Planning for learning documentation – A Level physics

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# Planning for learning

# Sequencing statement

Carefully considered sequencing in A Level Physics is imperative as many of the topics covered build on and assume a significant volume of prior knowledge. There are 3 main branches of physics in the syllabus (Mechanics, waves and particles and electricity and magnetism), and the topics within these build over time. Furthermore, the three main branches are not mutually exclusive, therefore it is not always possible to sequence in such a way as to always be able to assume prior knowledge. The long-term plan for A Level physics therefore seeks to sequence the content in the most effective order for supporting knowledge acquisition, but also be mindful of instances where a small amount of knowledge may be required but not yet fully understood.

Early in the first year of the course much of the prior knowledge is GCSE content, and in order to support knowledge acquisition resources are shared with the learners that allow them to refresh their knowledge prior to approaching the A level content. Additionally, there are examples of content that may not have been covered by all learners in their GCSE studies due to, for example, learners studying for the Combined Science qualification rather than Separate Science. In this instance the prior learning is not automatically assumed in order to ensure all learners build the foundations needed for in depth understanding of the content.

In year 2 of the course the foundations of each of the three main branches are built upon, and a good working knowledge and understanding of specific year 1 topics is necessary.

Specialism statement

The physics curriculum is designed to produce digitally able and technically competent future scientists, engineers' mathematicians and programmers, with real industry and academic knowledge and skills.

All of this is underpinned by continued direction and understanding of the local workforce demographic.

# Curriculum on a page

See document in folder

# Knowledge acquisition

Within A – Level physics we follow roughly the triple A model of delivery.

Acquire - Each week there will be an “Acquire“ session where new content is shared.

Apply - This is then followed by a series of apply tasks. These can include group activities, research tasks practical investigations or worked problems.

Assess – This is the weekly assessment. Some of these can be very short or others can last much longer, and is dictated by the point we are up to within a topic or learning cycle.

# Routines

A week in A-Level physics generally follows the below set pathway for lessons.

Lesson 1 – Acquire

Lesson 2 – Apply Set 1

Lesson 3 – Apply Set 2

Lesson 4 – Assess

Lesson 5 – Review / Worked solutions / Intervention

There is also the expectation that there will be 5 hours of independent learning time completed by learners. This is mainly directed in terms of homework, but there is some flexibility in terms of reading and research into areas of interest.

Larger assessment aligned to DC windows will involve a more diagnostic feedback approach. This may be from teacher marking or from peer marking in conjunction with worked solutions, or from intervention and review sessions.

The work that is formally marked by the teacher is as follows:

1. All PPE
2. All Core practical’s

Additional assessment that is assessed either as a class by a peer or by the teacher is as follows

1. Weekly assess
2. Literacy assignments
3. Homework
4. Class problems

Learners will receive their feedback following the schools “YET” marking policy

# Literacy

Within A-Level physics we have our “lilac for literacy”. Within the A-Level physics curriculum there is a demand for extended writing. A minimum of once per half term will involve a “Lilac for literacy” task. Within this task there is a focus on constructing sound scientific arguments, using key vocabulary correctly.

Learners will have this work marked in line with the school marking policy. Depending on how this is reviewed it will be done either as a whole class, by a peer or by the teacher.

# Resources to help

* **Mr Howard’s a level physics website See google classroom its there!**
* AQA [Physics webpages](http://www.aqa.org.uk/subjects/science/as-and-a-level/physics-7407-7408) are aimed at teachers, but you may find them useful too.
* The [specification](http://www.aqa.org.uk/subjects/science/as-and-a-level/physics-7407-7408) – this explains exactly what you need to learn for your exams.
* [Practice exam papers](http://www.aqa.org.uk/subjects/science/as-and-a-level/physics-7407-7408/assessment-resources)
* Lists of [command words](http://www.aqa.org.uk/resources/science/as-and-a-level/physics-7407-7408/teach/command-words) and subject specific vocabulary – so you understand the words to use in exams
* [Practical handbooks](http://filestore.aqa.org.uk/resources/physics/AQA-7407-7408-PHBK.PDF) explain the practical work you need to know
* [Maths skills support.](http://www.aqa.org.uk/resources/science/as-and-a-level/teach/maths-skills-briefings)
* Math and physics tutor <https://www.physicsandmathstutor.com/>

## Institute of Physics (IOP)

The IOP do everything from research like that taking place at CERN to lobbying

MPs. You’ll find lots of handy resources on their website at [iop.org/tailored/students/](http://www.iop.org/tailored/students/)

## The student room

Join the A-level Physics forums and share thoughts and ideas with other students if you’re stuck with your homework. Just be very careful not to share any details about your assessments, there are serious consequences if you’re caught cheating. Visit [thestudentroom.co.uk](http://www.thestudentroom.co.uk/)

## Textbooks

We have online textbooks, and you will be shown how to access this in September.

## Revision guides

These are great if you want a quick overview of the course when you’re revising for your exams. Remember to use other tools as well, as these aren’t detailed enough on their own.

## YouTube

YouTube has thousands of Physics videos. Just be careful to look at who produced the video and why because some videos distort the facts. Check the author, date and comments – these help indicate whether the clip is reliable. If in doubt, ask your teacher.

I have my own youtube channel you might want to check out [Mr Howard teaches](https://www.youtube.com/user/20mrdannyh), with lots of physics stuff on

## Google classroom

You will be free to join the legendary A-Level physics google classroom, there are all of my resources and lots of other useful documents for you to use. To join the classroom then use the code iyjqcea

# KS5 Curriculum handbook subject page

See document in folder

# LTP

See document in folder

PPE - November

|  |  |  |
| --- | --- | --- |
| **A Level physics** | **Final Exam** | **PPE Exam**  |
| **Number of Papers** | 3 | 2  |
| **Entry** | N/A | N/A |
| **Length of each paper**  | Paper 1 = 2HrsPaper 2 = 2 HrsPaper 3A = 70 MinsPaper 3B = 50 Mins  | Paper 1 21.11.22 AM 2hrPaper 2 23.11.22 PM 2hr |
| **% of CA** | 0% | 0% |
| **Number of topics to be assessed** | All | Paper 1: Topics 1 - 5b Paper 2: Topics 5b – 9, CPACs & 13 \*Topics 8, 9 & 13 will only parts taught up to 4.11.22 |
| **How will the assessment be generated** | Using example questions throughout AQA published material.  |
| **Will the students have seen the assessment before/in lessons?** | Students will have seen the topics but not the specific questions. |
| **How will you provide students with a list of what needs to be revised for the trial exam?** | Students will use the resource list provided on google classroom so as they know what to revise |
| **What revision resources will students be provided with to help them prepare?** | * **Mr Howard’s a level physics website See google classroom its there!**
* AQA [Physics webpages](http://www.aqa.org.uk/subjects/science/as-and-a-level/physics-7407-7408) are aimed at teachers, but you may find them useful too.
* The [specification](http://www.aqa.org.uk/subjects/science/as-and-a-level/physics-7407-7408) – this explains exactly what you need to learn for your exams.
* [Practice exam papers](http://www.aqa.org.uk/subjects/science/as-and-a-level/physics-7407-7408/assessment-resources)
* Lists of [command words](http://www.aqa.org.uk/resources/science/as-and-a-level/physics-7407-7408/teach/command-words) and subject specific vocabulary – so you understand the words to use in exams
* [Maths skills support.](http://www.aqa.org.uk/resources/science/as-and-a-level/teach/maths-skills-briefings)
* Math and physics tutor <https://www.physicsandmathstutor.com/>
 |
| **Any other information:** | Paper 2 will be a mix of “Y13” content along with  |