

## Mathematics 355 (Honours Analysis 4)

### Instructor:

Professor J. A. Toth Lectures M-T-TR 10:35 am - 11:25 am.

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**Textbook:** Real Analysis (Princeton Lectures in Analysis III), Stein and Shakarchi.

**Assignments:** There will be written assignments that are to be handed-in in class. They will be assigned roughly every two weeks. **Please note: As a rule, late homeworks will not be accepted.**

**Midterm Test:** There will be a midterm examination in class on February 21, 2013.

**Syllabus:** Lebesgue measure, integration and Fubini's theorem. Convergence theorems. Introduction to Hilbert spaces,  $L^2$  spaces, Fourier transform, Law of Large Numbers and Central Limit Theorem. Introduction to Banach spaces (if time permits).

### Grading Scheme:

Final mark =  $\max(60\% \text{final} + 30\% \text{midterm} + 10\% \text{homework}, 90\% \text{final} + 10\% \text{homework})$ .

**Statement on Academic Integrity:** McGill University values academic integrity. Therefore, all students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the Code of Student Conduct and Disciplinary Procedures (see [www.mcgill.ca/integrity](http://www.mcgill.ca/integrity) for more information).

In accord with McGill University's Charter of Students' Rights, students in this course have the right to submit in English or in French any written work that is to be graded.

In the event of extraordinary circumstances beyond the University's control, the content and/or evaluation scheme in this course is subject to change.