

**MATH 209**  
Fundamental Mathematics II  
*Fall 2014*

Instructor\*: \_\_\_\_\_

Office/Tel No.: \_\_\_\_\_

Office Hours: \_\_\_\_\_

\*Students should get the above information from their instructor during class time. The instructor is the person to contact should there be any questions about the course.

**Course Examiner:** Dr. D. Sen

**Credit:** Math 209 (Fundamental Mathematics II) is a 3-credit course, primarily for pre-commerce students. PLEASE NOTE: Math 209 is NOT credited towards any university degree if university credit for MATH 203 or any course equivalent to MATH 203 or 209 has already been granted.

**Caution:** If you have not taken the pre-requisite courses, you are taking this course at your own risk.

**Textbook:** *Calculus for Business, Economics, Life Sciences and Social Sciences*, 12th Edition, by Barnett, Zeigler, & Byleen. CUSTOM EDITION.

**Math Help Centre:** It has been organized to help students in solving problems. The location is LB 912 and the schedule is posted in the Department.

**Assignments:** Assignments are given for every class. Students are expected to submit electronic assignments through **MyMathLab**. There is not enough class time to do all examples needed for a good understanding of the material, and so students are strongly encouraged to do as many problems on their own as their time permits. A solutions manual for all odd-numbered questions is packaged with the text to provide quick and through feedback.

**MyMathLab:** Every student who buys a book will receive an access code to an online system called **MyMathLab**. Access codes can also be purchased in the Concordia book store. The system provides you with a full electronic version of the text (an eBook) as well as many exercises and practice problems. Students will use this system to do online assignments. However, students are strongly encouraged to use this free resource to help with problems similar to assignment problems, and in areas where they need extra assistance.

**Calculators:** Only calculators approved by the Department (with a sticker attached as proof of approval) are permitted in the class test and final examination. The preferred calculators are the **Sharp EL531** and the **Casio FX 300MS**, available at the Concordia Bookstore.

**Test:** One common midterm test will be held on **Sunday, October 19, 2014 at 2:00 p.m.** Students who could not make it that day for a valid reason, e.g. religious or illness (*doctor's note required*), can write an alternate midterm on **Saturday, October 25, 2014 at 10 a.m.**

**NOTE:** It is the Department's policy that tests missed for any reason, *including illness*, cannot be made up. If you miss the midterm and alternate test because of illness (*to be confirmed by a valid medical note*), the final exam can count for 90% of your final grade.

**Final Exam:** There are no exemptions from this three-hour exam.

**Final Grade:** The final grade will be based on the higher of **a) or b)**:

- a)** 10% for the assignments, 20% for the midterm test, and 70% for the final exam.
- b)** 10% for the assignments, 10% for the midterm test, and 80% for the final exam.

**IMPORTANT:** PLEASE NOTE THAT THERE IS NO "100% FINAL EXAM" OPTION IN THIS COURSE.

| Week | Topics   | Supplementary Problems   |
|------|--|--|
| 1    | 3.1 Introduction to Limits<br>3.2 Infinite limits  | p. 138: 3, 9, 17, 25, 33, 35, 39, 53, 67.<br>p. 150: 9, 31, 53, 69.                |
| 2    | 3.3 Continuity<br>3.4 The Derivative   | p. 161: 7, 13, 19, 21, 27, 29.<br>p. 175: 3, 9, 13, 21, 63.                        |
| 3    | 3.5 Basic Differentiation<br>3.6 Differentials<br>3.7 Marginal Analysis in Business                              | p. 184: 11, 23, 39, 51, 83.<br>p. 192: 15, 17, 23, 41.<br>p. 200: 3, 7, 19, 25.    |
| 4    | 4.1 Review of the constant e and continuous interest<br>4.2 Derivatives of Exponential and Logarithmic Functions | p. 215: 3, 9, 19, 27, 37.<br>p. 224: 7, 11, 13, 29.                                |
| 5    | 4.3 Derivatives of Products & Quotients<br>4.4 The Chain Rule  | p. 231: 3, 11, 17, 25, 81, 87.<br>p. 240: 5, 7, 43, 59, 67, 97.                    |
| 6    | 4.5 Implicit Differentiation<br>4.6 Related rates  | p. 248: 3, 7, 9, 13, 23, 47.<br>p. 254: 5, 7, 11, 25, 29.                          |
| 7    | 4.7 Elasticity of Demand<br>5.1 First Derivative and Graphs  | p. 260: 25, 27, 31, 33, 67.<br>p. 278: 3, 7, 9, 19, 23, 27, 49, 79, 97.            |
| 8    | 5.2 Second Derivative and Graphs<br>5.4 Curve-sketching techniques   | p. 296: 1, 5, 7, 11, 19, 23, 33, 53, 55, 67, 81.<br>p. 319: 1, 17, 29, 63, 71, 75. |

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| 9  | 5.5 Absolute Maxima and Minima<br>5.6 Optimization                        | p. 330: 3, 5, 9, 13, 21, 33, 51.<br>p. 340: 3, 5, 13, 21.                          |
| 10 | 6.1 Antiderivatives<br>6.2 Integration by substitution                    | p. 358: 3, 5, 15, 21, 35, 37, 51, 69, 87.<br>p. 370: 3, 7, 11, 13, 39, 53, 67, 69. |
| 11 | 6.3 Differential Equations; Growth and Decay<br>6.4 The Definite Integral | p. 379: 3, 7, 29, 39, 53, 57.<br>p. 390: 25, 27, 35, 37, 45, 49.                   |
| 12 | 6.5 Fundamental Theorem of Calculus<br>7.1 Area between Curves            | p. 401: 9, 13, 21, 23, 51, 63, 75.<br>p. 417: 27, 29, 37, 39, 43, 45, 49, 83.      |
| 13 | <b>REVIEW</b>   |  |