MATH 3001 3.00 W: Real Analysis II
Winter 2011

Time: Mondays, Wednesdays, and Fridays, 9:30 to 10:30 a.m.

Place: CLH J

Instructor: Farzad FathiZadeh, N528 Ross building, ffathiza@mathstat.yorku.ca

Office Hours: Wednesdays and Fridays, 11:00 a.m. to 12:30 p.m.


Syllabus: Metric spaces including compactness and completeness (Chapter 2: Finite, Countable, and Uncountable Sets; Metric Spaces; Compact Sets; Chapter 3: Convergent Sequences; Subsequences; Cauchy Sequences), numerical series (Chapter 3: Series), Riemann integration (Chapter 6: Definition and Existence of the Integral, Properties of the Integral, Integration and Differentiation), Taylor polynomials (Chapter 5: Taylor’s Theorem), sequences and series of functions, uniform convergence, power series, Weierstrass approximation theorem (Chapter 7: Discussion of Main Problem, Uniform Convergence, Uniform Convergence and Continuity, Uniform Convergence and Integration, Equicontinuous Families of Functions, The Stone-Weierstrass Theorem).

Remark: The material from Chapter 6 will be adjusted to cover the special case of Riemann integration. Time permitting, a few lectures on Some Special Functions (Chapter 8) will be given.

Grading Scheme: Assignments 20%, two mid-term exams 20% each, and final exam 40%.

The first mid-term exam date: Friday, February 18, 2011 (during the class).

The second mid-term exam date: Friday, March 18, 2011 (during the class).

The duration of the final exam will be 3 hours; the time and the date for the final exam will be announced by the university. The course information will be posted on http://www1.math.yorku.ca/new/content/fathizadeh-farzad