Science T-Level

T-LEVELS
@ Ada

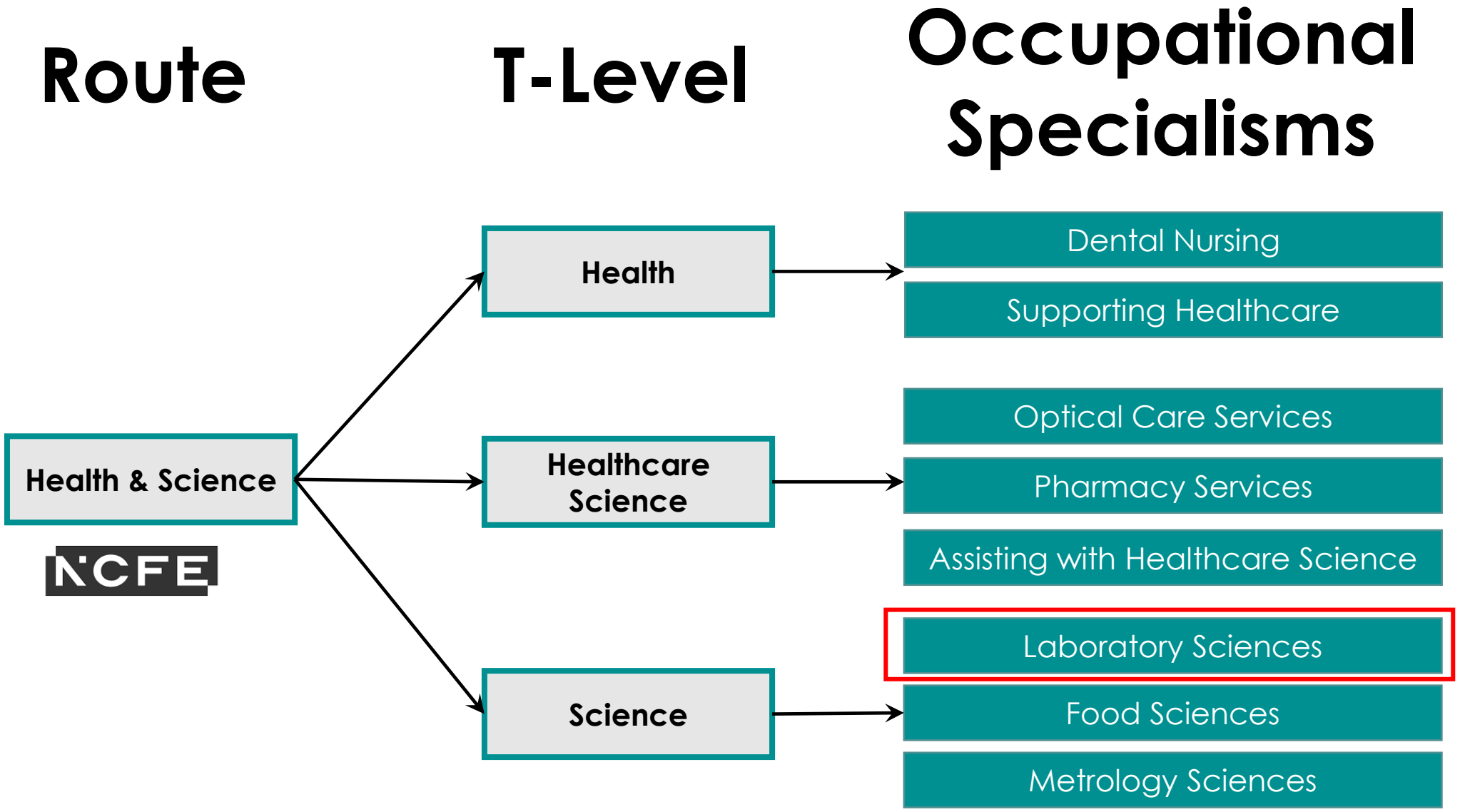
The T-Level

A Levels
Mainly provider based. Minimal work experience
Full time education: no pay
Focus on specific subject content
Awarding organisation outcomes
Prepare students for higher education
Predominantly knowledge based

T Levels
Classroom 80%, workplace 20% (Industry Placement)
Employers: Choose whether to pay or not
Broader course content, students specialise later
Based on the same employer - designed standards
Can lead to employment, higher level apprenticeships or higher education
Combination of knowledge, skills and behaviours

Developed with Employers

Manufacturing Technology Centre
Cambridge Academy for Science and Tech
2 Sisters Food Group
GSK
Oxford NanoSystems Ltd
AstraZeneca Group
Royal Society of Chemistry
Royal Marsden NHS Foundation Trust



2 year course, equivalent to 3 A-Levels

The T-Level is split into two parts (known as components)

Core component - Year 1

1. Paper A: The Health and Science Sector
2. Paper B: Science concepts
3. Employer set project

Occupational specialist component - Year 2

Three externally set assignments organised around performance outcomes

Industry placement with employers (9 weeks/45 days)

Core component - Year 1 Detail

Paper A: The Health and Science Sector

10 sub-topics in total, A1-A10 covering these themes:

- Ethics within the science sector
- Scientific and clinical practices
- Scientific methodology
- Experimental equipment and techniques
- Data handling and processing

Core component - Year 1 Detail

Paper B: Science concepts

Biology

- Cell and tissues
- Classification of biological molecules
- Exchange and transport
- Genetics
- Microbiology and immunology

Chemistry

- Material and chemical properties
- Acids/Bases and chemical change
- Kinetic change
- Chemical analysis

Physics

- Electricity
- Magnetism and electromagnetism
- Fluid and viscosity
- Particles and radiation

Core component - Year 1 Detail

Paper B: Science concepts OCR Chemistry A-Level

K1.19 **How to apply the International Union of Pure and Applied Chemistry (IUPAC) rules to name the following organic compounds:**

- straight chain alkanes and cycloalkanes:
  - methane, ethane, propane, butane, cyclopropane and cyclobutane
- straight chain alkenes:
  - ethene, propene, butene and pentene
- alcohols:
  - methanol, ethanol, propan-1-ol, propan-2-ol and butan-1-ol, butan-2-ol
- carboxylic acids:
  - methanoic acid, ethanoic acid, propanoic acid and butanoic acid
- aldehydes and ketones:
  - ethanal, propanal, propanone and butanone
- amines:
  - ethylamine and propylamine

Naming and representing the formulae of organic compounds

(a) application of IUPAC rules of nomenclature for systematically naming organic compounds

Nomenclature will be limited to the functional groups within this specification.
E.g. $CH_3CH_2CH(CH_3)CH_2OH$ has the systematic name: 2-methylbutan-1-ol.
Learners will be expected to know the names of the first ten members of the alkanes homologous series and their corresponding alkyl groups.

K1.25 **How to calculate free energy change to link enthalpy and entropy:**

- using the Gibbs equation ($\Delta G = \Delta H - T\Delta S$ system)

Free energy

(d) explanation that the feasibility of a process depends upon the entropy change and temperature in the system, $T\Delta S$, and the enthalpy change of the system, ΔH

(e) explanation, and related calculations, of the free energy change, ΔG, as: $\Delta G = \Delta H - T\Delta S$ (the Gibbs' equation) and that a process is feasible when ΔG has a negative value

K1.23 **How to use standard electrode potentials to determine the direction of electron flow in electrochemical cells:**

- electrode that is relatively more negative (oxidation half-cell) will release electrons more readily and electrons will flow from this electrode

Electrode potentials

(f) use of the term *standard electrode (redox) potential*, $E^{\ominus}$, including its measurement using a hydrogen electrode

(g) the techniques and procedures used for the measurement of cell potentials of:

(i) metals or non-metals in contact with their ions in aqueous solution

(ii) ions of the same element in different oxidation states in contact with a Pt electrode

Work placement- 9 weeks

Work placements have been secured with:

- NHS Imperial college healthcare trust
- Veterinary practices
- Pharmacies
- Private labs

These opportunities put them in strong position to secure employment as well as degree apprenticeships, giving students the opportunity to ‘earn while they learn’.

Work placement- Exemplar learning goals

Imperial College Healthcare NHS Trust

Leslie Brent Laboratory

- Put in to practice key skills developed as part of the T level
  - Centrifuging samples
  - Use of digital pipettes
  - Use of LIMS systems

- Learn from industry professionals

- Develop soft skills sort after by all employers
  - Team work/communication skills
  - Time management and reliability
  - Problem solving and decision making

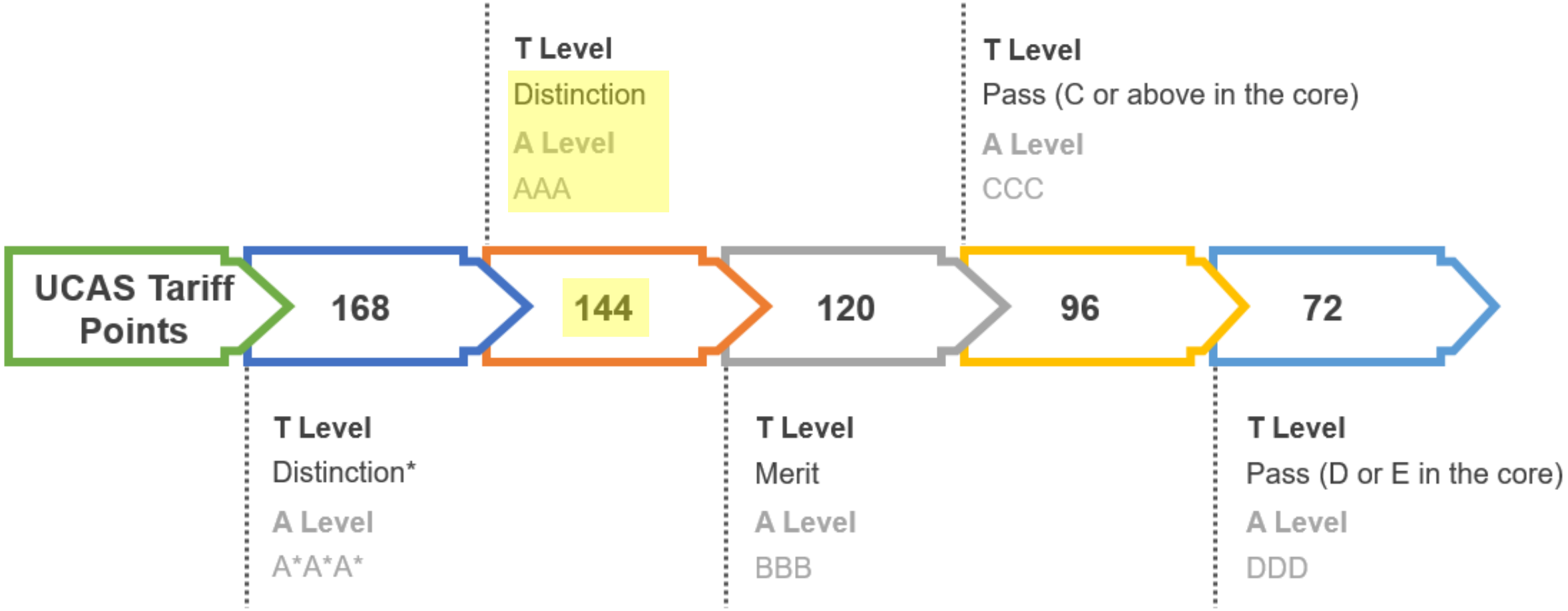
- Make necessary connections to potentially further your career.

Work placement- Skills for the workplace

NHS
Imperial College Healthcare
NHS Trust

Calculation of the T-Level Qualification Grade

	Occupational Specialism Grade (Year 2 assignments)			
Core Component Grade (Year 1 exams and ESP)		Distinction	Merit	Pass
	A*	Distinction*	Distinction	Distinction
	A	Distinction	Distinction	Merit
	B	Distinction	Merit	Merit
	C	Distinction	Merit	Pass
	D	Merit	Merit	Pass
	E	Merit	Pass	Pass



Destinations:

- Over 125+ higher education providers have confirmed T-Levels are suitable for entry, 80+ universities including Russell Group
- Degree level apprenticeships
- Employment

Destinations, a Case Study- York university

Archaeology

- BA Archaeology
- BSc Archaeology
- BA Historical Archaeology
- BA Archaeology and Heritage

Education

- BA Education

Electronic Engineerin

- BEng Electronic
- BEng Music Tech

Environment and Geography

- BSc Environment, Economics and
- MEnv Environment, Economics an
- BSc Environment, Economics and placement year)
- MEnv Environment, Economics an placement year)
- BSc Environmental Science
- MEnv Environmental Science
- BSc Environmental Science (with a placement year)
- MEnv Environmental Science (with a placement year)

Health Sciences

- BSc Nursing (Adult)
- BSc Nursing (Child)
- BSc Nursing (Mental Health)
- MNurs Nursing (Adult)
- MNurs Nursing (Child)
- MNurs Nursing (Mental Health)
- BMid Midwifery
- MMid Midwifery

Law

- LLB Law

Physics

- BSc Physics (with a foundation year)

UCAS code
B762

Institution code
Y50

Length
3 years full-time

Typical offer
BBB (full entry requirements)

Start date
September 2024 (semester dates)

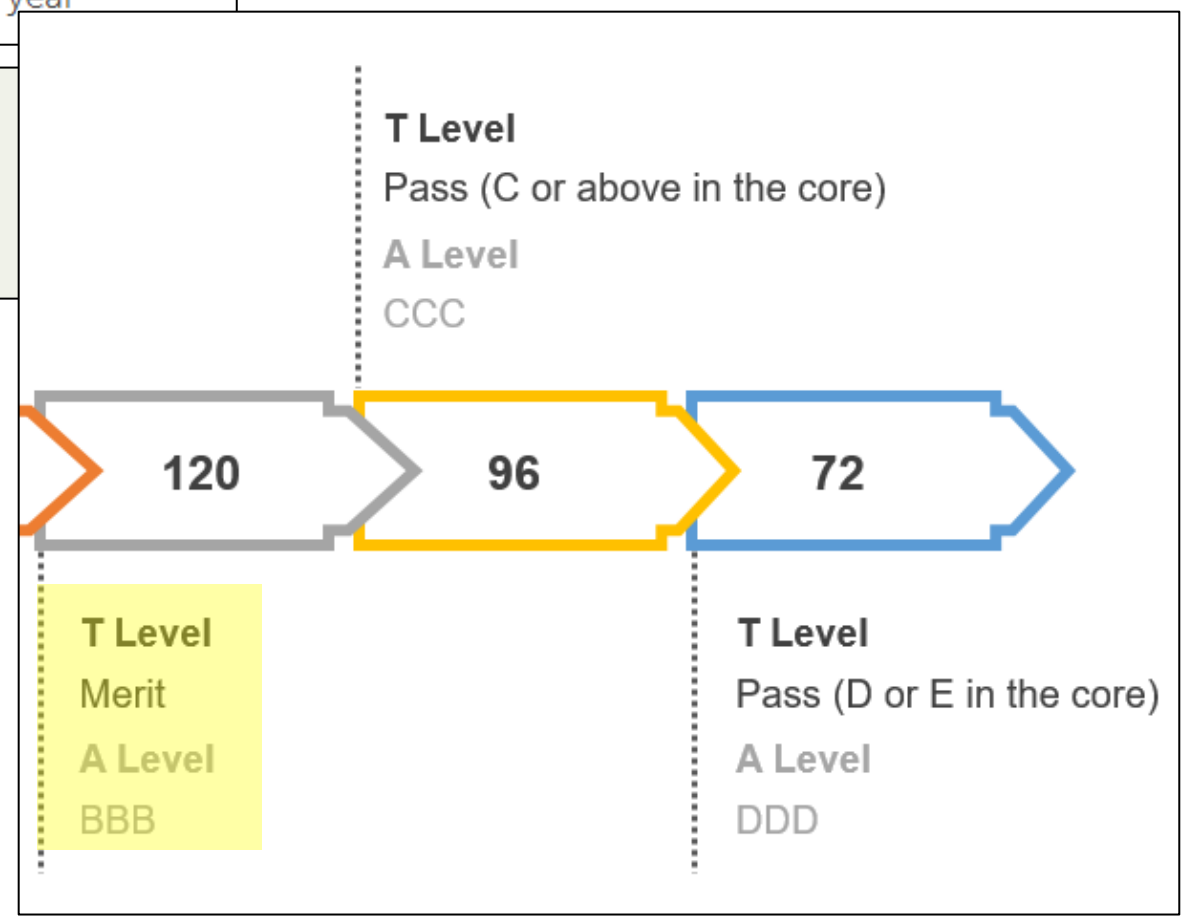
Department
Department of Health Sciences

Apply for this course

UK (home) fees
£9,250 per year

International and EU fees
£28,800 per year

1st for 'Teaching on my course' in mental health nursing
of universities included in the National Student Survey 2023



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	D	Merit	Merit	Pass
	E	Merit	Pass	Pass

Degree apprenticeship

Gain a degree from a prodigious institution

Gain valuable workplace skills with an employer

Make connections and earn promotions

Earn a good salary without paying for your degree, leaving you without any student debt.

Degree apprenticeship

Biomedical Scientist (apprentice)

Sonic Healthcare UK

London

Apprenticeship level	Salary
England - Degree Apprenticeship - Level 6	£24,000.00

Environmental Practitioner Degree Apprenticeship

Department For Environment, Food And Rural Affairs (Defra) Group

Bodmin, Exeter, Sir John Moore House, Victoria Square, Bodmin, Cornwall, PL31 1EB

Apprenticeship level	Salary
England - Degree Apprenticeship - Level 6	£27,245.00

Biomedical Scientist Apprentice

Sonic Healthcare UK

Salford

Apprenticeship level	Salary
England - Degree Apprenticeship - Level 6	£22,000.00

Course entry requirements

To Secure a place you will need the following:

8 GCSEs at Grade 5 or above, including Maths and English

A Grade 6 in Science (Triple Science: 665 and Combined Science: 66)

Useful links

https://tlevelinfo.org.uk/

https://www.tlevels.gov.uk/students/parents

https://www.ncfe.org.uk/technical-education/t-levels/parents-and-learners/