MATH 2080 Introduction to Analysis Fall 18

Instructor:

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Text:

Introduction to Real Analysis, by Bartle, R.G. and Sherbert, D.R., 4th edition, John Wiley and Sons.

Grading:

Assignments: worth 24% total. Tentative dates: Sep 24, Oct 15, Nov 19, Dec 3. *Late assignments will not be given credit.*

Midterm: 26%, date October 31, 5:45pm-7:00pm.

Final exam: 50% , date TBA.

Course Content:

- Chapter 1. Preliminaries (review): sets and functions; mathematical induction; finite and infinite sets.
- Chapter 2. Real Numbers: field, order and completeness axioms; Archimidean property; density of the rationals, nested intervals property; uncountability.
- Chapter 3. Sequences and Series: review of limit definition; subsequences; accumulation points; monotonic sequences; Bolzano-Weierstrass theorem; Cauchy sequences.
- Chapter 4. Limits: one and several variables; review of epsilon-delta definition; sequential criteria for limits.
- Chapter 5. Continuous Functions: continuous functions on intervals; maximum/minimum theorem; intermediate value theorem; preservation of intervals theorem; uniform continuity; Weierstrass approximation theorem; continuous functions of several variables.

Statement on Academic Dishonesty:

The Department of Mathematics, the Faculty of Science and the University of Manitoba all regard acts of academic dishonesty in quizzes, tests, examinations or assignments as serious offences and may assess a variety of penalties depending on the nature of the offence.

Acts of academic dishonesty include bringing unauthorized materials into a test or exam, copying from another student, plagiarism and examination personation. Students are advised to read section 7 (Academic Integrity) and section 4.2.8 (Examinations: Personations) in the General Academic Regulations and Requirements of the current Undergraduate Calendar. Note, in particular, that cell phones and pagers are explicitly listed as unauthorized materials, and hence may not be present during tests or examinations.

Penalties for violation include being assigned a grade of zero on a test or assignment, being assigned a grade of "F" in a course, compulsory withdrawal from a course or program, suspension from a course/program/faculty or even expulsion from the University. For specific details about the nature of penalties that may be assessed upon conviction of an act of academic dishonesty, students are referred to University Policy 1202 (Student Discipline Bylaw) and to the Department of Mathematics policy concerning minimum penalties for acts of academic dishonesty.

All students are advised to familiarize themselves with the Student Discipline Bylaw, which is printed in its entirety in the Student Guide, and is also available on-line or through the Office of the University Secretary. Minimum penalties assessed by the Department of Mathematics for acts of academic dishonesty are available on the Department of Mathematics web-page.

Conversion of numerical grades to letter grades

Letter	Minimum Percentage to Guarantee	Final Grade Point
A+	95	4.5
A	85	4.0
B+	78	3.5
B	72	3.0
C+	66	2.5
C	60	2.0
D	51	1.0