

# User Guide

## Introduction

This brief User Guide describes the contents of the *Advancing Physics Revision Guide* CD-ROM. Read it to familiarise yourself with the CD-ROM before starting work.

The *Advancing Physics Revision Guide* CD-ROM is first and foremost a resource that you will print out for use.

We recommend that you use the Acrobat PDF versions of the documents for viewing and printing, because they are locked and guaranteed to display correctly on all PCs. (The Word versions may be displayed on screen and on a printer in many different ways according to the setup of your PC.)

The documents contain hypertext links to help you navigate when viewing them on screen.

## What you will find in this User Guide

- [About the software](#)
- [Revision guides for each chapter](#)
- [Sample examination questions and worked solutions](#)
- [How to use the \*Advancing Physics Revision Guide\*](#)

## About the software

The main interface of this CD-ROM is provided by HTML pages that you view in an internet browser such as Microsoft Internet Explorer or Netscape Navigator.

Links are provided to each chapter's Revision Guide and each unit's Sample Examination Questions and Worked Solutions. These are all provided both in Adobe Acrobat PDF and Microsoft Word formats.

### Acrobat PDF

You can open the PDF files in Adobe Acrobat Reader.

If you do not have Acrobat Reader installed, the software is provided in the Software folder on the CD-ROM.

We have provided PDF versions of all the files on the CD-ROM for viewing and printing, because they are locked and guaranteed to display correctly on all PCs.

The Word versions, while easy and flexible to work with, are "open" and may be displayed on screen and on a printer in many different ways according to the setup of your PC.

### **We recommend using the PDF versions of the files for viewing and printing.**

However, you may find the Word versions of the files useful if you want to copy and paste text and graphics, or if you want to edit or annotate copies of the files on your hard drive. See the Word section below for more details.

### Word

You can open the Word files in Microsoft Word.

If you do not have Microsoft Word installed, the Microsoft Word Viewer software is provided in the Software folder on the CD-ROM.

We have provided Word versions of all the files on the CD-ROM to enable you to copy and paste text and graphics from the files to other documents or to edit copies of the files on your hard drive.

The Word files on the CD-ROM are, of course, write-protected. But you can make copies of the CD-ROM files on your hard drive and edit or annotate the files as you wish. If you want to do this, in Windows Explorer right click on the file you have copied to your hard drive and choose Properties from the popup menu, then uncheck the “Read only” attribute to make the file editable.

In Word, you can follow the red underlined hypertext links by clicking them. In some versions of Word you may need to press the Ctrl key at the same time as clicking on the links.

**We recommend using the PDF versions of the files for viewing and printing.**

### Revision guides for each chapter

There is a Revision Guide for each chapter of the *Advancing Physics* course. In the Revision Guide for each chapter you get:

- Contents list
- Student's Checklist for the chapter
- Revision notes
- Summary diagrams

#### Contents list

This gives the titles and page numbers of all the Revision notes and Summary diagrams, for easy reference if you have printed out the Revision Guide for the chapter.

#### Student's Checklist

The Student's Checklist is taken from the Student's Checklist for the chapter, on the *Advancing Physics* CD-ROM. It lists on a grid all the things that you need to know and be able to do.

In addition, for each item in the list, you will find a reference to all the relevant Revision notes and Summary diagrams. You can click on any of these references and go straight to the Revision note or Summary diagram that you want.

#### Revision notes

This section contains a sequence of concise notes on each idea or topic mentioned in the Student's Checklist. Each idea is briefly explained, reminding you of what you have learned. Essential equations and relationships are given.

The notes are based on the notes in the A-Z section of the *Advancing Physics* CD-ROMs. To be as concise as possible, most of the original A-Z items have been shortened for use in the Revision Guides. So, if you want to find out more about an item, consult the A-Z on the CD-ROM.

The Revision notes are arranged in order of their first mention in the Student's Checklist.

#### Summary diagrams

These diagrams each summarise an important set of relationships, or an argument, which you need to know. They are selected from the Overhead Transparencies (OHTs) provided for each chapter on the *Advancing Physics* CD-ROMs, in the section Resource Manager > Display Materials > OHTs for each chapter. These diagrams are also to be found in the *Advancing Physics* Student's Books, in the relevant chapters.

### Sample examination questions and Worked solutions

A selection of questions drawn from previous examination papers is provided for each unit of the *Advancing Physics* course. Worked solutions and answers are provided for all the sample questions.

These questions are reproduced with the kind permission of OCR and are selected from the January and May/June sessions of the 2002 and 2003 AS and A2 examinations. (Full copies of these papers can be obtained from OCR at [www.ocr.org.uk](http://www.ocr.org.uk).)

In the *Advancing Physics* examinations – AS and A2 – the individual chapters are examined by unit papers:

**AS level**

Physics in Action examines chapters 1–5

Understanding Processes examines chapters 6–9

**A2 level**

Rise and Fall of the Clockwork Universe examines chapters 10–14

Field and Particle Pictures examines chapters 15–18

The sample examination questions we have provided are organised by unit in the same way and have been taken directly from past *Advancing Physics* examination papers.

Completing these is the best way to check your understanding of each unit. They will also allow you to practise answering a variety of types of questions, like those you will meet in the exam.

Remember that the marks allocated to a question are a good indicator of how detailed the answer needs to be – the guide is 1 mark per minute.

Worked solutions and answers are provided for you to check your work or get help if you need it.

**A2 level: Advances in Physics**

This synoptic paper may contain questions drawn from the material covered in any of the 18 chapters and has two sections. Section A has questions based on the Advanced Notice Article sent out to candidates six weeks before the exam. Section B has two questions, which could be based on any of the 18 chapters.

Samples of these are included amongst the unit sample questions.

**Data, Formulae and Relationships**

A booklet containing the values of physical and mathematical data and formulae is supplied for all examinations.

There are some core relationships that will not be provided, so you will need to learn and remember them.

The equations are listed in [PhysicsCoreequations.pdf](http://www.advancingphysics.iop.org/wb/teacher/PhysicsCoreequations.pdf) in the Started folder on this CD-ROM, also available from the *Advancing Physics* Web site at:

<http://advancingphysics.iop.org/wb/teacher/PhysicsCoreequations.pdf>

## How to use the Advancing Physics Revision Guide

Decide on the chapter that you are going to revise.

Open the Revision Guide file (PDF) and print out the Contents list and Student's Checklist for that chapter. Go through the Student's Checklist item by item, and mark the items that you need to work on (you can use the empty slot in the grid beside that item).

For each item that you have selected for revision, read the Revision notes and carefully review the Summary diagrams listed. You can look at them on-screen, but we suggest that you print them out and add your own notes and reminders.

You could also print out and read through all the Revision notes and Summary diagrams in sequence. This would make sure that you have not missed anything.

Then make sure that you can answer questions on each point. Start with the Sample Examination Questions provided. Your best plan will be to do them all. You can check out your answers in the Worked Solutions.

This Revision Guide is NOT sufficient for your study of the *Advancing Physics* course. It consists only of reminders of essential ideas, nothing more.

Thus, if you missed or really did not understand a particular part of the course, you will need to go back to the *Advancing Physics* Student's Book, consult the A-Z items indicated for a chapter, and work through more of the chapter questions on the CD-ROM.

What the Revision Guide CAN do is to help you to focus your efforts. Starting from the lists of all the things that you need to know or to be able to do, you can remind yourself of the ideas that you have mastered, and identify your weak points for further work.

GOOD LUCK!