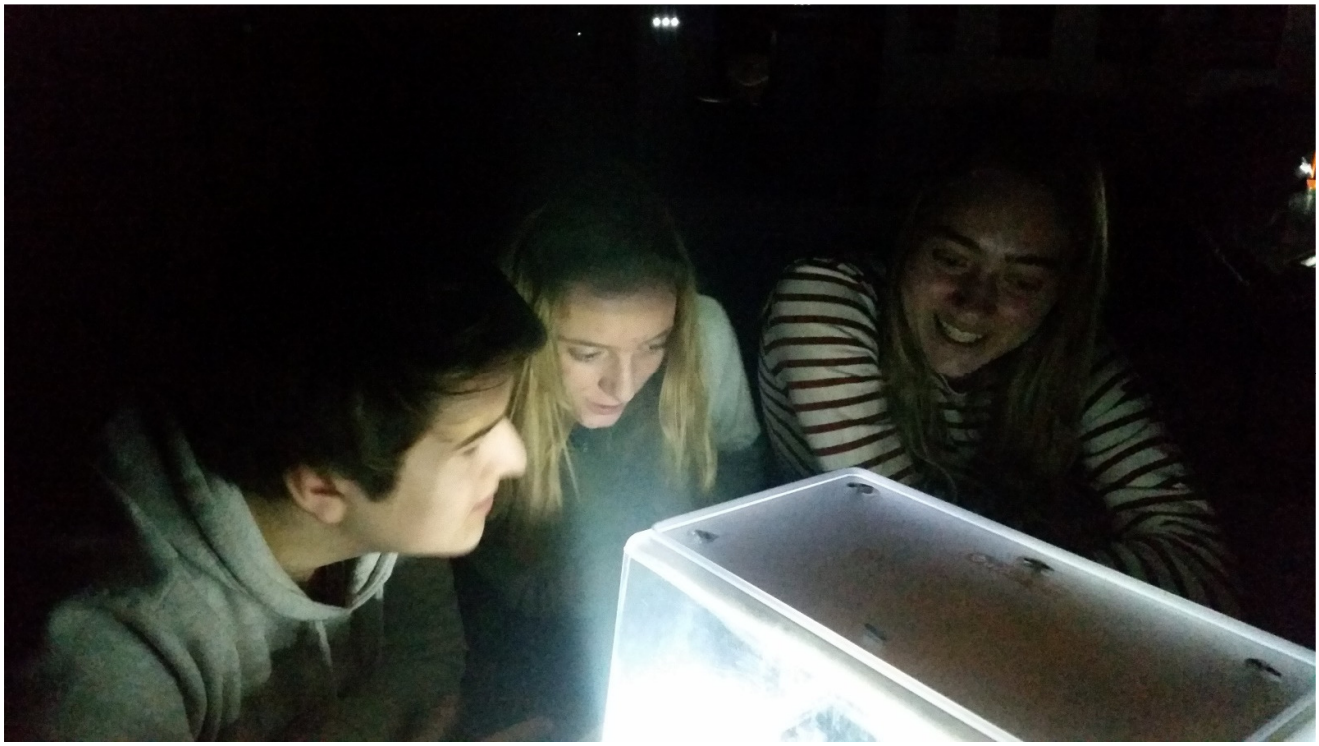
Godalming College

Physics A-Level
COURSE HANDBOOK



AQA Physics

7408

Godalming College

INTRODUCTION TO THE DEPARTMENT

Welcome to …. We hope that you enjoy your time in the department and find the process of studying the course a challenging and rewarding one.

The purpose if this guide is to provide you with a range of information and advice to help you organise your programme of study, learn independently, and equip you with important information about the department and how it can support you.

Teaching Staff:

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Director of Faculty (Humanities and Social Sciences/Arts and Sciences):

- Debbie Haggar DJH@godalming.ac.uk

Along with the names above, the following departments and places will be useful whilst studying on the course:

The ILC – your go-to place to complete work and independent study outside of lessons. The Silent Study area provides an area to work individually, whilst the library contains an excellent selection of wider reading. Make sure that you have familiarised yourself with the ILC when you start the course

The Exams Office – for any questions you have about your exam entries, exam timetable or remarks and script requests.

Learning Support – for any extra support or advice you need to help you study in general. If you are struggling to organise and manage your workload; need help refining your essay-writing technique; help with revision; or if you think you might be entitled to any exam concessions, learning support are the people to talk to.

Careers – when you start to think about your options after college, whether university or employment based, careers can give you advice on where to apply and help in producing a personal statement.

EXPECTATIONS

WHAT IS EXPECTED OF STUDENTS?

1. **Attendance and punctuality** – learning cannot begin if you are not in lessons or if you arrive late to them and miss important content. Students should maintain full attendance and punctuality. Any unavoidable and legitimate absences should be accounted for properly, meaning that students get a parent or a guardian to contact college and then email their teacher(s) to catch up on missed work
2. **To maintain a mature and respectful learning environment** – this means behaving in and out of lessons in a way expected of a Sixth-Form student: listening carefully to the views of others and offering constructive contributions in class
3. **To stay up-to-date** – you will be set weekly structured preparation or homework tasks and it is essential that these are completed on time and in the required level of detail. We use structured homework to consolidate particular content or to set up lessons to come. If work is incomplete your understanding will be incomplete and you will under-perform. If you arrive at a lesson having not completed preparation work then your teacher may also ask you to leave and complete this elsewhere.
4. **To stay organised** – managing the demands of a minimum of three subjects is challenging, especially when you are being taught more than one unit in each. You need, therefore, to stay organised. This means preparing a folder for each of your units, bringing the correct materials to each lesson and recording homework in the same place every time
5. **To meet the 50/50** – students are expected to conduct 4.5 to 6 hours of independent study a week. This will include structured preparation or homework tasks set by your teachers along with proactive tasks you complete yourself to consolidate and extend your understanding. See the advice later in this booklet for more help on doing this.
6. **To make the most of feedback and support** – you will get a lot of feedback during your time on the course. This will come as written feedback on assessed work, verbal feedback on general class or homework, and targets set at formal 1-1s. Feedback needs to be recorded carefully by you and acted upon. When you get back assessed work, for example you will be asked to record your own targets based on this, and may, in addition, be asked to attend a lunchtime workshop to help process feedback.
7. **To be resilient** – any subject will at times be very challenging. At times you will not do as well as you want or will struggle to understand a new topic or idea. You need to be prepared to spend more time on areas such as these and to seek out extra help when needed. These experiences of finding areas where you are not doing so well and improving them are what lead to success.

WHAT CAN YOU EXPECT OF YOUR TEACHERS?

1. **To deliver structured and engaging lessons** – your teachers will deliver lessons designed to challenge your understanding whilst also helping you to gradually build up your knowledge and skills. These lessons will follow the scheme of work, a version of which you can see in this handbook.
2. **Regular assessment and feedback** – in addition to your benchmark assessments (four in the first year and three in the second) your teachers will regularly set you exam-style questions to give you opportunities to practice and improve. Feedback will be given on standardised sheets which include the relevant mark scheme and clear developmental targets
3. **Structured weekly work** – you should expect to be given a significant amount of work to do by your teachers each week. You will be given guidance on how long this should take and completed work will be checked and/or taken in
4. **Additional support** – your teachers will be happy to provide extra help outside of lessons either informally, by responding to emails, or more formally through departmental workshops. Workshops are the best opportunity to received additional help and work best when students come to lunchtime sessions with a specific area of confusion or set of questions to get answered

COURSE OVERVIEW

YEAR ONE	Major Teacher	• Materials • Practical Experimentation • Waves • Electricity • Circular Motion
	Minor Teacher	• Mechanics • Quantum Physics • Particle Physics • Thermodynamics

YEAR TWO	Major Teacher	• Practical Experimentation • Simple Harmonic Motion • Gravitational & Electric Fields • Capacitors • Magnetic Fields and induction

	Minor Teacher	• Gasses
		• Radioactivity & Nuclear Physics
		• Option Topic (a choice of one from:)
		  ○ Engineering
		  ○ Astrophysics
		  ○ Medical Physics
		  ○ Turning Points
		  ○ Electronics

The Exams

At the end of your second year you will take three exams:

Paper1 Mainly Year 1 Topics: (2 hours / 85 marks / 34%)

- **Section A:** Short and long answer questions (60 marks)
- **Section B:** Multiple choice questions (25 marks)

Exam 2: Mainly Year 2 topics(2 hours / 85 marks / 34%)

- **Section A:** Short and long answer questions (60 marks)
- **Section B:** Multiple choice questions (25 marks)

Exam 3: Practical skills and option topic (2 hours / 80 marks / 32%)

- **Section A:** Practical skills and data analysis
- **Section B:** Short and long questions on the option topic

STUDENT SCHEME OF WORK

Below is a summary of how you will be taught the different units of the course and how this fits into the approximately 66 weeks of teaching time over the two years of your A-Level. You will also see the key assessment points given below. It is important that you know when these are so that you can organise your revision and preparation. An important idea to understand when looking at this student scheme of work, is that the course flows consistently over two years. The topics you study at the start of your first year are as 'difficult' as those you will look at the end of your second year. You need to treat all work in the same way and apply yourself fully throughout. Also consider that the May half term in the first year is, in reality, the mid-point of the course not the summer holiday. This time will go quickly so make sure you understand the structure of the course fully and get any help when it is needed.

	SCHEME OF WORK YEAR 1		
Week	**Major**	**Minor**	**Assessment**
L6 Enrolment			
12-Sep	**3.4.2 Materials** Density	**3.1.1 Use of SI units and their prefixes** Introduction to A/AS level physics; Quantities and Units; number work; Standard form; Prefixes; significant figures	
19-Sep	Springs and Elastics: Hooke's law, Elastic strain energy, Energy Stored.	**3.4.1 Mechanics** Motion along a straight line. Displacement, speed, velocity and acceleration.	
26-Sep	The Young modulus; Description of plastic behaviour, fracture and brittleness; interpretation of simple stress-strain curves. breaking stress. Use of stress-strain graphs to find the Young modulus	Graphs for uniform and non-uniform acceleration, interpretation of velocity-time and displacement-time graphs for uniform and non uniform acceleration, significance of areas and gradients.	
03-Oct	Application of Young modulus	Equations for uniform acceleration Acceleration due to gravity, g	
10-Oct	**3.3.1 Waves** Progressive Waves; amplitude, frequency, wavelength, speed, phase, path difference. $c = f\lambda$ Longitudinal and transverse waves. Polarisation	Projectile motion Scalars and vectors; Addition, scale drawing, resolution of vectors into two components at right angles to each other. Projectile motion	

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17-Oct	Characteristics, including sound and electromagnetic waves, reflection and diffraction	Projectile motion Practise	**Half term test: result for BM1**
	Half Term		
31-Oct	Refraction at a plane surface. Snell's Law	Newton's laws of motion Terminal speed.	
07-Nov	Refractive index, total internal reflection, critical angle.	Moment of a force about a point, couples and torque.	**Benchmark 1**
14-Nov	Fibre optics – step index fibres, application to communications.	The principle of moments and its applications in simple balanced situations. Centre of mass.	
21-Nov	Principle of superposition Stationary waves, formation from two travelling waves, nodes and antinodes.	The resolution of vectors into two components at right angles to each other.	
28-Nov	Application of stationary waves and music	Conditions for equilibrium for two or three coplanar forces acting at a point.	
05-Dec	Interference, the concept of path difference and coherence, the laser as a source of coherent monochromatic light	Static forces practice	
12-Dec	Double-slit systems, fringe spacing	Static forces practice	**Half term test: result for BM2**
	Christmas Holidays		
02-Jan	Diffraction, diffraction pattern from a single slit	F = ma for constant mass, Momentum,	
09-Jan	Diffraction grating, applications – spectral analysis of light from stars.	Force as the rate of change of momentum, Impulse	
16-Jan	**1.5.1 Current Electricity** Charge & Current	Work, energy and power. Efficiency.	**Benchmark 2**

23-Jan	Potential difference. & Resistance. Ohm's law	Conservation of energy – gravitational potential energy, kinetic energy and work done against resistive forces	**Student Review 1 Available**
30-Jan	Current / voltage characteristics; Ohmic conductor, semiconductor diode and filament lamp.	**3.2.2 Electromagnetic Radiation and Quantum Phenomena** Photon model of EM radiation, the Planck constant. The photoelectric effect. Work function, threshold frequency, photoelectric equation.	
06-Feb	Resistivity. Effect of temperature on the resistance of metal conductors and thermistors, temperature sensors. Superconductivity and applications	Collisions of electrons with atoms.	
	Half Term		
20-Feb	Circuits.	The electron volt, ionisation and excitation, the fluorescent tube. Energy levels and photon emission. Line spectra.	**Half term test: result for BM3**
27-Feb	Resistors in series and parallel.	Wave-particle duality. Electron diffraction, the de Broglie wavelength.	
06-Mar	Conservation of charge and energy in simple dc circuits. Kirchoff's	Quantum Practice	
13-Mar	Energy and Power.	**3.2.1 Particles** Constituents of the atom. nuclide notation, isotopes.	
20-Mar	The potential divider Use with variable resistors, thermistors and LDRs	Stable and unstable nuclei. Strong nuclear force; its role in keeping the nucleus stable; Equations for alpha and β- decay including the neutrino.	**Benchmark 3**
27-Mar	Electromotive force and internal resistance. Applications.	Particles, antiparticles and photons. Annihilation and pair production.	
	Easter Holiday		
17-Apr	General Elec Problem solving	Exchange particles; virtual photons, W+ and W- particles. Particle interactions. Feynman diagrams	

24-Apr	**3.7.5.5 Alternating currents** Sinusoidal voltages and currents, root mean square, peak and peak-to-peak values.	Classification of particles Hadrons: baryons and mesons - Quarks and antiquarks. Leptons: electron, muon, neutrino.	
01-May	The oscilloscope. Use of an oscilloscope as a dc and ac voltmeter, to measure time intervals and frequencies and to display ac waveforms	Combinations of quarks and antiquarks. onservation laws to particle interactions. Strangeness. Change of quark character in β- and β+ decay.	
08-May	**Consolidation Revision & Practice**	**Consolidation Revision & Practice**	
15-May	**ARG Assessment**	**ARG Assessment**	**ARG Test**
22-May	**Assessment Review**	**Assessment Review**	
Half Term			
05-Jun	**3.6.1.1 Circular Motion** Angular speed	**3.6.2 Thermal Physics** Internal energy and temperature, Temperature scales,	
12-Jun	Centripetal Acceleration, Centripetal force	Specific heat capacity,	
19-Jun	Applications	Change of state, Latent heat.	**Student Review 2 and Predicted Grade Available**
26-Jun	Consolidation Revision & Practice	Change of state, Latent heat.	
03-Jul	Consolidation Revision & Practice	Combined thermodynamic problems	

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	SCHEME OF WORK YEAR 2		
Week	**Major**	**Minor**	**Assessment**
L6 Enrolment			
12-Sep	**3.6.1.2 Simple Harmonic Motion** Oscillations, SHM, Sinusoidal functions	Boyle's law, Charles' law, Pressure law	**Yr 2 induction test for Bm5 (online)**
19-Sep	**3.6.1.3 Simple Harmonic Systems** Mass – spring system, Simple pendulum, Energy in SHM	The ideal gas equation	
26-Sep	**3.6.1.4 Forced Vibrations and Resonance** Forced oscillations, Resonance.	Kinetic theory of an ideal gas.	**BM5 Test**
03-Oct	SHM Problem Solving	Gases Problem Solving	
10-Oct	**3.7.2 Gravitational Fields** Gravitational fields; Field strength, Field patterns	**3.8.1 Radioactivity** The discovery of the nucleus, Properties of radiation, Inverse square law,	**Benchmark 5**
17-Oct	Gravitational potential, Newton's law of gravitation - the force between masses	Decay equations, N - Z curves, Radioactive series, Safety aspects,	
Half Term			
31-Oct	Planetary fields, Satellites	Radioactive decay law, Activity,	
07-Nov	Gravitational fields Problem Solving	Half-life, Decay constant, Applications.	

14-Nov	**3.7.3 Electric Fields** Electrostatic phenomena, Coulomb's law – the force between point charges,	**3.8.1 Nuclear Energy** Energy and mass,	
21-Nov	radial fields. Field patterns, Electric field strength,	Mass defect, Binding energy, Nuclear stability,	**BM6 Test**
28-Nov	Uniform Fields Electric potential, Equipotentials,	Fission, Fusion,	
05-Dec	Comparison between electric and gravitational fields	the thermal nuclear reactor.	**Benchmark 6**
12-Dec	Electic fields Problem Solving	Nuclear Problem Solving	**Student Review 3 Available**
Christmas Holidays			
02-Jan	**3.7.4 Capacitance** Capacitance, Capacitors, Parallel plate capacitor,	Option topic Week 1	
09-Jan	Energy stored in a charged capacitor,	Option topic Week 2	
16-Jan	Charging and discharging a capacitor.	Option topic Week 3	
23-Jan	**3.7.5 Magnetic Fields** Permanent magnets; Field lines,flux density; F = Bil	Option topic Week 4	**Mini Online Test**
30-Jan	Force on moving charges,	Option topic Week 5	
06-Feb	Applications – the cyclotron and mass spectrometer	Option topic Week 6 & test	

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Half Term			
20-Feb	**MOCK EXAMS**		
27-Feb	Test analysis and practice	Test analysis and practice	
06-Mar	Magnetic flux, Flux linkage, Electromagnetic induction,	MCQ technique	
13-Mar	Faraday's and Lenz's laws,	MCQ technique	
20-Mar	AC generator, Transformers	Long Answer Technique	**Benchmark 7**
27-Mar	Paper 3 DA Practice	Long Answer Technique	**Student Review 4 Available**
Easter Holiday			
17-Apr	Revision Planning	Option Topic Revision	
24-Apr	Topic in a lesson Revision	Option Topic Revision	
01-May	Topic in a lesson Revision	Topic in a lesson Revision	
08-May	**Last Day of U6 Teaching - Friday 14th May**		

ASSESSMENT

The exam board assess exam according to a range of objectives,

AO1	Demonstrate knowledge and understanding of scientific ideas, processes, techniques and procedures.	**36%**
AO2	Apply knowledge and understanding of scientific ideas, processes, techniques and procedures: • in a theoretical & practical context • when handling qualitative & quantitative data	**40%**
AO3	Analyse, interpret and evaluate scientific information, ideas and evidence, including in relation to issues, to: • make judgements and reach conclusions • develop and refine practical design and procedures.	**23%**

These can be summarised as:

1. State knowledge about physical systems
2. Explain and solve problems using your understanding
3. Perform practical experiments and analyse data

THE PRACTICAL ENDORSEMENT.

In addition to the paper 3 Data analysis questions there is a separate practical element of the physics qualification that requires student to demonstrate 5 key competencies throughout the course. This is assessed weekly as part of our practical sessions and lab reports. The 5 competencies are:

1. Follows written procedures
2. Applies investigative approaches and methods when using instruments and equipment
3. Safely uses a range of practical equipment and materials
4. Makes and records observations
5. Researches, references and reports

Students are also required to have completed the following compulsory practical activities:

1. Investigation into the variation of the frequency of stationary waves on a string with length, tension and mass per unit length of the string.
2. Investigation of interference effects to include the Young's slit experiment and interference by a diffraction grating
3. Determination of g by a free-fall method
4. Determination of the Young modulus by a simple method.
5. Determination of resistivity of a wire using a micrometer, ammeter and voltmeter
6. Investigation of the emf and internal resistance of electric cells and batteries by measuring the variation of the terminal pd of the cell with current in it.
7. Investigation into simple harmonic motion using a mass-spring system and a simple pendulum.
8. Investigation of Boyle's (constant temperature) law and Charles's (constant pressure) law for a gas.
9. Investigation of the charge and discharge of capacitors. Analysis techniques should include log-linear plotting leading to a determination of the time constant RC.
10. Investigate how the force on a wire varies with flux density, current and length of wire using a top pan balance
11. Investigate, using a search coil and oscilloscope, the effect on magnetic flux linkage of varying the angle between a search coil and magnetic field direction
12. Investigation of the inverse-square law for gamma radiation.

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LABORATORY RULES

Laboratories are potentially dangerous places.
It is important that everyone acts carefully and thoughtfully to minimise the risk of accident or danger to him/herself and other laboratory users.
If in doubt about a particular procedure or the course of an experiment, do not hesitate to ask for help.

1. Students **may not enter** the laboratory without the express permission of teaching staff.

2. While waiting to enter a laboratory **do not obstruct** doorways and corridors.

3. Open floor and bench areas must be kept clear of coats, bags etc.

4. Long hair must be tied back

5. Clothing must have no "dangly bits" that could get caught or burnt , no flowing sleeves, tassels etc.

6. **Laboratory coats must be worn** when working with radioactive materials or chemicals

7. **SAFETY GOGGLES must be worn** whenever chemicals are handled or there is a risk of eye damage. Particularly with stretched wires.

8. **No eating or drinking in the laboratory at any time.**

9. Do not sit on benches, stand on stools or run in the laboratories.

10. Do not touch anything other than equipment needed for your own experiment.

11. Waste material must be placed in the appropriate receptacle for disposal.

12. All breakages, faulty equipment etc. **must be reported at once.**
Broken Glass and Thermometer must be delt with be a member of staff

13. **At the end of a practical :**
    a) dirty apparatus must be placed in the correct place for cleaning.
    b) your working area must be left clean and tidy.
    c) you must wash your hands.

14. **Preparation rooms are out of bounds** to students.

If in doubt at any time please ask.

Assessment Policy 2021-2023

Updated Sept 2021 for Covid-19 Situation

The Importance of Feedback and Learning Outside the Classroom – '50:50'

Learning will not happen instantly and takes time; attending lessons is not enough, you also need to be working outside of class, to learn new information and consolidate learning. In the process, you will make mistakes but hopefully feedback will enable you to learn from these mistakes. Better to make a mistake during the year and correct it, than make your first mistake in the final exam! Feedback is essential for your learning and will consist of whole class (teacher runs a session in lessons), written (teacher marking), peer (where you feedback on someone else's work in the class) and self (where you assess yourself).

There are 66 weeks of teaching weeks in total at College to help you learn and prepare for your final assessments. The classes are shared equally between two teachers for 2.25 hours, with each teacher delivering one of the two units; one of your tutors will be the Lead Subject Tutor who will be responsible for formalised 1-2-1s, writing your Student Reviews, seeing your parents at parents evening and for writing Action Plans.

In line with the College's '50-50' initiative, each week, homework will be set and could take between 4.5 to 6 hours in total. Each teacher therefore could set you up to 2.25 to 3 hours homework per week. If a homework from one teacher only takes you 1 hour for a week, then you will have a further 1.25 to 2 hours to conduct further reading and consolidate learning.

The Final Assessment

At the end of the two years, students will complete three two hour exams worth 80% of their final grade and an NEA (Non-Examined Assessment worth 20%.

PAPER 1	PAPER 2:	PAPER 3
Mainly Year 1 Topics: (2 hours / 85 marks / 34%)	Mainly Year 2 topics(2 hours / 85 marks / 34%)	Practical skills and option topic (2 hours / 80 marks / 32%)
• Section A: Short and long answer questions (60 marks) • Section B: Multiple choice questions (25 marks)	• **Section A:** Short and long answer questions (60 marks) • **Section B:** Multiple choice questions (25 marks)	• **Section A:** Practical skills and data analysis • **Section B:** Short and long questions on the option topic

Types of Assessment

- **Homework (Weekly):** Homework does not necessarily need to be completed at home! You can use free periods during the day to complete these tasks outside of lessons. To keep a good work/life balance, you might like to treat College as an 0845 to 1615 day and use your free periods in the library completing tasks. This will minimise the work you need to complete at home and might make you more productive. Students are given feedback through a rubric.

- Homework tasks will consist of three types:
  1. *'Flipped Learning:* Not all homework will be marked. It will be given a quick inspection in class and then will involve peer and self-assessment as part of a class exercise. This work will 'prepare' you for the lesson and the topic being studied and may consist of internet research, watching tutorials online and reading textbooks and articles.
  2. *Problem Solving:* Following every theory class "test yourself", "practice" and "exam style" questions will be set that provide an opportunity for you to develop your ability to describe, explain and apply what you have learnt in the lesson.
  3. *Lab Reports:* Almost every week student will complete independent practical work. This deepens their understanding of the theory, provides evidence for the practical endorsement and provide practice for the paper 3 exam. For each practical student must analyse the data and produce a short write-up of the conclusions in their Lab book.

  Lab reports are teacher marked and assessed against the Common Practical Assessment Criteria (CPAC), each report is also given and effort mark using a traffic light system.

- **Benchmarks Checkpoints (Half-Termly):** After a period of teaching, there will be the opportunity to sit a 'Benchmark exam', which will be an assessment under timed conditions.

  Each Benchmark should allow you to access the full grade range from A* to U grade, given the topics covered so far and exam technique. They are an indicator of how well you have understand and can apply the content to questions you will meet in the final exams at the end of the two years.

  Benchmarks Checkpoints are extremely important and should be treated like the actual exam. They are an ideal point to see how you are progressing and to get valuable feedback. You will make mistakes in these assessments and so the follow up work is to test whether you have learned from those mistakes to become better at the subject and exam technique.

  There will be a synoptic element included in each assessment which means you could be asked questions on any topics you have studied up to that point. This provides you with a good opportunity to embed and reinforce previously covered material.

  The department may conduct some of these tests online outside of lesson time. For online tests, each student receives similar questions but with a different set of numeric values and multiple choice questions are randomised to minimise the effect of cheating.

  Grade Boundaries: Each Test will vary in difficulty, as each paper will assess different parts of the course with varying amounts of synoptic questions. Therefore, each test has its own grade boundaries. We start by using the 2019 grade boundaries, and adjust each boundary so the number of students attaining each grade fits to a normal distribution.

- **Mock Exams:** In the spring half term of the 2nd year, you will sit mock exams, which is a useful assessment as it gives you a trial run of the final exam. As you will have studied all but one topic by that point, it is a useful assessment to see your progress, and inform revision thereafter.

Tracking your Progress: Student Reviews, Action Plans and Parents Evenings

The College's policy is to deal with the student first but we also report to your parents at regular intervals to let them know how you are progressing and to inform them of what our expectations are through four Student Reviews (Reports) spread throughout the two years at College and also four parents evenings.

If the department feel you are under-performing based on evidence such as benchmark grades and your approach to learning in between these periods, then your Lead Subject Tutor may place you onto a Formal Department Action Plan and we will formally write to your parents after a 1-2-1 with yourself and to try and get you back on track in a supportive way

Student Review 2, the ARG and Predicted Grades

At the end of the first year, your Lead Tutor will have a 1-2-1 to discuss your Annual Review Grade or ARG and also finalise your Predicted Grade which might be used for UCAS applications for University and other destinations.

The ARG is determined by your Lead Tutor in communication with your other teacher and will rely on the following evidence base:

1. **Benchmark Checkpoints Performance Grades (1 to 4).**
2. **Approach to Learning :** How you are engaging in your learning, evidenced by attendance, punctuality, ability to meet weekly deadlines with quality work, how you have sought out extra support via workshops and your overall communication with your teachers.

The ARG plays a key part in determining the context in which you progress to the second year. Students who receive an A*-D grade (A-level) are encouraged to continue with their studies into the 2nd year. However for students who receive a U or E Grade (A-level) as their ARG, it suggests that for whatever reason they have struggled with the transition from Level 2 Courses (GCSE) to Level 3 Courses (A-level/BTEC). This will be evidenced by poor performances throughout their benchmarks and an inconsistent or poor approach to learning in their student

reviews and via formal Action Plans. Students who receive a U Grade we would not recommend to continue with the course and they would need to speak to a Senior Tutor about alternative pathways.

The College adopts a consistent and optimistic approach to predicting grades to ensure that they are both aspirational and achievable. A predicted grade is what we believe a student is likely to achieve by the conclusion of their course in positive circumstances and the predicted grade provides universities and colleges with some understanding of a student's academic potential alongside their Personal Statement and a written Reference from their Personal Tutor.

The ARG is important in forming the basis for the predicted grade as well but the predicted grade will also be aspirational for the students' ambitions although it must remain realistic and cannot be based on the idea that only now will the student start to work harder in the second year!

Other Considerations

- *LATE POLICY:* In line with the 'College Assessment Policy', the department are under no obligation to provide feedback to a student who does not meet the internal deadlines for weekly independent tasks, benchmark assessments or coursework drafts. Please be warned that a failure to meet the final coursework deadline is the equivalent to missing the exam and it will be recommended that the student should be removed from the course. Students who fail to prepare adequately for the lesson as requested, maybe excluded for part of the lesson and asked to work independently at the back of the classroom. A continued failure to meet 'PREP' work requirements will result in a reference to the pastoral team and a phone call home to parents.
- *RETURNED WORK:* Work will be assessed and returned within 10 working days of it being submitted unless it is the final coursework submission. The exam board stipulates that no feedback or formal grade can be released to students by the teacher. The exam board reserve the right to inform you of the final grade in August with your results. Please do not ask the teacher for your final mark as they will be unable to provide it.
- *PLAGIARISIM:* Plagiarism is submitting another person's written work as one's own original work or using someone else's idea without referencing the source or using pictorial work without permission or referencing the source. If there is a suspicion of plagiarism, the Head of Department and Senior Tutor will be informed and a meeting will take place. If a student is found guilty, they will be subject to disciplinary action by the College and the awarding body will be informed. Students should be aware that the College is subscribed to software designed to detect plagiarism.

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Benchmark Checkpoints, Student Reviews (Reports) and Mock Exams 2022 - 2024

Below is an overview of all the key assessment checkpoints

POINT	DATE	DETAILS
Benchmark 1	Oct	**90 Minutes test on the topics and skill covered** in the first half term. Short, long and multiple choice questions
Parents Evening	Nov	**Meetings with your parents to discuss how you have settled in and transferred from GCSE to A-level learning based upon:** 1. **Approach to learning** (how you are engaging in your learning, evidenced by attendance, punctuality, ability to meet weekly deadlines with quality work, how you have sought out extra support via workshops and your overall communication with your teachers) 2. **Performance Grade** in Benchmark 1 and from your homework tasks
Benchmark 2	Dec	**90 Minutes test on the topics and skill covered** in the first half term. Short, long and multiple choice questions
XMAS BREAK		
Student Review 1	Jan	**A review of your progress in the first term (12-13 weeks of teaching) after a 1-2-1 with your Lead Tutor:** 1. **Performance grade (A to U)** (based on benchmark 1 and 2 but also your homework tasks) **Approach to Learning** (how you are engaging in your learning, evidenced by attendance, punctuality, ability to meet weekly deadlines with quality work, how you have sought out extra support via workshops and your overall communication with your teachers).
Benchmark 3	Feb	**90 Minutes test on the topics and skill covered** in the first term with the focus on the topics cover since half term Short, long and multiple choice questions
Parents Evening	Mar	**Meetings with your parents primarily where teachers may have a concern about your progress since Student Review 1 in January.**
EASTER BREAK		
Benchmark 4	May	**2 x One Hour Mock Exams (ideally under exam conditions but possibly online)** All the year 1 content Short, long and multiple choice questions
Student Review 2	June	**A review of your progress for the academic year (30-35 weeks of teaching) after a 1-2-1 with your Lead Tutor** 1. Approach to Learning 2. Performance Grade (Annual Review Grade or 'ARG' – performance for whole year (see notes above in main doc.) Predicted Grade
SUMMER BREAK		3.
Benchmark 5	Sept	**Year 2 returners online test and summer work assessment** Mainly covering summer work with a section on year 1 revision
	Sept	**One hour test on all topics covered so far that academic year, and same content as the induction test**
Parents Evening	Oct	**Meetings with your parents to discuss how you have settled in to the second phase of learning:** 1. **Approach to learning** (how you have engaged since Student Review 2 including completion of summer homework and the first five weeks of teaching – deadlines met, engagement in class and communication with teacher) 2. **Performance** with reference to your draft coursework mark and to talk about the final deadline for after half-term. • **How to support you:** Discuss how parents can further support you and what is coming up in this year
Benchmark 6	Nov	**One hour test on all topics covered so far**
Student Review 3	Dec	**A review of your progress for the academic year since last Student Review (July) after a 1-2-1 with your Lead Tutor** 1. Approach to Learning Performance Grade (based upon benchmark 6 and homework tasks) compared to Predicted Grade
XMAS BREAK		2.
Benchmark 7	Mar	**2 x 90 minute Mock Exams** Paper 1 and Paper 2
Student Review 4	Mar	**A review of your progress for the academic year (30-35 weeks of teaching) after a 1-2-1 with your Lead Tutor (see above)** 1. Approach to Learning Performance Grade (based upon benchmark 7 Mock Exam only) compared to Predicted Grade
Parents Evening	Apr	2. **Meetings with your parents primarily where teachers may have a concern about your progress since Student Review 4.**
EASTER BREAK		

Godalming College

Physics Department
50:50 Help and Advice

Key to your success whilst studying in the Department is the level of effort and work you put into your subjects outside of lessons. The college's expectation is that you match every hour of class time with an hour of independent study – **50:50**. This will include completing **structured homework** tasks set by your teachers but will also require you to **work independently**, finding ways to consolidate and extend your understanding. To help you to do this, the list below gives some ideas or activities to consider each week.

CONSOLIDATE YOUR WEEKLY WORK ***(Suggested time = 1.5 hours per week)***

Go over your lesson materials and handouts from that week making sure that all activities have been finished in detail. If you have been reading articles or sources, go over these highlighting key points and adding annotations to the margins. When you have looked at a new concept or period, produce a simple mind-map to summarise the key information ready for future revision.

PAST-QUESTION PRACTICE ***(Suggested time = 1.5 hours per week)***

Use the selection of past questions from the department's Godalming Online pages (or straight from the exam board: AQA)

The Maths and Physics Tutor website has a huge number of Exam style questions organised by topic

READ AN EXTENSION ARTICLE/CHAPTER ***(Suggested time = 1-2 hours per week)***

Log on to Physics Review, and find an article that interests you,

Help with logging on to all of these websites can be found on the ILC's page of Godalming Online under 'Websites, Links, Subscriptions'.

WATCH A DOCUMENTARY ***(Suggested time = 45 minutes per week)***

E-stream has a wide selection of Physics documentaries, all are "tagged" physics and there are links in the topic sections of GoL

planet estream

LISTEN TO A PODCAST ***(Suggested time = 15 minutes per week)***

Sean Carroll is a theoretical physicist at Caltech and a science popularizer who has written for *The New York Times* and appeared on *The Colbert Report*. His *Mindscape* podcast features fascinating conversations with brilliant minds from many fields, but naturally he also often chats with colleagues in physics

https://www.preposterousuniverse.com/podcast/

REVISION ***(Suggested time = 1 hour per week)***

It is never too early to start the process of revision, particularly if you are on a linear A-Level course. Go back to topics and lesson materials you completed earlier in the year and start to produce revision notes e.g. flashcards, mind-maps, typed notes, glossaries, key-dates timelines etc.. Starting your revision early will make it much easier when you come to revise for your end of year or final exams fully.

REVISION

APPROACH TO REMOTE TEACHING AND LEARNING

Teaching will remain in the classroom but if there is a further lockdown we may need to deliver lessons remotly. How 'remote' this is depends on the wider context of COVID-19, but the department has clear plans, and expectations of its students, in each of the scenarios below.

1. Normal Opening: The College is open as normal; all students attend and follow a full, face-to-face timetable

In this situation the department would run lessons, as normal and all of the expectations of students and teachers on the page before would apply

2. Blended Learning: students will receive a mixture of physical and remote lessons, attending college physically one week and remotely the other

The department will continue to offer high quality lessons in this scenario although the exact nature of teaching and learning may vary depending on what content is being covered. Students should expect a mixture of:

- **Streamed lessons** – when appropriate, lessons including half of the class will be streamed live through Microsoft Teams to the other half of the class learning from home
- **Recorded content** – tutorials, demonstrations, presentations etc. will be pre-recorded for students to watch and complete a set of follow-up tasks
- **Structured independent work –** students may be longer project-style work, or work that is made up of several structured tasks and asked to work on this independently for a period of time, during which their teacher will be available for support
- **Preparation work –** class time may be used to set students independent work in the form of research or pre-learning to prepare them for a specific live lessons, which will then be used to assess students' level of understanding of the work they have completed.
- **Homework** – students will also be expected to complete homework tasks

3. Remote Learning: students will receive remote lessons and assessment will be conducted remotely

In the event that college is not open for physical lesson, teaching and learning will move online through the combined use of Microsoft Teams and Godalming Online. The specific nature of each week's learning will vary depending on what is being covered, but students should expect a mixture of:

- **Live lessons through Microsoft Teams** – this is a fantastic platform that allows classes to video-call, watch presentations, take part in Q&A, group work, 1-1s all in real-time. Teams lessons will be the main part of remote teaching and learning but may take a slightly different form or length than physical lessons to help students engage fully. For example, a 1.5 hour physical lesson might translate to a 30-45 minute Teams lessons, made up of a brief teacher-led presentation and class Q&A, followed by 45 minutes of structured independent work, during which time the teacher conducts 1-1s with students
- **Online submissions** – students will upload work regularly to help their teacher monitor their progress and offer support when needed. This will be done through the 'Assignments' feature on Teams or through Godalming Online
- **Remote Workshops** – in addition to remote lessons, department workshops will continue remotely to provide students with extra points in the week to get 1-1 help on content, homework or remote learning in general

Expectations of students in scenario 2&3 – if students find themselves learning remotely or in a mixture of physical and remote lessons, then the department has clear expectations of how they should work in this environment. The department has considerable experience in delivering content remotely and key to this is students remaining engaged, establishing a clear working routine and communicating effectively with staff. More specifically it is expected that students will:

- Attend all remote lessons unless told otherwise by their teacher
- Actively take part in remote lessons e.g. contribute questions and answers, take part in group work, turn webcams on (with the background blurred) when asked to by their teacher
- Submit all work via Godalming Online or Microsoft Teams by the deadline set
- Communicate regularly with their teachers, either as part of scheduled 1-1s or more informally to discuss work or any problems they might be having. This will be through Email or Teams.

To identify where your remote strengths and weaknesses might be, complete the specific department audit below. This is made up of the essential skills you would need to learn in a remote or blended environment.

Remote Learning Skills Audit that you need to master to succeed on this course	***Tick***
Log on to Office 365 using your college details (in college and at home)	
Open Microsoft Teams and find a class team	
Join a lesson on Teams and post a comment	
Download the Teams app on your phone	
Upload or attach documents in Teams	
Save documents on OneDrive	
Access your OneDrive files at home	
Share documents, PowerPoints etc without attaching them to emails	
Access Godalming Online course pages and download files	
Upload work onto Godalming Online	
Complete tests through GodalmingOnline quizzes	
Access E-textbooks needed on the course	
Log on to any magazines or websites needed on the course	
Access Estream to watch films/documentaries/pre-recorded content	
Access and complete work through the *IsaacPhysics* Platform	

There are lots of places you can go to get help with the skills listed above.

To begin with, speak to your teachers to get help with the basics of using Microsoft Teams or Godalming Online. This can be done at the start of the year through departmental surgeries and through workshops. A good idea would be to bring the completed audit above to a workshop and go through this with your teacher to fill in any gaps.

The IT Department are also available to offer more technical support or if you run into a problem your teacher cannot resolve. If in college, IT can be found on the top floor of the 300s. Also have a look at the IT Helpdesk on Godalming Online, which has help on using features such as Office 365. Finally IT are also contactable via ITsupport@godaming.ac.uk

If you are concerned about how to organise your time and working habits during a period of remote learning, then speak to your tutor for ideas and techniques to work independently. The Learning Support Department are also available to discuss specific concerns or individual learning needs further.