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COURSE NAME

DR. GREAT PROFESSOR • (SEASON) 20XX • UNIVERSITY OF WATERLOO

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Last Revision: August 10, 2013

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### Abstract

These notes are intended as a resource for myself; past, present, or future students of this course, and anyone interested in the material. The goal is to provide an end-to-end resource that covers all material discussed in the course displayed in an organized manner. If you spot any errors or would like to contribute, please contact me directly.

## 1 Euclidean $n$ -space

In this section, we will review the algebra of vectors and the structure of the Euclidean  $n$ -space,  $\mathbb{R}^n$ .

### Course overview

- Sequences, limits, continuity in  $\mathbb{R}^n$
- Sets and topology of  $\mathbb{R}^n$  (open, closed, compact, etc.)
- Derivatives (requires a good grasp of linear algebra)
- Multivariable integrals
- Connections between derivatives and integrals