

MATH2130: Ordinary Differential Equations

INFORMATION

Lecturer: Bernd Sing

Room: top floor math building

Office hours: Mon 13:10 & Tue 10:10 (after my Calculus II lectures)

Tel.: 417-4737

Email: bernd.sing@cavehill.uwi.edu

Organisation

Lectures: Mon 9:10 – 10:00 (LR12), Wed 14:10 – 15:00 (LR10) & Wed 16:10 – 17:00 (SLT)

Tutorials: Mon 10:10–11:00 (TSR8) or Wed 13:10-14:00 (LR1) (start in week 2)

Weekly exercise sheets: Mon → Mon

Web: <http://www.cavehill.uwi.edu/fpas/cmp/staff/bsing/math2130/>

myelearning: Access key (if necessary) is `math2130`

As additional resource you may find so-called self-assessment sheets on the web page/myelearning course site.

Assessment

Coursework mark is worth 30%; the final exam is worth 70%.

There will be one test worth 20% of the final mark. The date of the first test is Monday of the 7th week (8 Mar.). Details will follow.

10% of the final mark are gained through the exercise/tutorial sheets: A serious (and handed-in) attempt is worth 1% each (note the final exam is based on (all!) tutorial questions).

Alternatively, there is also a “project option” for the coursework: If you are short of the 30%, you can gain up to 20% of the final mark by discussing and writing a short essay on a topic in differential equations – please contact me if you are interested in this option and we discuss possible topics.

Please turn over!

Content

- I. Basic Concepts
- II. Differential Equations of 1st Order
- III. Linear Differential Equations of Order Greater Than One
- IV. Existence and Uniqueness
- V. Series Method
- VI. Laplace Transformations
- VII. Applications & Outlook

Literature

The course will closely follow

- M. Tenenbaum & H. Pollard: Ordinary Differential Equations (An Elementary Textbook for Students of Mathematics, Engineering, and the Sciences); Dover, NJ (1985)

The material can also be found in Chapters 1–4 of

- C.H. Edwards & D.F. Penney: Elementary Differential Equations (with Boundary Value Problems); Prentice Hall, NJ (2008 for 6th ed.) library: QA371.E33

There will be lecture notes (available after the lectures).

Remarks

- If something is unclear, ask for clarifications!
(I don't want to read a comment in the evaluation like "I found the section XY confusing and would have preferred more time spent on that." when nobody asked a question on XY!)
- If you cannot read something on the whiteboard or if I talk too quietly, tell me!
(Again, the end-of-semester evaluation is the wrong place for me to find things like that out.)
- I am not an English native speaker, so please excuse me if I use strange vocabulary or grammar and politely tell me the correct form (or the Bajan form;-)!
(I don't want to do the same errors over and over again!)
- Please, attempt the exercises and hand them in even(!) if you are stuck!
(This gives me a chance to see how much is understood!)