studyclix.ie
makes exams easier

presents

Technology

How to get a H1 in the Leaving Cert Technology Exam

by **Gráinne Enright.**

Gráinne Enright is an electronic engineer and teacher. Gráinne has corrected state exams and written mock papers, and has mentored and patented prize winning technical projects in the Young Scientist competition.

Technology is a great subject and one that you can do really well in. You'll probably find Leaving Cert Technology a bit easier if you've done it for Junior Cert. Many of the topics are similar to Junior Cert but have a lot more detail. There is not too much Math in it, which suits many people. Half of all your marks go for your practical project. You can do really well in Technology by doing a good project, and a good project folder, meaning you can get up to 50% of the marks even before you sit the exam. Make sure to do lots and lots of previous exam questions to prepare for the exam. Studyclix, the Technology Book, and examinations.ie are great for this.

Contents

studyclix.ie
makes exams easier

LC Technology: General Info, Advice and Tips

Deciding between Higher and Ordinary Level:

☒ Unlike most other subjects, you need to decide in October of your final year which level you are going to take. This is because the higher-level and ordinary-level projects are different, and you need to start the right one. Do not drop down to Ordinary Level lightly though. **Discuss it well with your teacher and your parents/guardians before deciding.**

Where your marks go:

☒ The chart below shows in more detail where the marks go. Notice that you can get up to 25% with a good project folder. **The short questions are a great place to pick up lots of marks.**

Exam (June) = 50%			PROJECT (by early April) = 50%	
18%	12%	20%	25%	25%
Answer 12 to 15 Short Questions	Answer 2 long Core Topic questions	Answer 2 long Option Topic questions	Fill in your PROJECT FOLDER	Build your Project ARTEFACT (working model)

My Top Tips:

☒ <u>Learn by doing, get stuck in to the practical work</u>:

You will learn more and remember more by doing things. And it makes your classes more fun. **Ask questions**. If you do lots of practical stuff, you'll learn and remember more about things like materials, tools, processes, components, mechanisms, electronic circuits, and safety.

◻ <u>Use the Technology Book:</u>

There's lots of good readable stuff in the book, and lots of practice questions. It will give you information on topics you didn't know or have forgotten, and it has tips and examples on how to do your project and project folder.

◻ <u>Know Basic Mechanisms and Basic Electronics:</u>

If you get familiar with basic mechanisms and basic electronics circuits, then the project, and many exam questions, will get easier for you.

◻ <u>Practice lots of free-hand sketching in the year:</u>

If you can get good at drawing, it will help you in the exam and it will also help you do the sketches and drawings for your Project Folder.

◻ <u>**Do a good job on your PROJECT:**</u>

Plan it out, start early. You can get close to 50% long before you do the exam. That frees you up to study to get more points from the exam. I give more tips on this later on.

◻ <u>**Do a great job on your PROJECT FOLDER:**</u>

It's worth the same marks as your built project! **Start it EARLY** and fill it out it as you go along, NOT at the end! Use a project folder template provided by your teacher, and fill out every section, and view some sample folders on the T4 website at:

http://www.t4.ie/Tech_Assessment.html

◻ <u>**Do lots of Previous Exam Questions:**</u>

This is the number one way to get to know the material for the exam. If you don't know something, you can go back to the book and look it up. Studyclix, the Technology book, and examinations.ie are good for this.

☒ <u>Pick the two option topics you can do well in:</u>

You have to answer two Option Topic questions in the exam. If your teacher has covered only two Option Topics, then you've no choice. If your teacher has covered more than two Option Topics, revise the two you are strongest in.

☒ <u>Time Yourself in the Exam:</u>

Allow yourself around the following times for each section in the paper (this leaves you 5 minutes at the end).

Time for each Section	Higher Level	Ordinary Level
Section A: Core Short Questions	50 minutes	40 minutes
Section B: Core Long Questions	35 minutes	30 minutes
Section C: Options Long Questions	60 minutes	45 minutes

If you run over time on a section, move on to the next section, you may be able to come back to them later.

studyclix.ie
makes exams easier

The Project

The key to doing well in the project is to plan it out well from the start. This is because it will take you longer to do everything than you think. There are more stages to the project than you think, you must have a plan in your Project Folder anyway and finally, it's your project, and the teacher is not going to do it for you.

Tips for Planning and Running your Project:

- Choose your project brief carefully. You can't change it once you get further in to it. **Get advice from the teacher.**

- Use a Project Folder template. Keep a rough version and fill it in as you go every week and month. Type it up neatly later and **create really good drawings** to transfer into the final version.

- Check in with your teacher often, and ask him/her for advice on:

  1. What stage / activity you should be at now, ask to review your plan.

  2. To review your design ideas and how you're going to build it

  3. Review your choice of materials, components and processes - ask what is available in the Technology Room, what needs to be ordered in.

  4. Review your Project Folder as you are assembling it.

  5. Review your Project Build (artefact) as you are building it.

- Here's one idea of how a project might be planned-out. It depends on how your teacher wants to time it as well.

What you could be doing each month on your project	
October / November	☒ Decide if you are doing Higher Level or Ordinary Level. Discuss this well with your teacher. ☒ Choose a Project Brief with your teacher ☒ Download a Project Folder Template or use your teacher's one. ☒ Fill in the Project Brief and the Analysis section (rough) ☒ Do out a project plan for the whole project ☒ Ask your teacher to review it ☒ Do some research and write up what you did in project folder
December / January	☒ Draw and write up some possible design ideas, what kinds of parts you need, how feasible to build ☒ Review with the teacher ☒ Choose a design to build ☒ Order any parts that you need
February	☒ Start building the project. ☒ Start building the trickiest parts first, i.e. the mechanisms and the electronics ☒ Assemble the project, test it out, fix it, improve it ☒ Take photographs as you go
March / April	☒ Write up the final Project Folder with good presentation, language, good drawings.

What Examiners are Looking for in Your Project Folder:

☒ Neat presentation.

☒ Provide a description of your understanding of what the project brief is looking for. Provide more thinking and more detail about what else might be required - who might use it, what else they might want, what else might be important in any design. Provide a list of more detailed requirements for the project.

☒ Provide a plan for the whole project, showing the time planned for each stage (e.g. research, design, building, testing, improvements, etc.). Mention any critical paths in the project (e.g. ordering parts) and how you managed them. Describe how much workshop resources you had available and how much money you could spend on parts.

☒ Describe the types of research you carried out into existing similar solutions, and the materials and processes and ideas that you might use in your project e.g. internet searches, interviews, surveys, libraries, and real customers.

☒ Make sure you describe three different annotated design ideas in your project folder. Each design idea must include a circuit or mechanism (or both), and you must include sketches / drawings for all three design ideas.

☒ Give reasons why you chose one particular design idea over the other two.

☒ Show that you considered environment and safety impacts in the design.

☒ Provide detailed manufacturing drawings for the chosen design idea, including wiring diagrams for electronics.

☒ Provide a detailed list of parts and prices.

☒ Provide a list of steps of how to make the parts, and how to assemble all the parts. Provide drawings of how to assemble the parts.

☒ Provide photographs of different stages of the product, and the final product

☒ Describe how you tested the product against the requirements. Describe what didn't work and what had to be changed.

☒ Provide a written evaluation of the built product – what worked well, what you would do differently next time.

☒ Provide a written evaluation of the project planning and use of time - what stages had enough time and worked well, what you would do differently next time.

What Examiners are Looking For in Your Built Project (Artefact):

☒ Does it do what was asked for in the project brief?

☒ Does it show some **originality and creativity** in the design, not copied?

☒ Does it use **good materials** for the design? Does it use a range of materials?

☒ Does it use **good (appropriate) component parts** in the design?

☒ Does it show that you were able to use a **variety of manufacturing and assembling techniques** to make it?

☒ Does it show a **high quality of manufacture and a high quality of finish**?

☒ Does it show that **environment and health and safety** were taken in to account?

☒ Are appropriate parts labelled (e.g. power, switches)?

☒ Does it work (i.e. functions, moves, lights, does what it was designed to do)?

How to Do Well in the Written Exam

The exam is in June and you have 2.5 hours for Higher-Level (HL) and 2 hours for Ordinary-Level (OL).

Structure of the Exam Paper (50% of Total Marks)				
Section	%	Question Type	Topics	How many questions to answer
Section A	18%	Short Questions	CORE Topics (see page 11)	Answer 12 out of 15 questions (OL: Answer 9 out of 12)
Section B	12%	Long Questions		Answer 2 multi-part questions
Section C	20%	Long Questions	OPTION Topics (see page 11)	Answer 2 out of 5 multi-part questions

Things to Note:

▢ The Section B long questions are taken from across all the Core Topics. You have some choices within some questions, but you don't know which topics are going to come up.

▢ Section C has 5 long questions, one question on each Option Topic. You need to answer 2 questions (i.e. 2 Options Topics). You will only have a choice in Section C if your teacher has covered more than two Option Topics in class.

▢ See the chart on the next page for which topics belong where.

CORE TOPICS Section A Short Questions Section B Two Long Questions	OPTION TOPICS (Choose Two) Section C Long Questions
Health and Safety	
Technology and Society	
Project Management	
Quality Management	
Materials and Production	Applied Control Systems
Communications and Graphic	Electronics and Control
Media	ICT2 (Information & Communications
Structures	Technology 2)
Mechanisms	Manufacturing Systems
ICT (Information & Communications	Materials Technology
Technology)	
Energy	
Electricity	
Electronics	

Top tips for doing well in the exam:

☒ Do lots and lots of previous exam questions beforehand.

☒ Time yourself in the exam (see times earlier)

☒ **Read the instructions and the questions really carefully**. Especially watch out for the OR words that indicate where you have a choice of questions!

How to revise for Exam Section A – Short Questions

☒ <u>**Broaden your Knowledge**</u>: To get good marks in the Short Questions, you need to have a broad knowledge of most of the Core Topic areas of the course. However, the good news is the answers are not complex, and they are quick to answer - you'll either know the answer or you won't. If you know the answer, it is fairly quick to write it down. If you don't know the answer, you can look it up in the book, so you'll know it for next time.

☒ <u>**Practice Past Questions**</u>: The best way to get good at the short questions is just to do lots of them from previous exam papers. This is easy to do because they don't take long to do. As you go along, do the short questions in each chapter, and before the exam, do lots of full exam papers. You'll soon begin to see the types of questions that come up.

How to revise for Exam Section B – Core Long Questions

☒ <u>**Focus on Past Questions**</u>: Any Core Topic can come up in Section B, so you can't choose to skip over any topics. Again, the best way to revise for this is to do lots of previous exam questions. You'll begin to see which areas you have more trouble with, and those you need to spend more time on.

How to revise for Exam Section C – Option Long Questions

☒ <u>**Follow your Strengths**</u>: In a way, Section C is easier to revise for than Section B, because you know which Option Topics you are going to choose in the exam paper. If your teacher has covered more than two Option Topics, pick the two Option Topics you are strongest in. Again, the best way to do well in Section C is to do lots and lots of previous exam questions.

Timing in the Exam

- **Do the short questions (section A) first**. You can pick up lots of marks in the short questions. Give yourself 50 mins (HL) or 40 mins (OL). If you go over time, or are not sure about some short questions, move on - you might have time to come back to them later.

- Give yourself around 35 minutes (HL) or 30 minutes (OL) to answer the two Core Long Questions. Be really careful about the OR words in the instructions, that tell you which questions you can choose between. **Choose the questions you are most familiar with**. If you get stuck, move on to the next question, and come back to them later.

- Give your around 60 minutes (HL) or 45 minutes (OL) to do the two Option Topic Long Questions. You'll know beforehand which two questions you'll be doing as you'll have studied those. If you've studied 3, quickly read the three and decide which 2 you'll do the best in. Only do the 3rd if you have plenty of time at the end.

- Use all the time you have, **do not leave early.** If you have time at the end, go back to any skipped-over questions, **check previous answers**, or do a 3rd option question if you've studied it in class.

Final Top Tips

- Do a good job on your project - **plan it out, start early**
- Fill in all the sections in your project folder template as you go along
- Get stuck in to the practical activities - **learn by doing**
- Use the Technology Book
- Practice lots of free-hand sketching and isometric drawing
- Get to know basic mechanisms and basic electronics
- Do lots and lots of **previous exam questions**
- **Time yourself** in the exam

Finally, I would like wish you the best of luck in the exam! You will be fine. ☺