

## SYLLABUS FOR MA1132

Trinity College Dublin, Hilary 2017

**Course Title:** Advanced Calculus

**Course Description:** We will roughly follow Chapters 12-14 of Anton, Bivens, and Davis' book "Calculus, Early Transcendentals", in particular covering:

- Vector-valued functions: parametric curves, calculus, change of parameter (Chapter 12, Sections 12.1-12.6)
- Partial derivatives: definition, chain rule, gradients, maxima and minima (Chapter 13, Sections 13.1-13.9)
- Multiple integrals: double and triple integrals, surface area (Chapter 14, Sections 14.1-14.8)

**Lectures:**

- Mondays at 10 am in LB01 (Lloyd Building)
- Wednesdays at 12 PM in the Joly lecture theatre (Hamilton Building)

**Tutorials:** Each student is assigned to one of 3 tutorial sections, and you must attend exactly your corresponding session. These take place on Fridays at the following times and locations. You must attend the time corresponding to your course, unless you have a conflict, in which case you must let me know about the conflict.

- 10 AM in M17 (Museum Building), run by James Nelson (Mathematics)
- 12 PM in M20 (Museum Building), run by James Nelson (TP)
- 2 PM in LB04 (Lloyd Building), run by Anna Page Lawless (TSM)

**Instructor:** Larry Rolén **Office:** 1.8, 18 Westland Row **Email:** lrolen@maths.tcd.ie

**Text:** We will roughly follow Anton, Bivens, and Davis' book "Calculus, Early Transcendentals". Whenever we diverge significantly from the text, additional notes will be provided on the module website.

**Module Website:** <http://www.maths.tcd.ie/~lrolen/AdvancedCalculus.html>

Homework and tutorial questions and solutions, as well as class updates, will be posted here.

**Homework Policy:** Homework will consist of suggested problems, and won't be graded. Continuous assessment will thus be based on tutorial work.

**Marks:** 20% tutorials, 80% final exam (based on homework and tutorials). Supplemental exams will consist of 100% exam.