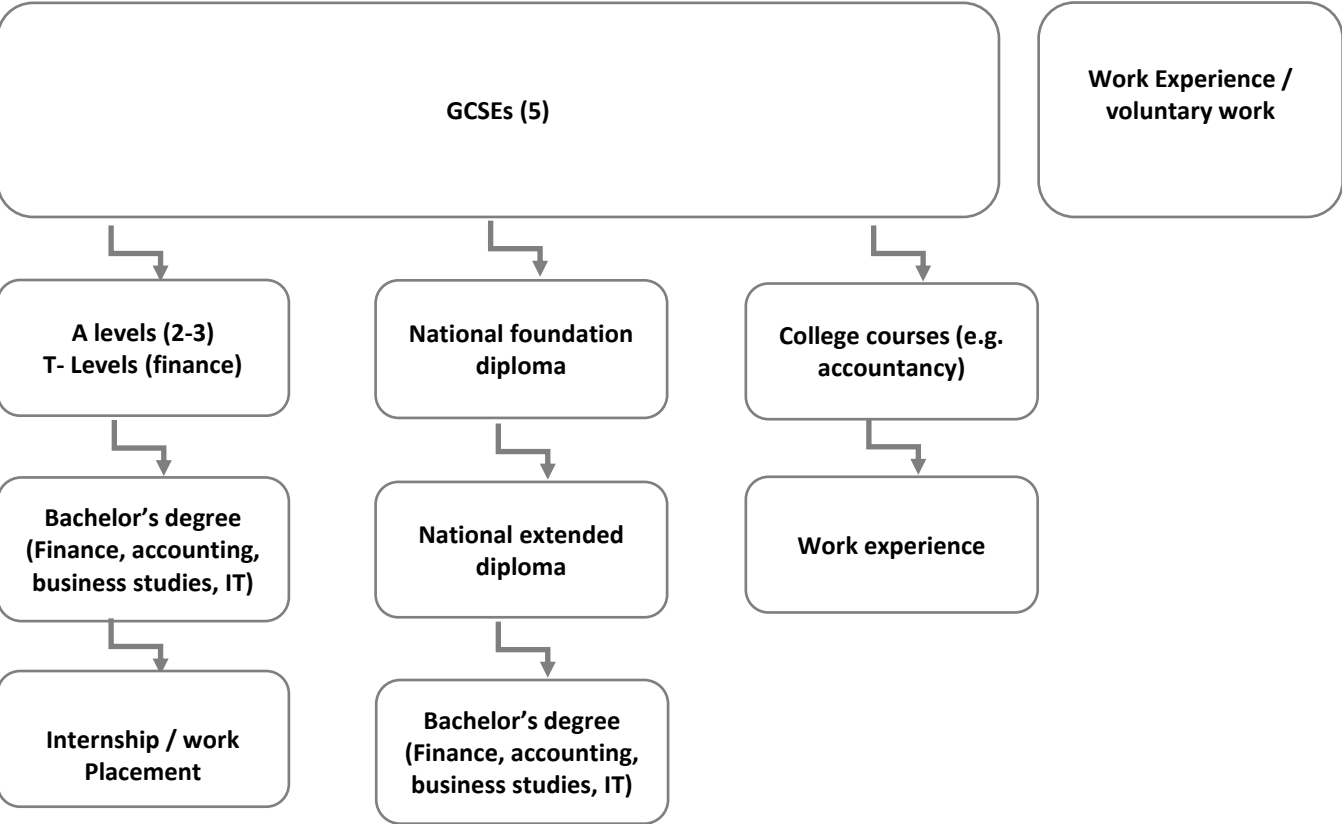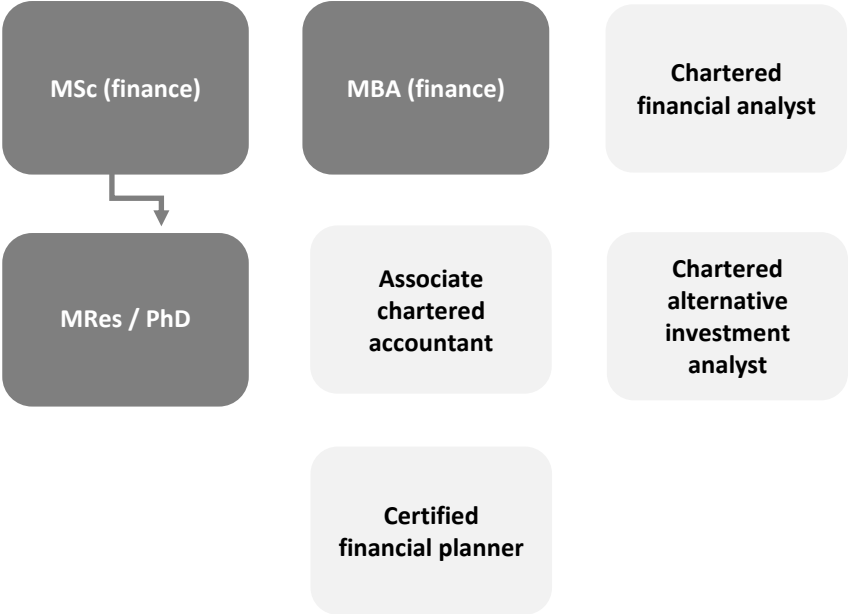
HR Advisor (no set entry requirements)

GCSEs (4-5)

Work Experience

Advanced Qualifications

A levels (2-3)

Higher National Diploma in Business (HR Management)

A levels (not always required)

MSc (human resources)

Advanced diploma (strategic people management)

Bachelor's degree (HR management)

Degree or foundation degree (any subject)

Apprenticeships (HR support Level 3)

PhD (human resource management)

MBA (human resource management)

Internship / work placement

Graduate training scheme

Prospective careers:

HR Officer
HR Advisor
People Business Partner
HR Manager
Head of People
Director of People

Finance

GCSEs (5)

Work Experience / voluntary work

A levels (2-3)
T- Levels (finance)

National foundation diploma

College courses (e.g. accountancy)

Bachelor's degree (Finance, accounting, business studies, IT)

National extended diploma

Work experience

Internship / work Placement

Bachelor's degree (Finance, accounting, business studies, IT)

Advanced Qualifications

MSc (finance)

MBA (finance)

Chartered financial analyst

MRes / PhD

Associate chartered accountant

Chartered alternative investment analyst

Certified financial planner

Prospective careers:

- **Finance Officer**
- **Credit Control**
- **Payroll Officer**
- **Accountant**
- **Finance Manager**
- **Head of Finance**
- **Finance Director**

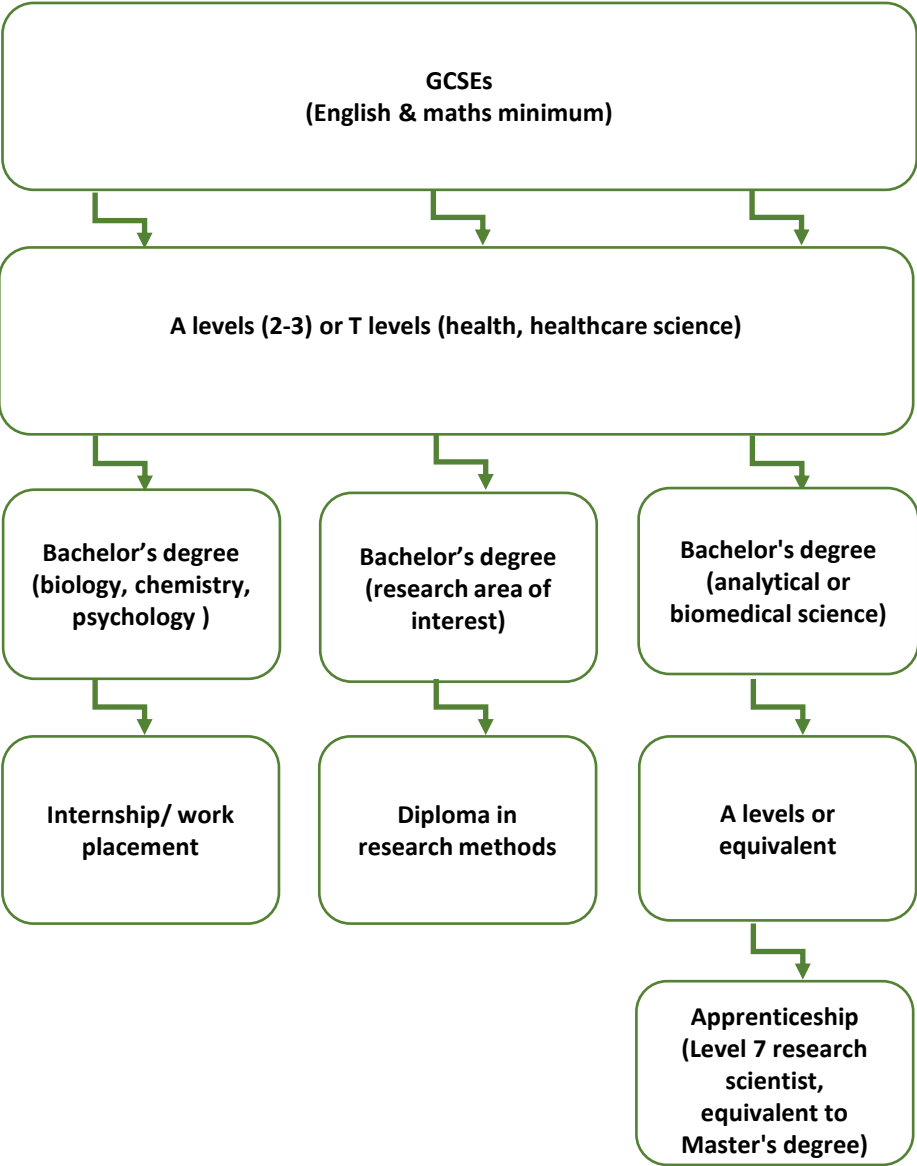# Pharmaceutical Sales (no set entry requirements)

GCSEs
(4-5 including English, maths & science)

↓

A levels (2-3)

↓

Bachelor's degree (biology, pharmacy, biomedical sciences, medical engineering)

Bachelor's degree (business, marketing)

↓

Internship/ work placement

GCSE'S (4-5)

↓

A levels or equivalent

↓

Apprenticeships (sales executive, level 4, business to business degree apprenticeship, level 6)

↓

Work-based placement

Work experience (Sales, marketing, healthcare)

Advanced Qualifications

MSc (pharmaceutical science)

↓

PhD (pharmaceutical science)

↓

Post-doctoral fellowships

Association of the British Pharmaceutical Industry medical representatives exam

Pharmaceutical / med tech graduate training schemes

Prospective careers:

- **Medical Sales Representative**
- **Sales Support**
- **Sales Specialist**
- **Brand Manager**
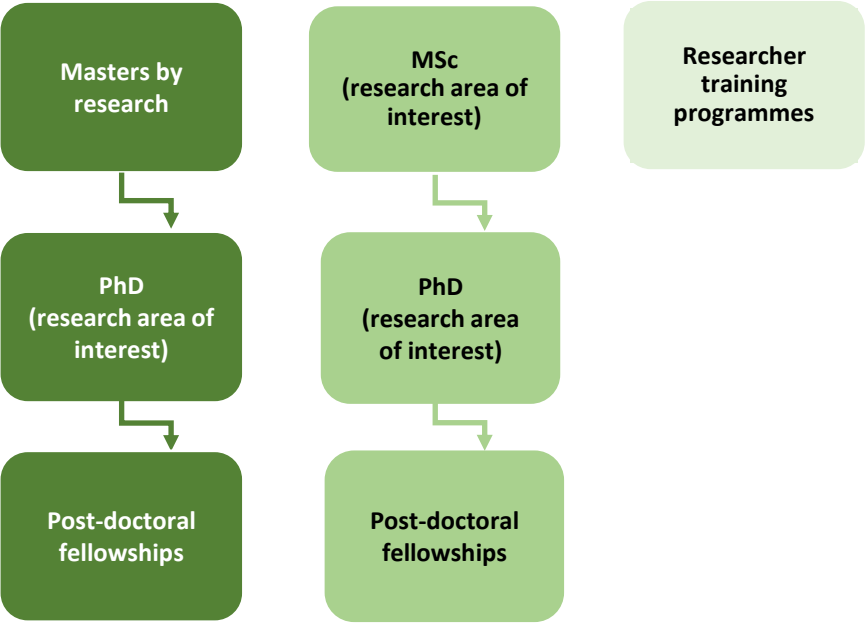- **Sales Manager**
- **International Sales Executive**
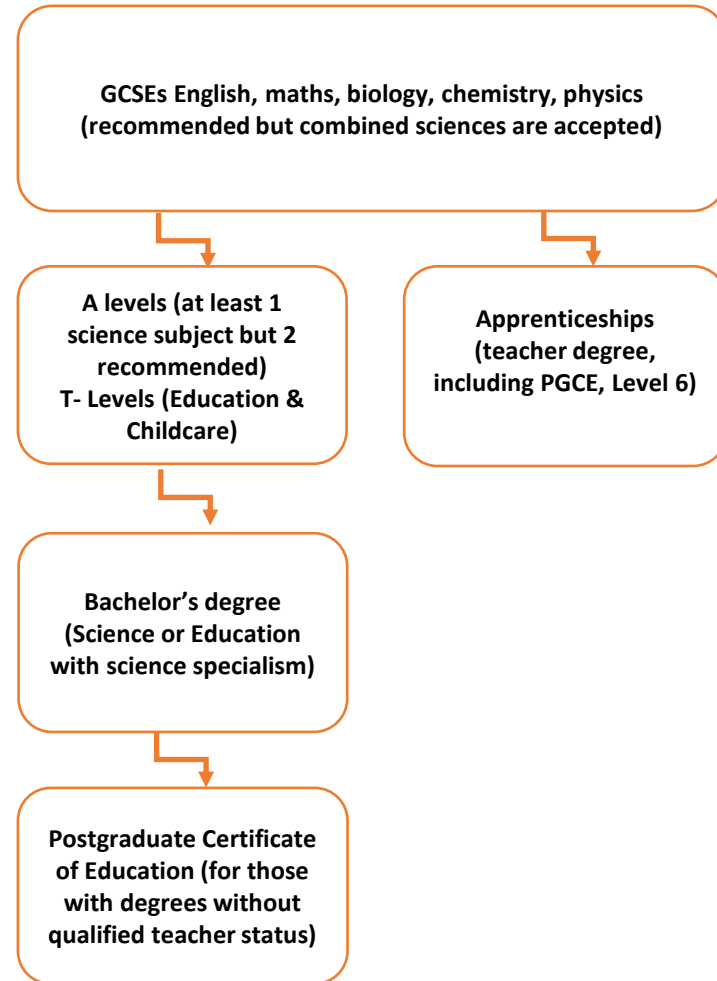
Life sciences: Education
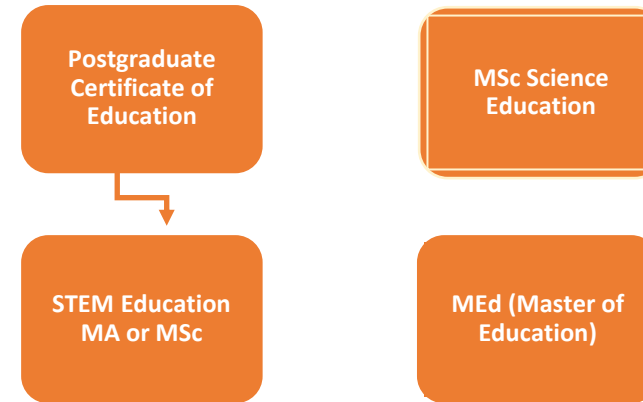
Research Assistant

Advanced Qualifications

GCSEs
(English & maths minimum)

A levels (2-3) or T levels (health, healthcare science)

Bachelor's degree (biology, chemistry, psychology)

Bachelor's degree (research area of interest)

Bachelor's degree (analytical or biomedical science)

Internship/ work placement

Diploma in research methods

A levels or equivalent

Apprenticeship (Level 7 research scientist, equivalent to Master's degree)

Masters by research

MSc (research area of interest)

Researcher training programmes

PhD (research area of interest)

PhD (research area of interest)

Post-doctoral fellowships

Post-doctoral fellowships

Prospective careers:

Research Assistant
Research Associate
Senior Research Associate
Principal Research Associate
Director of Research

Secondary School Science Teacher

GCSEs English, maths, biology, chemistry, physics (recommended but combined sciences are accepted)

A levels (at least 1 science subject but 2 recommended)
T- Levels (Education & Childcare)

Apprenticeships (teacher degree, including PGCE, Level 6)

Bachelor's degree (Science or Education with science specialism)

Postgraduate Certificate of Education (for those with degrees without qualified teacher status)

Advanced Qualifications

Postgraduate Certificate of Education

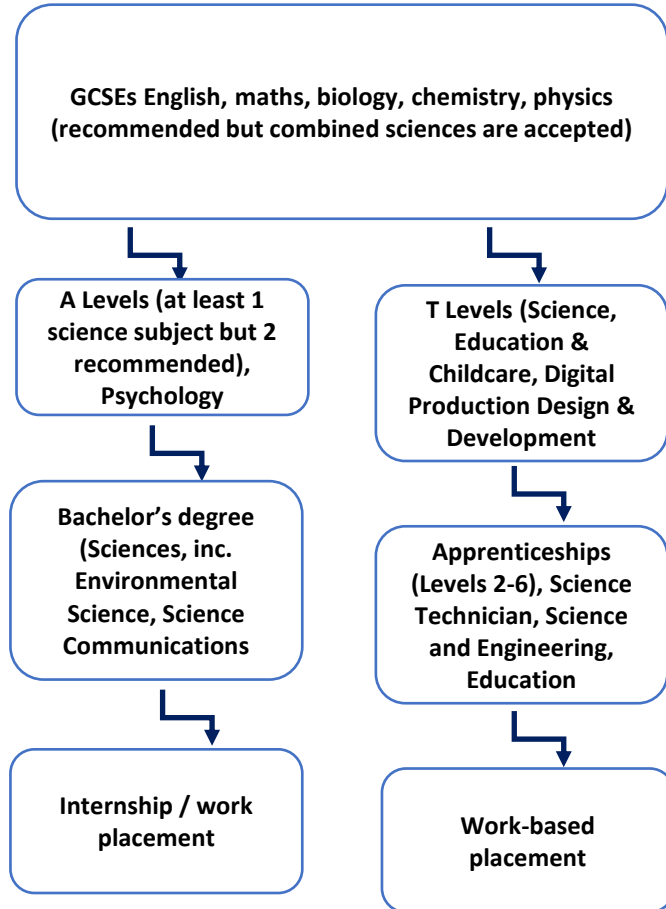MSc Science Education

STEM Education MA or MSc
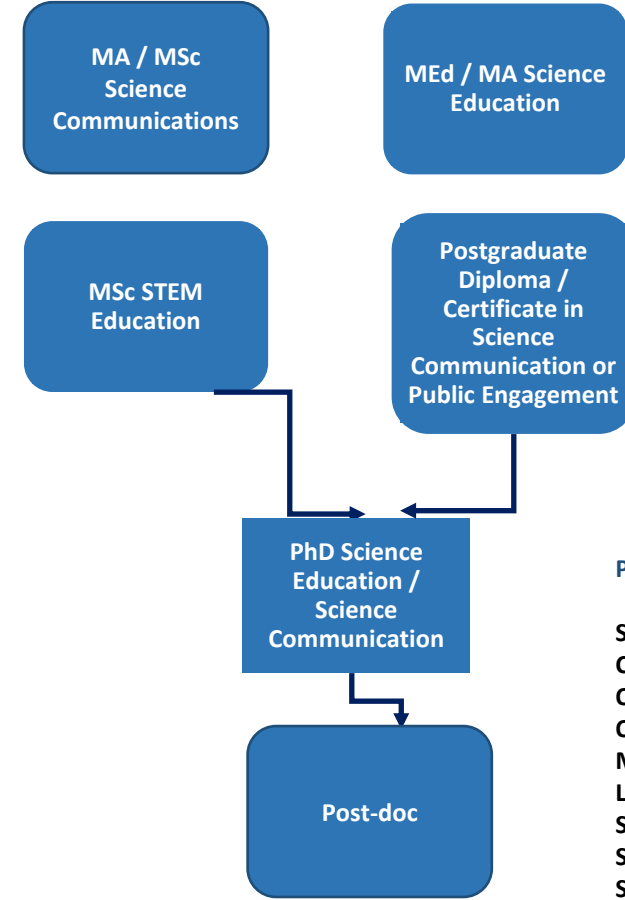
MEd (Master of Education)

Prospective careers:

Biology Teacher
Chemistry Teacher
Physics Teacher
Combined Science Teacher

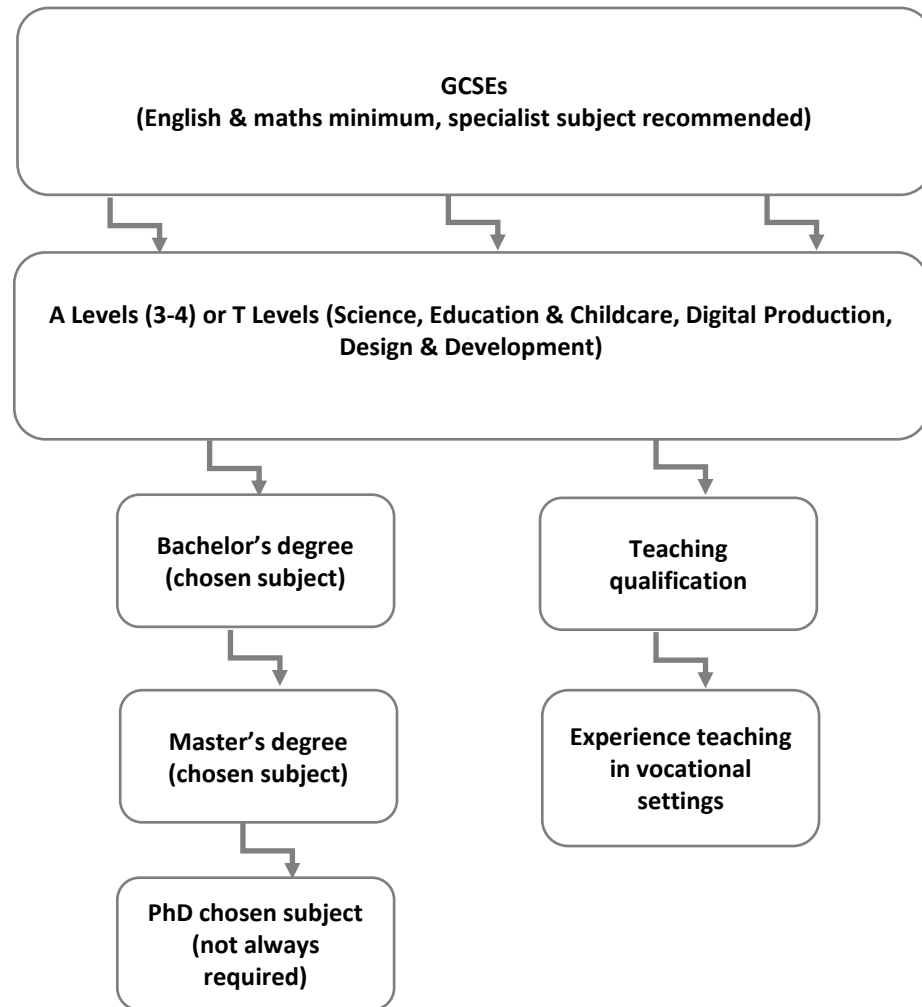# Science Education Outreach (no set entry requirements)

GCSEs English, maths, biology, chemistry, physics (recommended but combined sciences are accepted)

Work Experience

Advanced Qualifications

A Levels (at least 1 science subject but 2 recommended), Psychology

T Levels (Science, Education & Childcare, Digital Production Design & Development)

MA / MSc Science Communications

MEd / MA Science Education

Bachelor's degree (Sciences, inc. Environmental Science, Science Communications)

Apprenticeships (Levels 2-6), Science Technician, Science and Engineering, Education

MSc STEM Education

Postgraduate Diploma / Certificate in Science Communication or Public Engagement

Internship / work placement

Work-based placement

PhD Science Education / Science Communication

Prospective careers:

STEM Outreach Consultants
Outreach Coordinators
Outreach Project Managers
Learning Producers
Science Communications
Science Policy Researchers
Science Policy Officers

Post-doc

Lecturer

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│                              GCSEs                                    │
│   (English & maths minimum, specialist subject recommended)          │
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│  A Levels (3-4) or T Levels (Science, Education & Childcare,          │
│      Digital Production, Design & Development)                        │
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Bachelor's degree (chosen subject)	Teaching qualification
Master's degree (chosen subject)	Experience teaching in vocational settings
PhD chosen subject (not always required)	

Other routes (no PhD)

- Postgraduate Certification, Higher Education
- Research track record, e.g. evidence of peer reviewed publications
- Professional or industry credentials (field dependent)

Advanced qualification

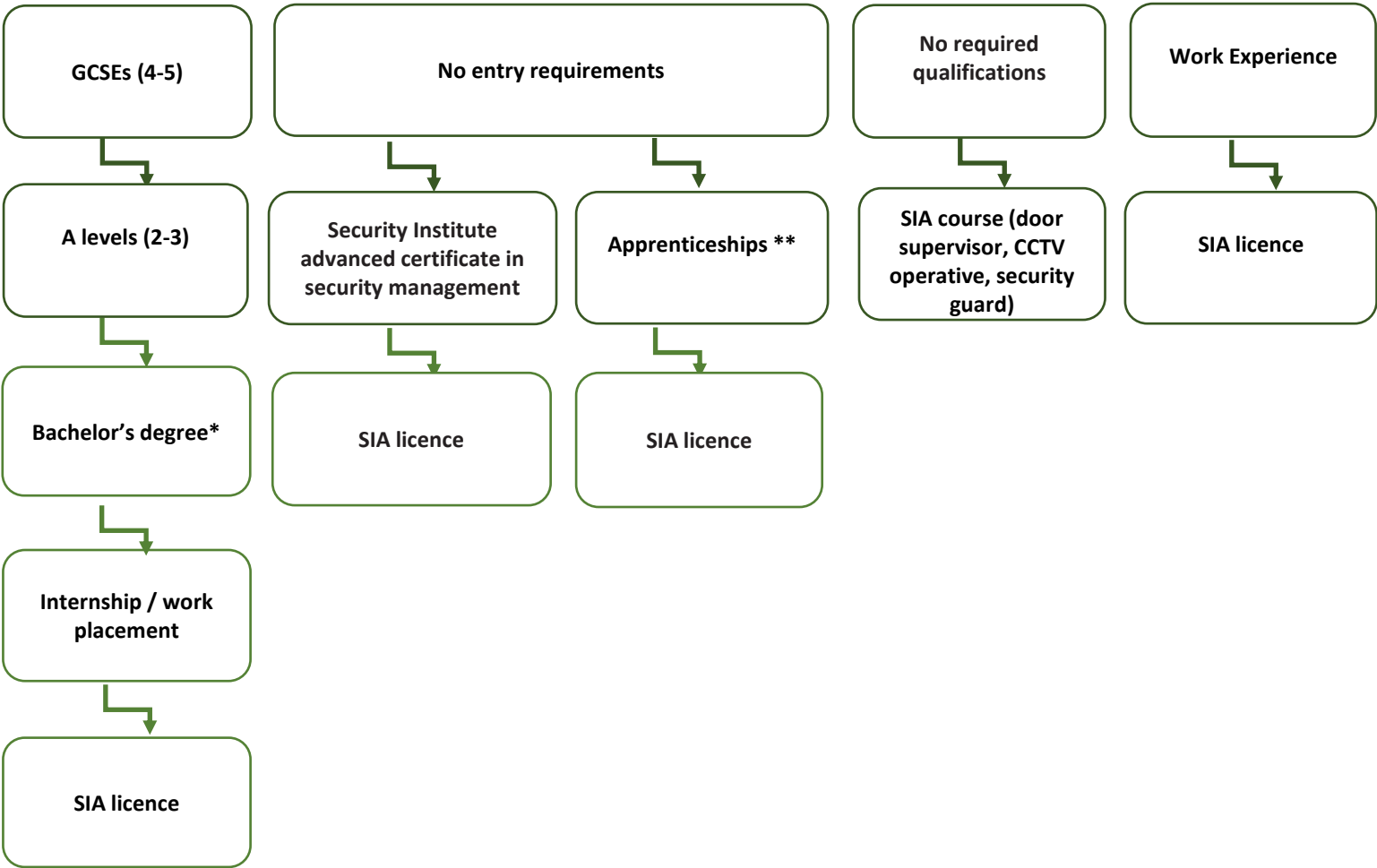- Post-doctoral fellowships

Prospective careers:

- Teaching Fellow
- Research & Teaching Lecturer
- Senior Lecturer
- Associate Professor
- Professor
- Clinical Lecturer

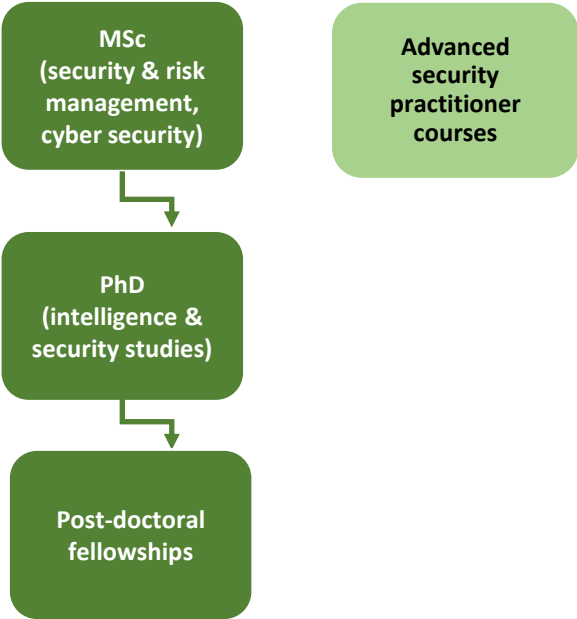# Life sciences clusters: Estates management

Security (no set entry requirements)

GCSEs (4-5)

No entry requirements

No required qualifications

Work Experience

A levels (2-3)

Security Institute advanced certificate in security management

Apprenticeships **

SIA course (door supervisor, CCTV operative, security guard)

SIA licence

Bachelor's degree*

SIA licence

SIA licence

Internship / work placement

SIA licence

*Bachelor's Degree in risk and security management, cyber security, safety management.
** Apprenticeships in fire, emergency & security systems, level 6, equivalent to bachelor's degree)
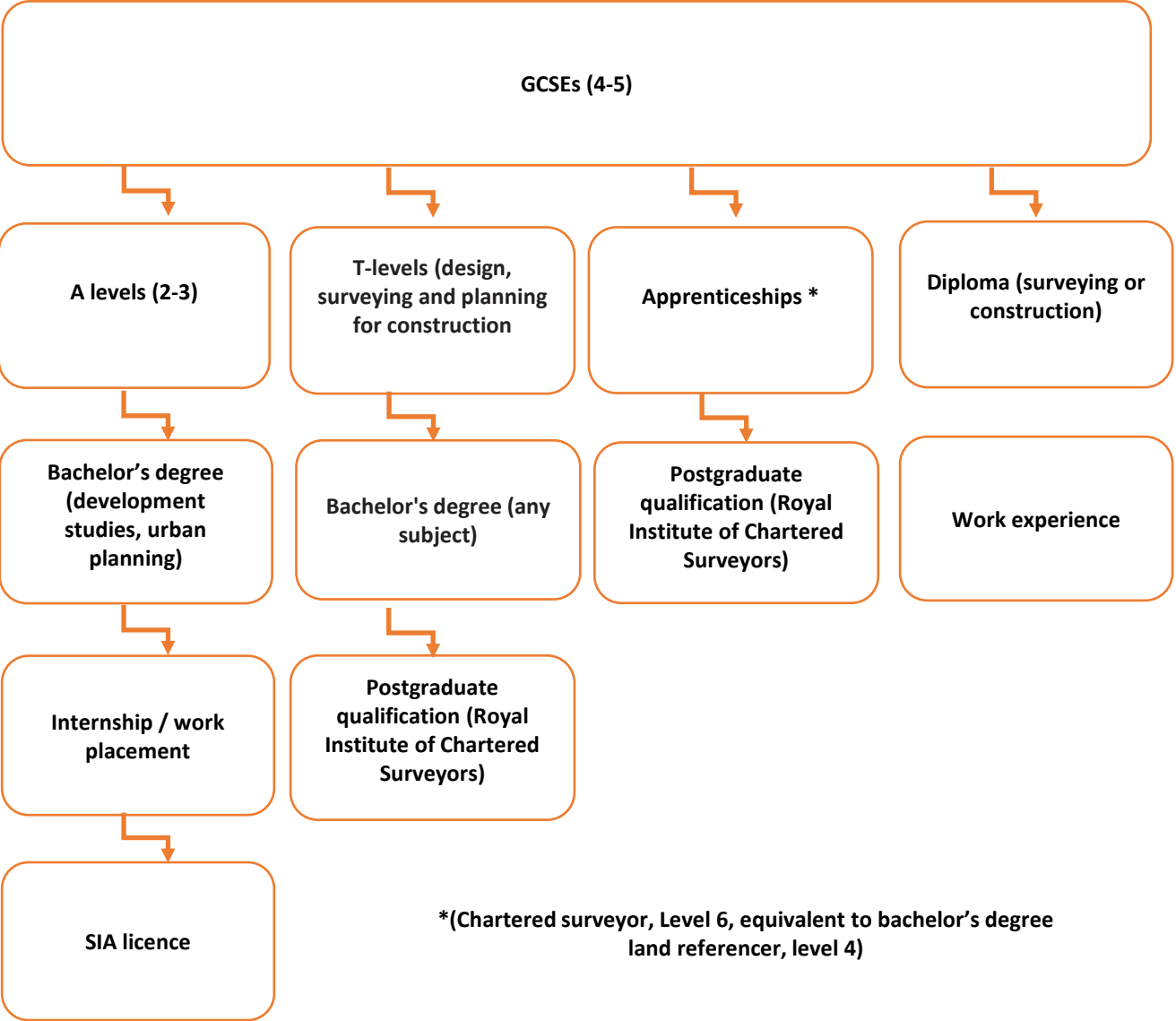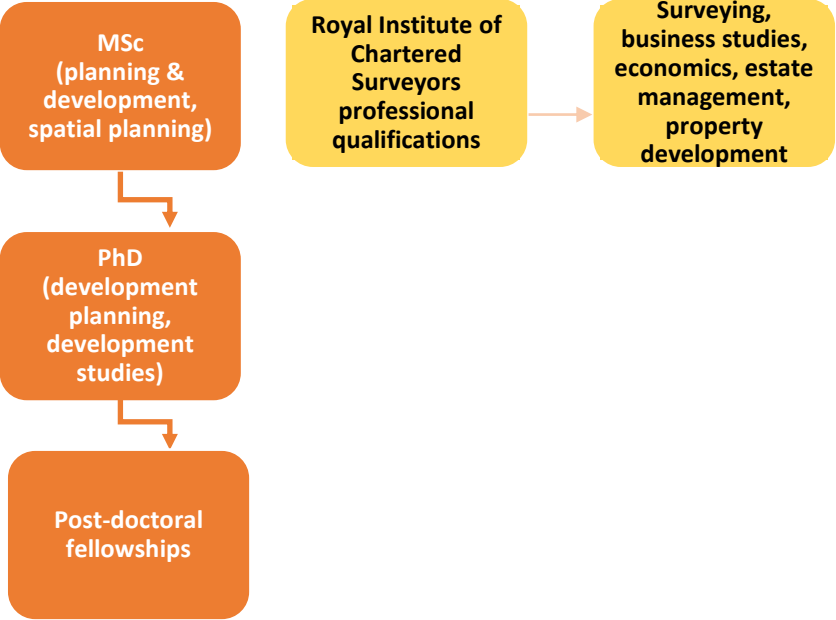
Advanced Qualifications

MSc (security & risk management, cyber security)

Advanced security practitioner courses

PhD (intelligence & security studies)

Post-doctoral fellowships

Prospective careers:

- **Security Officer**
- **Security Guard**
- **Senior Security Guard**
- **Security Supervisor**
- **Intelligence Analyst**
- **Chief Security Officer**

Planning and Development

GCSEs (4-5)

A levels (2-3)

T-levels (design, surveying and planning for construction)

Apprenticeships *

Diploma (surveying or construction)

Bachelor's degree (development studies, urban planning)

Bachelor's degree (any subject)

Postgraduate qualification (Royal Institute of Chartered Surveyors)

Work experience

Internship / work placement

Postgraduate qualification (Royal Institute of Chartered Surveyors)

SIA licence

*(Chartered surveyor, Level 6, equivalent to bachelor's degree land referencer, level 4)

Advanced Qualifications

MSc (planning & development, spatial planning)

Royal Institute of Chartered Surveyors professional qualifications

Surveying, business studies, economics, estate management, property development
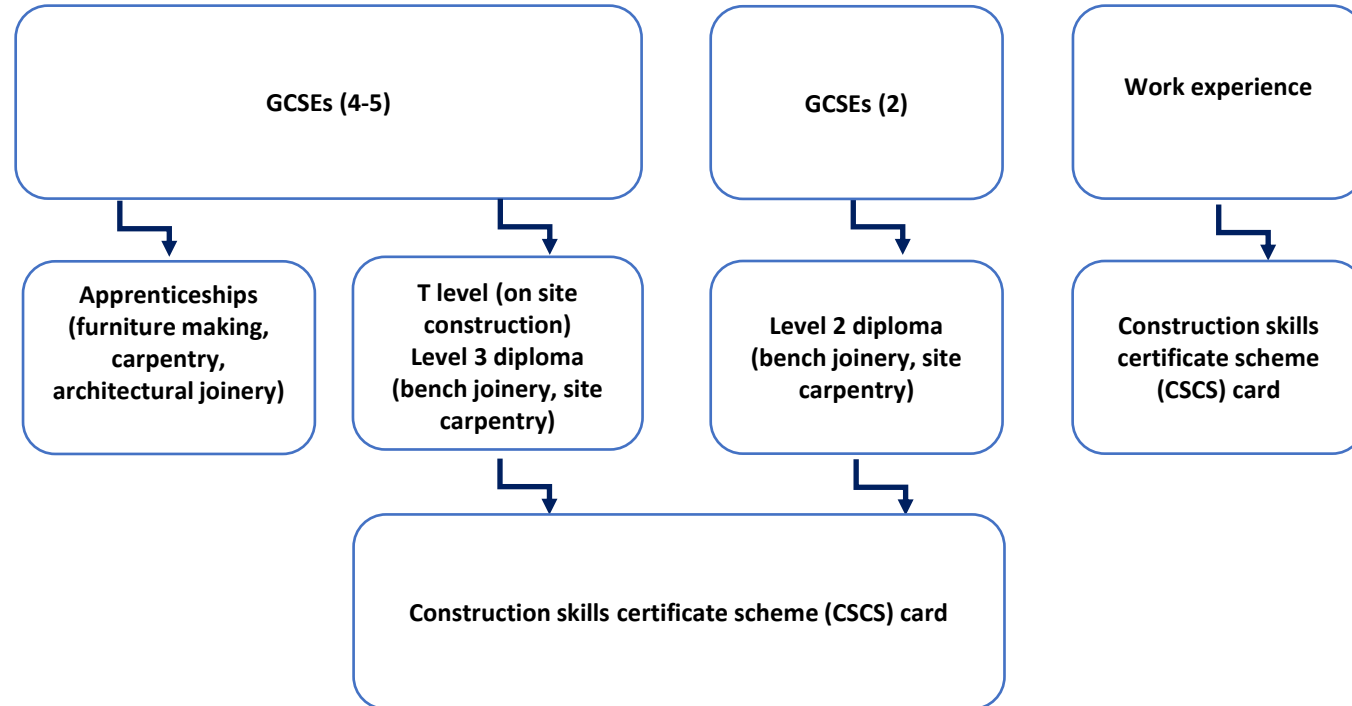
PhD (development planning, development studies)
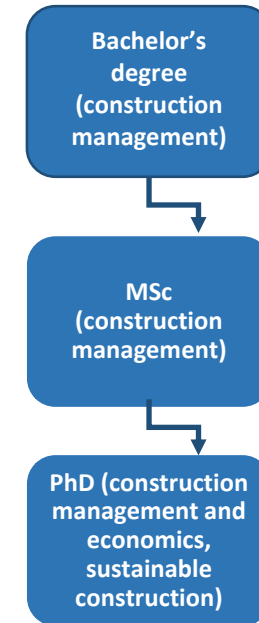
Post-doctoral fellowships

Prospective careers:

- Planning and Development Coordinator
- Planning and Development Project Manager
- Surveyor
- Town Planner
- Asset Manager
- Commercial Development Manager

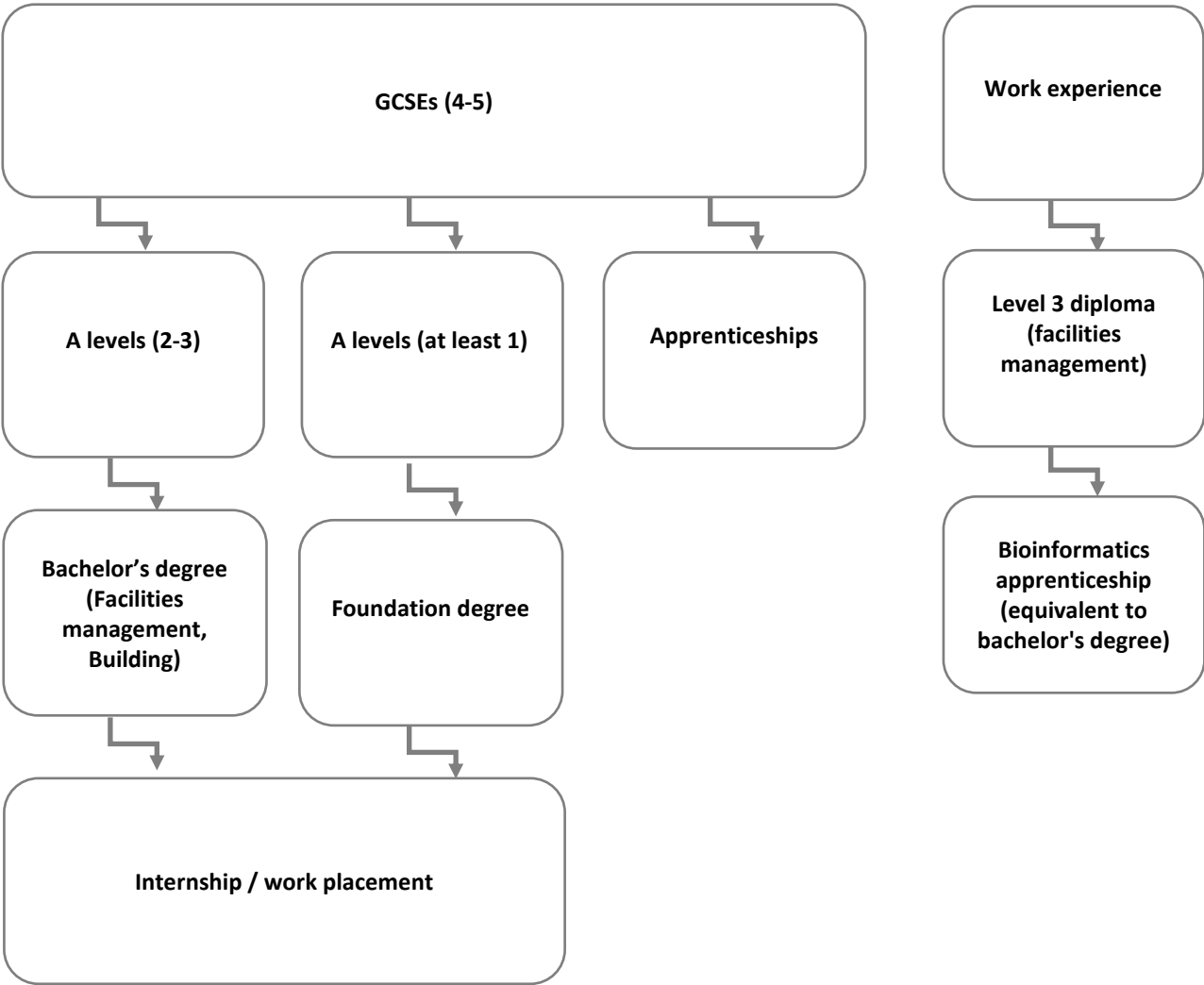# Carpenter (no set entry requirements)

Advanced Qualifications

GCSEs (4-5)	

→ **Apprenticeships (furniture making, carpentry, architectural joinery)**

→ **T level (on site construction) Level 3 diploma (bench joinery, site carpentry)**

GCSEs (2)

→ **Level 2 diploma (bench joinery, site carpentry)**

Work experience

→ **Construction skills certificate scheme (CSCS) card**

Construction skills certificate scheme (CSCS) card

Bachelor's degree (construction management)

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MSc (construction management)

↓

PhD (construction management and economics, sustainable construction)

Prospective careers:

- **Rough Carpenter**
- **Trim Carpenter**
- **Framer**
- **Roofer**
- **Joister**
- **Carpentry Project Manager**
- **Carpentry Site Manager**

Facilities Management (no set entry requirements)

GCSEs (4-5)

A levels (2-3)

A levels (at least 1)

Apprenticeships

Bachelor's degree (Facilities management, Building)

Foundation degree

Internship / work placement

Work experience

Level 3 diploma (facilities management)

Bioinformatics apprenticeship (equivalent to bachelor's degree)

Advanced Qualifications

MSc (facilities management)

Institute of Workplace and Facilities Management membership

PhD (facilities management)

Health & safety qualification

Prospective careers:

- Catering
- Cleaning
- Building maintenance
- Environmental services
- Security
- Reception

- Domestic Services Manager
- Domestic Supervisor
- Contracts Manager
- Senior Facilities Manager
- Head of Facilities Management

Salaries

Role	Entry level salary*	Median level salary	Senior level salary
Healthcare Scientist	£35,000	£55,000	£85,000
Computational Biologist	£50,000	£70,000	£100,000
Lab Technician	£27,000	£40,000	£60,000
Clinical Research Associate	£35,000	£45,000	£60,000
Healthcare Assistant	£30,000	£32,000	£40,000
Pharmacist	£35,000	£50,000	£70,000
Healthcare Support Worker	£24,000	£31,000	£40,000
Allied Health Professional	£37,000	£54,000	£90,000
Healthcare Data Scientist	£55,000	£75,000	£100,000
Data Centre Technician	£30,000	£52,000	£60,000
Data Analyst	£35,000	£65,000	£100,000
Robotics Process Automation	£35,000	£60,000	£100,000
Pharmaceutical Sales	£30,000	£60,000	£80,000
Health Technology Advisory & Management	£40,000	£70,000	£100,000

* Salaries based on UK average

Role	Entry level salary	Median level salary	Senior level salary
Receptionist / Administrator	£22,000	£28,000	£60,000
Project Management	£35,000	£50,000	£80,000
HR Advisor	£35,000	£40,000	£60,000
Finance*	£25,000	£50,000	£100,000
Research Assistant	£31,000	£55,000	£80,000
Secondary School Science Teacher	£36,000	£45,000	£60,000
Science Education Outreach	£23,000	£36,000	£75,000
Lecturer	£37,000	50,000	£90,000
Security*	£25,000	£30,000	£60,000
Planning and Development	£30,000	£60,000	£100,000
Carpenter	£34,000	£46,000	£56,000
Facilities Management	£35,000	£43,000	£65,000

* Based on NHS salaries only

References

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