



Level 3 T Level Technical Qualification in Science

Qualification number (QN) 610/7439/1

Laboratory Science Learner Handbook 2026

Name: _____

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You must sign and return the declaration form at the end of this session

Learner induction – The key to your success

This induction session will help you to

- develop an understanding of the outline of the programme (e.g. structure, content, assessment grids, level of programme and equivalency)
- understand the purpose of the assessments as tools for providing evidence of learning
- understand the relationship between the tasks given in an assignment and the assessment criteria
- understand your responsibility on this course

T Level Science (Pearson) Occupational Specialism – Laboratory Science

What is a T Level?

A T Level is an entire post 16 qualification and is equivalent to 3 A Levels so it takes 2 years to complete. The qualification is eligible for UCAS points.

You are doing the Health and Science T level with an occupational specialism in Laboratory Science. This T level has been developed in collaboration with the Francis Crick Institute to prepare you for entry into skilled employment, a higher apprenticeship or related technical study through higher education (university).

T Level is split into three main sections:

- 1. Technical qualification**
 - a. This is the main, classroom-based element where you will study a detailed curriculum covering all aspects of laboratory sciences.
- 2. Industry placement**
 - a. This runs for a minimum of 315 hours overall and will give you practical insights into the science sector and an opportunity to embed the knowledge and skills you learn in the classroom. This will take place in Year 2 and will be at The Francis Crick Institute.
 - b. You will have an interview with staff from the Crick before you are allocated a placement. This is to ensure that you are working in a laboratory that is suitable for you and the specialist staff.

3. English, mathematics and digital

- a. These are built into the classroom-based element of the T Level, meaning you will be given a solid foundation of transferable skills. You have to reach a suitable standard in all three to ensure success in your qualification.

As well as 15 hours of lessons per week, you will be expected to complete an additional 15 hours of self-directed study including homework, lab reports, reading and research, coursework, revision and exam preparation.

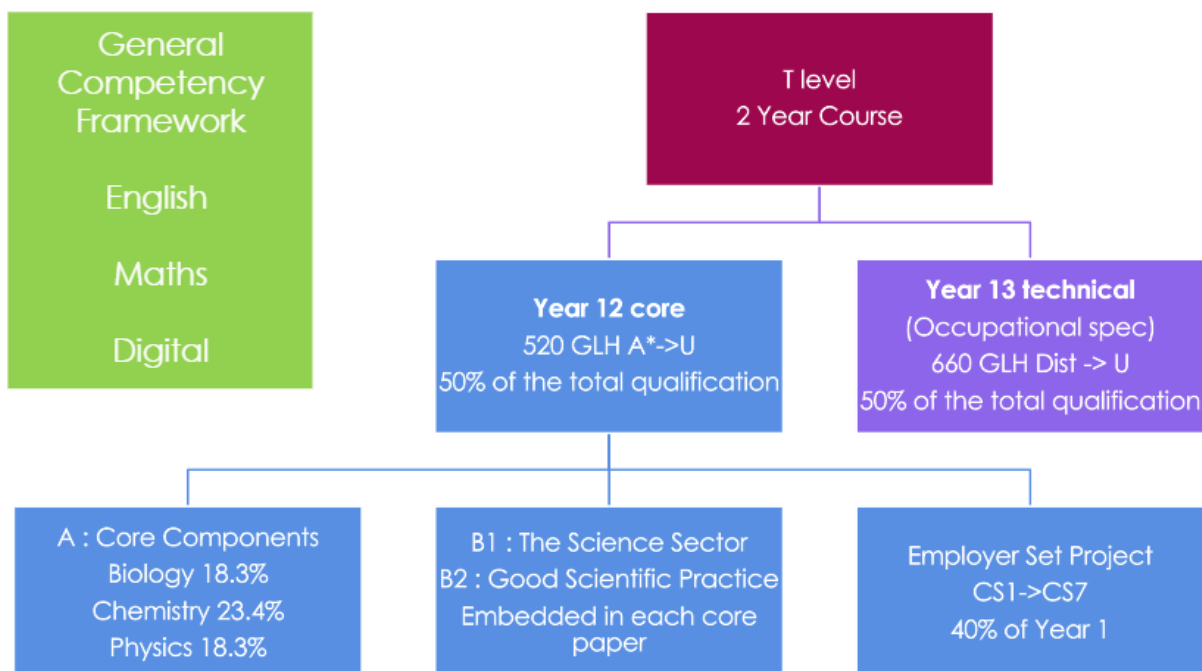
Progression opportunities

Skilled employment, higher apprenticeship or an undergraduate degree

Employment opportunities

Laboratory technician, Laboratory analyst, Microbiologist, Research scientist and many more.

Course Overview



Science topics covered in Year 1:

Cells, Tissues and Biological Molecules, Enzymes, DNA, Cell Cycle, Exchange and Transport, Respiration and Immunology, Chemical Reactions and Energy Changes, Materials and Chemical Properties, Chemical Analysis, Formulae and Equations, Particles and Radiation, Electricity and Magnetism, Gas Laws, Pressure and Viscosity, Units and Quantities.

Other topics covered in Year 1:

Working within the science sector and good scientific practice. B1 covers employment and commercial activity, career pathways, organisations structures, policies, principles and procedures. B2 includes topics such as standard operating procedures, preparing and maintaining equipment, managing and storing stock, health and safety practices in laboratory settings.

You will also learn core skills such as project management, research, working with others, problem-solving, communication and evaluation.

In Year 2, you cover the content and skills for the Occupational Specialism (Laboratory Science)

Teaching and assessment schedule

		Sep 24	Oct 24	Nov 24	Dec 24	Jan 25	Feb 25	Mar 25	Apr 25	May 25	Jun 25	Jul 25		
Year 12	MFCS													teaching A
														teaching B1
	FCI													teaching B2
														C ESP
														placement
		Sep 25	Oct 25	Nov 25	Dec 25	Jan 26	Feb 26	Mar 26	Apr 26	May 26	Jun 26	Jul 26		OS assignments
Year 13	MFCS													public exam
														teaching OS
	FCI		9 weeks											Core A mock

Core A: Science Concepts

Biology Core Concepts

Chemistry Core Concepts

Physics Core Concepts

Core B1: Working in the Science Sector (Synoptic)

Students should be able to evaluate:

- B1.1** the drivers of employment, innovation and commercial activity in the science sector
- B1.2** the opportunities that are available within science career pathways
- B1.3** how individual roles fit within teams and organisational structures in the science sector
- B1.4** the purpose and importance of organisational policies, principles and procedures in the science sector

Core B2: Good Scientific Practice

Students should be able to evaluate:

- B2.1** how Standard Operating Procedures (SOPs) are used in laboratory practice
- B2.2** the importance of preparing and maintaining equipment and work areas
- B2.3** evaluate the importance of correctly managing and storing stock
- B2.4** evaluate the effectiveness of health and safety practices in laboratory settings
- B2.5** evaluate how technology can best contribute to scientific practice

Employer Set Project (ESP)

The purpose of the employer-set project is to ensure that you have the opportunity to apply core knowledge and skills to develop a substantial piece of work in response to an employer-set brief.

The brief and tasks are set in the context of laboratory science and have been devised with the input of employers in the science sector. The ESP will take 18 hours to complete. All tasks are completed under supervised conditions in school time.

Core skills for the ESP

- CS1 Project management
- CS2 Researching
- CS3 Working with others
- CS4 Creativity and innovation
- CS5 Problem solving
- CS6 Communication
- CS7 Reflective evaluation

English, mathematics and digital skills are embedded throughout the T Level and your assignments will assess these skills.

Industry Placement

Your industry placement is intended to provide you with the opportunity to develop the knowledge, skills and behaviours required for skilled employment. As part of achieving the overall T Level programme, you are required to complete a minimum of 315 hours industry placement. Your placement will be in a specialist laboratory at the **Francis Crick Institute** and you will be supervised and observed by your mentor during your time there.

You will have a one-week primary placement in year 1 prior to the full 9 week placement in year 2. You will be getting paid while you are working so this means you treat the placement as employment and must act professionally at all times.

Essential skills

While completing this qualification, you will have the opportunity to develop the knowledge, understanding and essential skills employers look for in employees. These include familiar 'key skills', such as team working, independent learning and problem solving.

In the work place, standards are set for all employees so in addition to the skills above, you must also consider the following:

- appropriate workplace behaviour and dress
- appropriate interpersonal skills
- communicating with professional colleagues/peers and/or hierarchical seniors
- supporting other aspiring employees
- personal manners
- understanding work practices and how different roles and departments function within an organisation

You will be given further guidance closer to the time when you will also undergo an interview process which will help to determine the best laboratory for you.

Assessment

You will undertake a programme of assessment designed to measure your knowledge and understanding of science and the science sector.

Grading

Grading information	Core and Employer Set Project (ESP) components are graded A*–E or Unclassified. The Occupational Specialism (OS) components are graded Pass, Merit, Distinction or Unclassified. The overall grading is on a scale of Pass, Merit, Distinction, Distinction* or Unclassified. The overall grade is awarded by the Department for Education (DfE).
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Assessment Methods

Core component

- 3 written examinations which cover scientific concepts and the Science Sector
 - Paper 1 Core Chemistry 18.3% (1 hour 20 minutes)
 - Paper 2 Core Biology 23.4% (1 hour 45 minutes)
 - Paper 3 Core Physics 18.3% (1 hour 20 minutes)
- employer-set project (ESP) (Total time = 14 hours 30 minutes)
 - Task 1-Literature Analysis and Report (4 hours 30 minutes)
 - Task 2-Project Plan (3 hours)
 - Task 3-Practical Experiment and Reflective Evaluation (2 hours 30 minutes)
 - Task 4-Data Analysis Report, Creating and Delivering a Presentation (4 hours 30 minutes)

In order to achieve a grade for Core Component, you must have results for both sub-components i.e. written examinations and the employer-set project.

The combined results from these sub-components will be aggregated to form the overall Core Component grade (A*–E and U).

If you fail to reach the minimum standard across all sub-components, you will receive a U grade. No overall grade will be issued for the core component until both sub-components have been attempted.

The Occupational Specialism

Occupational Specialism Component Year 2 comprises five synoptic assignments (Total time = 22 hours)

- Task 1 - Review of literature and report
- Task 2 – Practical Plan
- Task 3 – Contributing to scientific reporting
- Task 4 – Experimental practical assessment
- Task 5 – Data analysis report

Performance outcomes

Performance Outcome 1: Design and execute scientific tasks using scientific knowledge

Performance Outcome 2: Perform scientific techniques to collect experimental data adhering to regulatory and safety requirements

Performance Outcome 3: Review, interpret and present experimental data

Performance Outcome 4: Continuously review scientific tasks, suggesting and implementing improvements

You must achieve a distinction/merit/pass grade in your Laboratory Sciences specialism.

If you fail to reach the specified level of attainment, you will receive a U grade.

Command word taxonomy list

The following table shows the command words that will be used consistently in the Core Examinations to ensure students are rewarded for demonstrating the necessary skills.

The list below will not necessarily be used in every paper and is provided for guidance only.

Command word	Definition	Mark tariffs
Which (MCQ)	MCQ instructions – select one correct answer from a choice of four options.	1 mark per item
Add/label	Label or add to a stimulus material given in the question (e.g. labelling a diagram, adding units on a table, adding points or line to a graph).	1 to 2 marks per item
Complete	Provide the missing information for a diagram or table so that it is complete (contains all the necessary information).	1 to 2 marks per item
Draw	Produce a diagram using information from a given context or scenario.	1 to 2 marks per item
Give/state/ name	Provide a response generally requiring the recall of information (e.g. a feature, a characteristic, a use of, or a justification for something).	1 to 2 marks per item
Identify	Select the correct answer from the given context or stimulus.	1 to 2 marks per item
Suggest	Propose a likely solution or application in a given context.	2 marks per item
Describe	Give an account of something. Statements in the response need to be developed as they are often linked but do not need to include a justification or reason.	2 or 3 marks per item (3 mark items on paper 1 only) 1 mark per point of account.
Explain	Requires identification of a point and linked justification of that point. For a 3-mark question a further linked justification is required. For a 4-mark question, the identification of 2 points and 2 linked justifications are required.	2 marks – point (1) + justification (1) 3 marks – point (1) + justification (1) + additional justification (1) 4 mark – point (1) + justification (1) used twice

Command word	Definition	Mark tariffs
Calculate/ determine	Obtain a numerical answer showing relevant working. The number of marks indicates the number of stages in the calculation.	2 to 4 marks per item
Discuss	Consider the factors that apply in relation to a specific context. Give consideration to the aspects of an issue, situation, or a problem. Does not require a conclusion.	6 mark EOR. LBMS descriptors provided – must use these
Evaluate	Consider various aspects of a subject's qualities in relation to its context (e.g. strengths and weaknesses, advantages and disadvantages, pros and cons). Come to a judgment supported by evidence which will often be in the form of a conclusion.	9 mark EOR LBMS descriptors provided – must use these

Calculating your final grade for the T Level Qualification (TQ)

Each core component's marks will be combined to form the overall grade for the core component. The marks from the occupational specialism assignment will form the occupational specialism grade. These grades will be submitted to the Institute for Apprenticeships and Technical Education who will issue an overall grade for the T Level TQ.

To be awarded an overall T Level grade, you must successfully pass both components of year 1, complete an industry placement and pass the occupational specialism synoptic assignment.

See the example on the next page.

This matrix shows the overall TQ grade when both components are combined.

For example, if a student achieved a B grade in the core component assessment (indicated by the vertical column on the left) and a merit grade in the occupational specialism assessment (indicated by the horizontal top row), they would achieve a merit grade for the overall TQ:

Core component grade	Occupational specialism grade				}	Merit
		Distinction	Merit	Pass		
	A*	Distinction*	Distinction	Merit		
	A	Distinction	Distinction	Merit		
	B	Distinction	Merit	Merit		
	C	Distinction	Merit	Pass		
	D	Merit	Pass	Pass		
	E	Pass	Pass	Pass		

Note: Core component 50% / Occupational specialism 50%

What will happen in lessons?

The lessons will vary according to the subject and level but all students should experience most of these activities:

- Discussion - one to one or in groups
- Research – group or individual using a variety of methods
- Report writing – manually or using ICT
- Practical work
- Demonstrations
- Presentations
- Visits/Speakers

Which styles of teaching will be used?

Different styles of teaching will be required throughout the course. This will depend on the unit being taught, the stage of delivery and the type of assessment required for that unit.

Teacher input

At the start of a unit there will be a lot of teacher input; question and answer sessions, discussions, note taking and handouts. This may all happen at the beginning of a unit or at different points throughout the unit. It is important to note any information you are given, as it may be required at a later stage in the unit.

Student investigations

Once the assignment has been explained and the tasks have been set, you will have to work on your own to find the information you need and then you will have to produce the information in a particular format to meet the requirements of the task. The work you produce must be your own; word for word copying from a textbook, or copying and pasting from the Internet **will not** be accepted nor will you be allowed to copy the work of other students. You will have to check regularly with your teacher to make sure that your work is correct and to discuss any ideas that you want to develop.

Group work

For some tasks you may have to work in a group, either to find information or to produce evidence. This is quite acceptable providing that all students take an equal share of the work and that individual contributions are identified.

Practical Work

Practical activities may include experiments and investigations. You must follow all the usual laboratory safety rules when doing practical work.

What will be expected of you?

You will be expected to do all of the following as part of your day-to-day work

- Read and research
- Keep a record of the information you find and the sources
- Plan your work in a logical order and keep a record of your progress
- Prepare Risk Assessments
- Work safely
- Talk to your teachers about your ideas and how to achieve the best results
- Produce drafts and final copies of your work

- Produce good quality work with high standards of grammar and spelling
- Present your work in a suitable format according to the purpose and the audience
- Make sure that you use SI units appropriately
- Evaluate your work and make suggestions for improvement
- Meet deadlines
- Keep a record of the work you have completed, including the grades awarded
- Keep visual records e.g. photographs/videos/PowerPoint presentations

How will standards of work be maintained?

External Marking

All tasks must be completed under supervised conditions. You can access resources in order to complete your assessments.

When a unit of work has been completed and assessed the scripts are sent to the Pearson to be marked.

Storage of work

You will be provided with a folder and lab-book in which to keep your ongoing class work and homework. You will be responsible for these and must bring them to all lessons. All completed classwork will be put into your folder.

The Appeals Process and Policy

The Appeals Process

The Science Department will follow Pearson's policy regarding your right to appeal.

Notice to Candidates

This part of the document tells you about some things that you must and must not do when you are completing work.

If there is anything that you do not understand, you **must** ask your teacher.

This course provides you with an opportunity to do some independent research into a topic. The research you do will involve looking for information in published sources such as textbooks, journals, TV, radio, and on the internet.

Using information from published sources (including the internet) as the basis for your work is a good way to demonstrate your knowledge and understanding of a subject, but you must take care how you use this material - you cannot copy it and claim it as your own work.

The regulations state that:

“the work which you submit for assessment must be your own”;

“you must not copy from someone else or allow another candidate to copy from you”.

If you use the same wording as a published source, you must place quotation marks around the passage and state where it came from. This is called “referencing”. You must make sure that you give detailed references for everything in your work which is not in your own words. A reference from a printed book or journal should show the name of the author, the year of publication and the page number, for example: (Morrison, 2000, pg.29).

For material taken from the internet, your reference should show the date when the material was downloaded and must show the precise web page, not the search engine used to locate it. This can be copied from the address line. For example: the link to your specification is as shown here.

<https://www.ncfe.org.uk/qualification-search/qualification-detail/t-level-technical-qualification-in-science-level-3-delivered-by-ncfe-883>

If you copy the words or ideas of others and don’t show your sources in references and a bibliography, this will be considered as cheating.

Please be sure to use the Harvard referencing System on all your work

Preparing your work – good practice

Take care of your work and keep it safe. Don't leave it lying around where your classmates can find it. You must always keep your work secure and confidential whilst you are preparing it; do not share it with your classmates. If it is stored on the computer network, keep your password secure. Collect all copies from the printer and destroy those you don't need.

Don't be tempted to use essays from online essay banks — this is cheating. Electronic tools used by awarding bodies can detect this sort of copying.

Plagiarism

Plagiarism involves taking someone else's words, thoughts or ideas and trying to pass them off as your own. **It is a form of cheating which is taken very seriously.**

Don't think you won't be caught; there are many ways to detect plagiarism.

- Markers can spot changes in the style of writing and use of language.
- Markers are highly experienced subject specialists who are very familiar with work on the topic concerned — they may have read the source you are using (or even marked the essay you have copied from!).
- Internet search engines and specialised computer software can be used to match phrases or pieces of text with original sources and to detect changes in the grammar and style of writing or punctuation.

Penalties for breaking the regulations

If your work is submitted and it is discovered that you have broken the regulations, one of the following penalties will be applied:

- the piece of work will be awarded zero marks;
- you will be disqualified from that unit for that examination series;
- you will be disqualified from the whole subject for that examination series;
- you will be disqualified from all subjects and barred from entering again for a period of time.

Your awarding body will decide which penalty is appropriate.

REMEMBER – IT'S YOUR QUALIFICATION SO IT NEEDS TO BE YOUR OWN WORK

Guidance

Plagiarism definition

“The reproduction or appropriation of someone else's work without proper attribution; passing off as one's own the work of someone else.” (Plagiarism.org - Best Practices for Ensuring Originality in Written Work, 2016)

Examples of plagiarism are likely to be (though not limited to) circumstances where learners have not acknowledged the actual source and:

- copied word for word from a printed or online source
- closely paraphrased the original text with a slight wording change
- used someone else's ideas and conclusions

When copied work is referenced, a learner may not meet the relevant grading criteria in the Assessor/Examiner's judgment, but plagiarism and therefore maladministration or malpractice will not be considered to have occurred.

Referencing of sources is an important skill for learners to develop and is essential for the integrity of assessment, qualifications and awards.

Maria Fidelis Sixth Form has an agreed policy on plagiarism including what we believe to be the most appropriate recognised method for acknowledging sources at the point of use, such as referencing by including citations or identifying quotations and generating a bibliography.

Demands for thorough references become greater for higher level qualifications/awards (Level 3 and above), where clear referencing is necessary to support the demonstration of knowledge, understanding and critical thinking.

Detecting and preventing plagiarism

Pearson expects your school to have mechanisms in place to prevent plagiarism such as being vigilant and continuously checking for any occurrences where this is allowed by the type of assessment, possibly in conjunction with the use of plagiarism-identifying software.

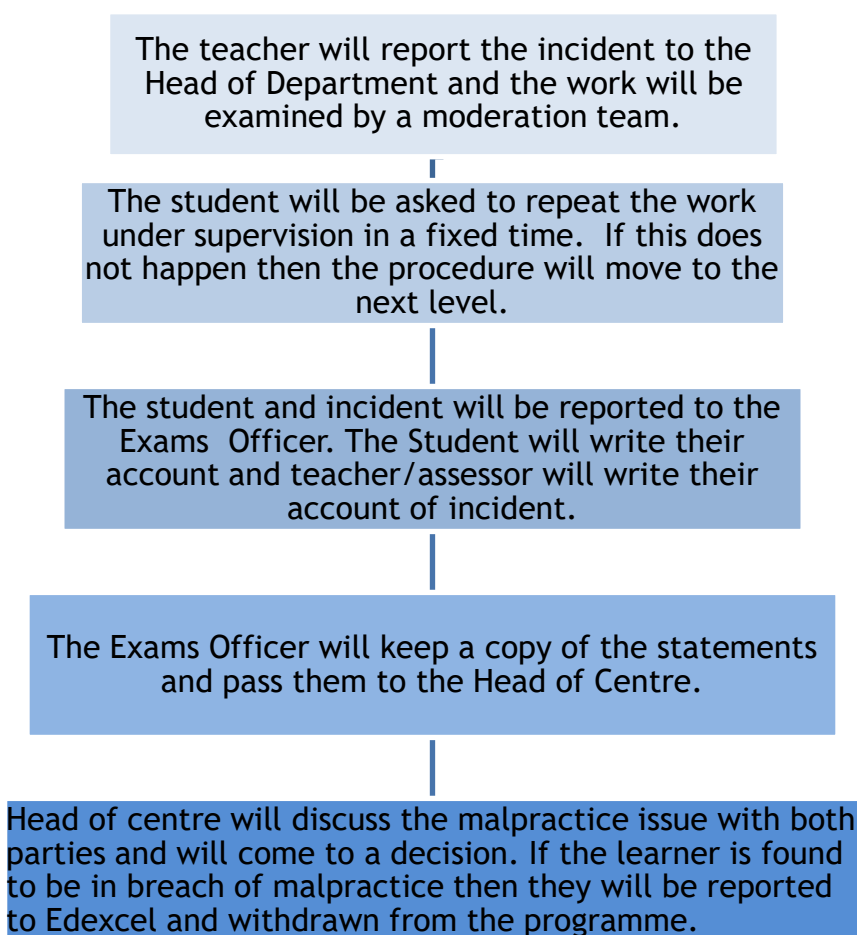
Teaching the techniques of referencing to learners and ensuring learners have sufficient time, understanding, and the resources to complete assessments can all be important factors in combatting plagiarism.

Pearson also expect centres to address all cases of potential plagiarism. This may range from dealing with unreferenced work to investigating cases of deliberate attempts to copy unacknowledged material. The centre should deal with all cases of plagiarism identified before grades/marks and/or assessment work is submitted to Pearson.

When plagiarism is identified in external assessments where it is not possible for centres to check for plagiarism beforehand, centres will be notified and achievement may be withheld from the learner.

Student Malpractice

If a learner has conducted malpractice then the following actions will occur:



Sign the declaration form and return it to your teacher to show you have attended this induction session and that you understand what is expected of you.