

Introduction

Why is an understanding of engineering maths necessary?

The CREST MSc is not a heavily mathematical programme, but some elements do require mathematical treatment.

This unit has been developed to reflect the level of mathematics that underpins the more technical modules (Wind I, Solar I, Integration, Wind II and Solar II in particular). Note that you will not always be required to manipulate the equations etc yourselves. The intention is that you can understand what is being done and why. Also please note that this Unit is intended for revision of what many of you will have already been taught as part of your previous training and education.

Some self-assessment questions have been added to help you judge your current knowledge and understanding, but it will quickly become apparent on reading the material whether you are sufficiently familiar with these areas of mathematics. Don't feel under pressure to complete all of these. If you do encounter difficulties, don't panic! There is a wide range of more basic mathematics self-study material at a more introductory level, which can be viewed and downloaded from the [Open Learning Project](#). You are recommended to visit the "Workbook" section first. Note: this is only available to registered students.

When you look at the extensive list of work-sheets don't be intimidated - you are only looking for the topics covered in our material with which you are having difficulties, and these are easily found. The only exception is State Space analysis, which is the modern engineering approach to control modelling, and relates to the material on linear systems (and hence linear differential equations and the associated topic of Laplace transforms).

Work through the sheets as you need, and don't be afraid to ask for help from the people at the [Mathematics Support Centre](#). If in doubt about the relevance of a particular bit of mathematics, please directly approach the CREST staff concerned with the more technical modules.

Study tips

This unit consists of a series of compact study notes and self-test questions. You are recommended to study the unit in the following sequence:

1. Tackle the **pre-test questions**, where available, to gauge your prior knowledge. This will indicate whether you need to concentrate on a particular unit.
2. For each topic, work through the **study notes** sequentially. Make sure that you understand any worked examples.
3. Where available, you may wish to tackle the **self-test questions** as they occur in the sequence. If you encounter difficulties, return to the study notes and focus on the relevant topics before re-visiting the self-test.
4. If you are stuck, arrange to discuss specific difficulties at a **study group** meeting or with a member of staff.
5. If you are still unsure, contact a foundation tutor via the Learn server or directly by email.