Math 108: Functions and Derivatives with Applications
Fall 2013

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Office Hours: MWF 2- 2:30 pm and by appointment
Required text: Calculus: For Business, Economics, Life Sciences, and Social Sciences, by Barnnett, Ziegler and Byleen, 12th edition

Course Goals:

This course is designed to develop the calculus concepts that will beneit those students interested in the business and social sciences. The approach used will be especially useful for students who need to study calculus but would beneit by a review of necessary precalculus topics. Upon completing the course, successful students will be able to work with functions algebraically, graphically, and numerically, and use them to model problems, understand the derivative conceptually as well as knowing how to calculate derivatives using the various techniques studied in class, improve their communication and technical writing skills by discussing mathematical problems and presenting solutions in written and oral form.

Course Description

Homework assignments will be given at each class meeting. Students are expected to complete these assignments by the next class meeting, where they will be discussed. No one can learn mathematics without doing it themselves and so, to the student, homework is the most important part of the course. Since class participation is important, students are expected to attend every class.

Grading:

Your .final grade will be based on

4 quizzes, 25 points each	(100 points)
Homework assignments/participation	(100 points),
3 hourly exams, 100 points each	(300 points)
Comprehensive final exam	(200 points)

Attendance and effort will be considered when determining course grade.
The following grading scale is used when assigning your .final grade.

87 □ 89 B+	77 □ 79 C+	67 □ 69 D+	0 _ 59 F
93 □ 100 A	83 □ 86 B	73 □ 76 C	63 □ 66 D
90 □ 92 A-	80 □ 82 B-	70 □ 72 C-	60 □ 62 D-

The final exam schedule is listed on AMOS on college's website.

Attendance:

Regular attendance is necessary in order to be most successful. Poor attendance will affect a student's class participation grade. You will lose 10% from your class participation grade for each unexcused absence. If you are sleeping in class, you are not there. If you feel the need to leave class before it is over, even if you come back, you are not there. In other words, in any of these cases you will be considered absent and will lose 10% of your class participation grade.

There will be no make-ups for missed quizzes. Make-up tests are given only in extreme cases. If a student has to miss a test it is the student's

responsibility to contact the instructor as early as possible.

Learning Disability Accommodations

Students who wish to request accommodations in this class for a disability should contact Elaine Mara, assistant director of learning services for academic and disability support at 1307 Main Street, or by calling 610-861-1510. Accommodations cannot be provided until authorization is received from the Academic Support Center.

ACADEMIC HONESTY POLICY GUIDELINES FOR MATHEMATICS COURSES

The Mathematics and Computer Science Department supports and is governed by the Academic Honesty Policy of Moravian College as stated in the Moravian College Student Handbook. The following statements will help clarify the policies of members of the Mathematics faculty.

In all homework assignments which are to be graded, you may use your class notes and any books or library sources. When you use the ideas or thoughts of others, however, you must acknowledge the source. For graded homework assignments, you may not use a solution manual or the help, orally or in written form, of an individual other than your instructor. If you receive help from anyone other than your instructor or if you fail to reference your sources you will be violating the Academic Honesty Policy of Moravian College. For homework which is not to be graded, if you choose, you may work with your fellow students. You are responsible for understanding and being able to explain the solution of all assigned problems, both graded and ungraded. All in-class or take-home tests and quizzes are to be completed by you alone without the aid of books, study sheets, or formula sheets unless specifically allowed by your instructor for a particular test.

Note: This syllabus is a guideline for the course. It may be necessary to make changes during the semester. I will announce any changes in class.

Math 108 Tentative Assigned Problems spring 2013

Week	Topic	Section	Problems
1	Linear equation and graphs	1.1 1.2	Pages 10-11 # 1-9 odd,17,31 Pages 23-24 # 5-15 odd, 27,29,33,
2	Functions and :Graphs	2.1 2.2 2.3 Quiz 1	Pages 54-57, # 33,35,53-69odd,73,75,91 Pages 66-67 # 9-17 odd,29,31-39 odd 43.45
3	Limits and the derivatives	3.1, 3.2	Pages 138-139 #1-25 odd,39,41,47, 49,55,57 Pages 150-151 # 9-25 odd ,31-43 odd
4	Continuity	3.3 TEST 1 chapters 1, 2, 3 (3.1 - 3.3)	Pages 161-153 #7-31 odd, 35-41 odd
5	The Derivative Basic Differentiation Properties	3.4 3.5 Quiz 2	Pages 175-176 # 3,7,9,11,27,29, 31-39 Pages 184-186 # 1-17odd, 25-45odd,49,51,53,55, 81
6	Marginal Analysis in Business and Economics	3.7	Pages 201-203 # 1,3,5,7,11,13,15, 17, 19, 27, 29, 33, 35, 37, 43,45
7	Exponential Functions Logarithmic Functions	2.5 2.6 Test 2 2.5, 2.6 and chapter 3	Pages 103-105 # 3,5,15,17,19, 29-37 odd, 43, 45,47,5 Pages 116-117 # 1,3,7,9,13,15, 17 19, 27, 29, 31,33, 43, 47, 49 83
8	The Constant e and Continuous Compound Interest Derivatives of Exponential and log functions	4.1 4.2 Quiz 3	Pages215.216 # 1,3,5,7,9,17,19 Pages224- 225 #1-21odd,27, 28, 29
9	Derivatives of Products and Quotients The Chain Rule	4.3 4.4	Pages 231-232 # 1-25 odd, 39,45,73,83 Pages 240-242 # 17-47 odd, 51, 55- 69 odd
10	Implicit Differentiation Elasticity of Demand	4.5 4.7	Page 248-249 #1-11 odd.17,19, 29 Pages 260-262 # 1-5, 9, 13, 19, 23, 25,29, 31,35,37
11	First Derivatives and graphs	Test 3 chapter 4 5.1	Page 270 # 1-8, 11, 13, 15, 17, 19, 21,27,33, 35, 47, 49, 51

12	Second Derivatives and Graphs L.Hopital's Rule	5.2 5.3 Quiz 4	Pages 296-298 # 1-21 odd, 25, 31-43 odd, 47, 49, 51, 55-61 odd Page 309-310 #1-33 odd
13	Curve Sketching Techniques Absolute Maxima and Minima	5.4 5.5	Pages 319-320 # 4, 5, 11, 27, 45, 49, 51 Pages 330-331 # 7-17 odd, 21, 25, 33, 37, 41
14	Optimization And review for final	5.6	Pages 340-343 # 1-13 odd,17,19,21, 23.25
15	FINAL EXAM	Check AMOS for exact date	