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HG1M12: Engineering Mathematics 2

School of Mathematical Sciences, University of Nottingham

Spring 2017/18

HG1M12 Engineering Mathematics 2

Lecturer & module convenor: *Dr CD Coman*. He will deal with administrative issues concerning this module.

Lectures:	Tuesday 11-12	Pope C16
	Friday 9-10	Pope C16
Problem/Example Class:	Tuesday 12-1	Pope C16

Director of Service Teaching:

If you are a *non-engineering* student and want to take this module, please talk to the Director of Mathematics Service Teaching, **Dr M Kurth** (Mathematical Sciences Building, C14).

Core Materials

- **Lecture Notes:** will be posted on Moodle (first chapter is already available).
- **Problem sheets:** It is essential that you try these!
  Worked solutions will be posted on Moodle as the module progresses. (Answers without any calculation are already on Moodle).

Module Booklet

The module booklet is available on Moodle. Along with the module website (more later), this is the main source of administrative information for the module. Contents:

- Module overview and administrative information.
- List of recommended books.

Timetable

Lectures and problem/example classes will be run in the way you are familiar with from HG1M11. In *lectures*, new material will be presented and explained.

Tuesdays 11-12 and Fridays 9-10

Problem classes and *worked example classes* take place

Tuesdays 12-1

in alternate weeks (see module booklet for details or ask your lecturer).

- In *worked example classes,* **your lecturer** will illustrate lecture material with problems on the board, but with input from you of course.
- In *problem classes,* **you** will attempt problems from the problem sheets. Members of staff and postgraduate assistants will be on hand to help you out.

Service Clinic

There is an optional clinic class if you want some additional help with the module. This will take place on **Thursdays at 5pm** in Physics B23.

All these details can be found in the module booklet.

Assessment

Assessment of the module is by

- Written coursework assignment 10%
- Multiple choice in-class test 10%
- Examination 80%

but **reassessment** is by

- Examination 100%

Coursework Assignment

The coursework assignment is worth 10% of the module assessment.

- The assignment will be set on **Tuesday 6th March**.
- The submission deadline is **Tuesday 20th March**.

In-Class Test

The multiple choice in-class test will be held on **Tuesday 24th April at 12pm**.

- The test is 40 minutes in duration.
  - The test will take place in your regular lecture room.
  - Those of you who need extra time will be given details of where to go in advance of the test.
- The test consists of 10 multiple choice questions.
  - You receive 4 marks for a correct answer.
  - You receive 0 marks for an incorrect answer or abstention (no answer).

Written Examination

The module examination will take place at the end of the semester.

- As for the HG1M11 exam, the paper will be in two sections.
  - Section A: 12 multiple choice questions.
  - Section B: 3 long questions. Credit will be given for the best **TWO** responses.
- Please familiarise yourself with
  - Policy regarding use of calculators in exams and tests. Only silent, self-contained, non-programmable, single or dual-line display calculators are allowed in the exam.
  - University guidelines on plagiarism (this is in the module booklet AND on Moodle).

All cases of academic misconduct, including plagiarism in courseworks, will now be referred to the Head of School for formal investigation.

Moodle

As all you mathematics modules, HG1M12 is supported on the web through Moodle.

`http://moodle.nottingham.ac.uk`

Most of you will already have been registered for the module, and can access the material by clicking on the HG1M12 link. If you are not yet registered for the module (processing may take a week or two), you can self-enrol for HG1M12 Moodle access from your main Moodle page (only in the first four weeks of term).

Among other uses, you can use Moodle to

- Download lecture notes, problem sheets, and other information that is provided in the booklet,
- See solutions to problem sheets after they have been made available,
- Get past exam papers and solutions,
- Access your coursework marks (using the *Grades* tab),
- Lecturer office hours.

Textbooks

You are not required to buy a textbook for this module and lecture notes will be made available on Moodle. However, some students find it useful to work from a textbook (multiple copies of textbooks are available in the George Green Library).

The main text is

- Glyn James, Modern Engineering Mathematics,

but there is an alternative,

- Jordan & Smith, Mathematical Techniques (3rd Edition),

that you might find useful. There are some more textbooks listed in the Module Booklet

Some advice

- The module HG1M11 is a prerequisite for this module. **We will assume that you are familiar with what you were taught in HG1M11!**
- On the exam paper, there will be some straight forward questions, as well as some more challenging questions of a type you have not seen before. **Do not rely too heavily on old exam papers!** Try to understand the contents of the module rather than just learn them by heart.
- If you have a question about the module, do not hesitate to ask.

Module Content

The module has 4 chapters (not all of the same length!)

1. Vectors,
2. Calculus of functions of multiple variables,
3. First order ordinary differential equations,
4. Vector calculus.