MATH1400 Modelling with Differential Equations (Spring 2021) General Information

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Module homepage: www1.maths.leeds.ac.uk/~amtyt/1400

Lectures

The lectures of this module consists of two components:

Live online lectures

- There will be one live online lecture every week on Thursday 12:00 13:00
- This will be carried out using Zoom. Information on how to join is announced on Minerva.
- You can sign-in to Zoom using your University of Leeds login details. A detailed guide is available here: https://students.business.leeds.ac.uk/digital-learning/digital-tools/zoom
- These lectures will be recorded and posted on the module homepage.

Pre-recorded video lectures

• A set of pre-recorded video lecture will be uploaded to the module homepage every Monday.

Lecture notes on the module homepage will be updated continuously as the module progresses.

Tutorials and homework

- There will be 5 biweekly online tutorials in total. Check your timetable for the meeting time of your group. Your tutor will contact you about how to join the tutorials.
- An example sheet will be made available on *Gradescope* one week before each tutorial. You should attempt section 1 of the example sheets and discuss it with your tutor during the tutorials.

| Examples | Distributed | Due date (at 5pm) |
|----------|-------------|-------------------|
| 1 | 28 Jan | 11 Feb |
| 2 | 11 Feb | 25 Feb |
| 3 | 25 Feb | 11 Mar |
| 4 | 11 Mar | 26 Apr |
| 5 | 26 Apr | 10 May |

- Section 2 of the example sheets is to be handed in as homework, which comprises 15% of your total grade for this module. Marks for late homework will be reduced by 50% for submissions by 5pm on Friday after the due date, after which no marks will be awarded.
- Guide on using Gradescope can be found here: http://www.leeds.ac.uk/vle/students/assess/ gradescope, which also contains tips for creating nice looking scan of handwritten work.

Projects and presentation

In weeks 19–22, there will be 4 extra sessions to prepare for and conduct a short presentation. This count for 5% of your grade. You will work in pairs to choose a relevant topic on in mathematical modelling involving differential equations, rehearse, and then give a short presentation to your tutorial group. Further details and instructions will follow in week 18.

Examination

80% assessment by 48-hour open book examination at the end of semester.

Book list

- Mary L. Boas, "Mathematical Methods in the Physical Sciences", Wiley, 2005.
- W. E. Boyce and R. C. DiPrima, "Elementary Differential Equations and Boundary Value Problems", Wiley, 2005.
- F. R. Giordano and M. D.Weir, "Differential Equations: a Modeling Approach", Addison-Wesley, 1991.
- D. G. Zill, "A First Course in Differential Equations with Modeling Applications", Brooks/Cole, 2005.
- R. Bronson and G. B. Costa, "Schaum's Outline of Differential Equations", McGraw-Hill, 2014