

## MA 126-02 SP 15 SYLLABUS Calculus II

Course Objectives: We will explore in depth the concept of integration, and introduce the concepts of differential equations and infinite series, from symbolic, graphic, and numerical viewpoints. Students will gain an understanding of important applications of these concepts, will become more comfortable using Maple to solve technically complex problems, will become more comfortable reading, writing about and discussing mathematics.

Class Schedule: Monday, Tuesday, Thursday 2:30 – 3:40; on Mondays and Thursdays we're in HH307; on Tuesdays we're across the hall in 306.

Instructor: B. Gold, Office: HH247, Office Telephone: 732-571-4451

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Office Hours: Monday 11:30 – 12:30, Tuesday 12:45 – 1:45, Wednesday 4:30 – 5:30, Thursday 4:30 – 5:30; or by appointment or chance.

Required Texts: Ostebee and Zorn, *Calculus from Graphical, Numerical and Symbolic Points of View*, 2<sup>nd</sup> ed., vol. 2.

Course Requirements: Daily homework problems, daily MapleTA assignments (<http://maple.monmouth.edu>), in-class activities, weekly quizzes, 4 in-class exams, applications project, final exam. Each day **before** class, you must have read the section(s) of the text assigned for that day, and then attempted the MapleTA assignment with that section number and a P. After class, you do a MapleTA assignment with the same section number, but without the P. This version will be graded based on correctness, but you may rework the problems up to one week after that class day. At that point, your grade for that problem set will be the highest grade you received on that assignment. *On two days (when we do sections 5.7 and 9.3), marked with an asterisk, when there is not a MapleTA-P assignment; on those days, you are to bring in three questions over the section, either questions the section raises in your mind, or questions the text is answering: but for the latter, write a brief summary of the book's answer.* Problems from the text are due the following day in class. Work, and reasoning, should be shown on the problems: that's why I can't have MapleTA grade them.

Methods of Evaluation and Grading Policy: You will choose, after the first exam, how much you want each part weighted, within the ranges shown (and so that it all adds up to 100%). Pre-class MapleTA problems/reading questions 5-8%, in-class activities 2%, quizzes 2%, MapleTA homework 5-8%, written homework 5-8%, applications project 5-10%, four in-class exams 10-15% each, final exam 15-25%.

On a scale of 0 to 100, grades of:

A and A- will be assigned to scores of 90 and above

B+, B and B- will be assigned to scores between 80 and 90

C+, C and C- will be assigned to scores between 65 and 80

D+, D and D- will be assigned to scores between 50 and 65

F will be assigned to scores below 50.

Attendance Requirement: Attendance on **applications reports** and **examination** days is required. Other days, it's strongly recommended: you won't find it's easy to learn the material on your own. Also if you miss an announcement of a due date, etc., and so don't get the material in on time, you lose some credit on that assignment.

Examination Absences: **If you must miss an examination or quiz, you must let me know, by telephone, e-mail, or in person, before the examination, or the grade on the examination will be 0, with no exceptions!** Further, you must speak with me before the next class period to determine a time for a make-up examination.

Last date to Withdraw with automatic assignment of “W” grade: March 30, 2015.

Statement on Academic Honesty: You are welcome to consult others, whether students in the class or tutors in the Mathematics Learning Center. However, **whenever you have had assistance with a problem, you are to state that at the beginning of the solution to the problem.** Unless it becomes excessive, there will be no reduction in credit for getting such assistance.

Examination Rules: No student is permitted to have at his or her desk any books or papers that are not given out or expressly permitted by the instructor. Possession of such material will be regarded as evidence of intent to use the information dishonestly. No communication between students during the examination is permitted. If there are questions, or if there is a need for additional material, the instructor should be asked. In accordance with the academic honesty policy of Monmouth University each exam will contain the following pledge, which must be signed and submitted with the examination: “I, \_\_\_\_\_, certify that I have read the above rules for examinations, and that I have abided by them. By signing, I affirm that I have neither given nor received aid during this examination, and I understand that violation of this affirmation may result in suspension or expulsion from Monmouth University.”

Statement on Special Accommodations: Students with disabilities who need special accommodations for this class are encouraged to meet with me or the appropriate disability service provider on campus as soon as possible. In order to receive accommodations, students must be registered with the appropriate disability service provider on campus as set forth in the student handbook and must follow the University procedure for self-disclosure, which is stated in the University *Guide to Services and Accommodations for Students with Disabilities*. Students will not be afforded any special accommodations for academic work completed prior to the disclosure of the disability, nor will they be afforded any special accommodations prior to the completion of the documentation process with the appropriate disability office.

Tentative Schedule:

Date	Sections	Individual Homework
1-20	5.2, 5.3	5.2 # 4, 10, 40, 42; 5.3 # 6, 10, 14, 20
1-22	5.4	4, 14, 62, 74

1-26	5.5	4, 6, 8, 12
1-27	5.6	7-10, 30, 34
1-29	5.7*	2, 4, 6, 14, 16, 26, 28
2-2	6.1	2, 4, 6, 8, 20
2-3	6.2	6, 10, 12, 20
2-5	6.2	26, 28, 30, 36

2-9	6interlude	(Simpson's Rule) 1, 3, 4, 5
2-10	Review	for exam 1, 5.2 – 6 Interlude
2-12	Exam 1	
2-16	8.1	10, 16, 26, 32
2-17	8.2	18, 34, 38, 40
2-19	10.1	2, 8, 10, 40
2-23	10.2	8, 12, 16, 28
2-24	11.1	2, 6, 8, 16
2-26	11.2	12, 18, 32, 42
3-2	11.3	11.2/46; 11.3/10, 18, 22
3-3	11.3	32, 34, 46, 48
3-5	11.4	10, 12, 20, 24
3-9	Review	for exam 2, 8.1, 8.2, 10.1, 10.2, 11.1-11.3
3-10	Exam 2	
3-12	9.1	4, 10, 14, 18
3-14 – 3-22		Spring break
3-23	9.2	4, 8, 12, 14
3-24	9.3*	1, 2a, 4, 10, 16, 18, <b>Applications Project Choice Due</b>
3-26	11.5	4, 8, 10, 34, 36
3-30	11.6	6, 8, 30, 42
3-31	11.7	2, 4, 6, 10
4-2	11.7	12
4-6	Review	for exam 3, 9.1 – 9.3, 11.4 – 11.7
4-7	Exam 3	
4-9	7.1	14, 18, 44, 56
4-13	7.2	12, 14, 18, 22
4-14	App.	Reports on applications projects
4-16	App.	Reports on applications projects
4-20	App.	Reports on applications projects
4-21	App.	Reports on applications projects
4-23	6.3	4, 12, 16
4-27	7.4	10, 18, 20, 26
4-28	Review	for exam 4: 6.3, 7.1, 7.2, 7.4, applications

4-30	Exam 4	
5-4	Review	

\*Reading questions: On these days, you are to come to class with at least three questions over that section of the text. These questions may be questions about parts of the reading you have found confusing (in this case, be specific: what page, what sentence was confusing?), questions the text has raised in your mind (extensions of what it discusses, for example). They must not simply be “what is an application of ...” or “What is the meaning of the term ...” If you don’t have three of these questions, you may fill out your questions with questions the text answers, “Jeopardy”-style – that is, what question was the book answering by including a particular paragraph – and a brief summary of the book’s answer.

Not surprisingly, MA125 (Calculus I) is a prerequisite for this course because we will be using almost everything you learned there very heavily. You need to be sure you know the derivatives and anti-derivatives of all the standard functions at all times, as well as the chain rule, product rule and quotient rule. You should also be very familiar with the functions of precalculus mathematics: powers of  $x$  (including positive and negative powers, and fractional powers), the exponential and logarithm functions, and sine and cosine – be able to draw them quickly, know where they’re discontinuous, what their limits are as  $x$  goes to  $\infty$  or  $-\infty$ , what their period is (if they have one), what their maxima and minima are and where those extrema occur, etc. There will be weekly quizzes on this material during the first half of the semester.

Final exam either Thursday, May 7, 3:15 – 5:15 p.m., OR Friday, May 8, 1 – 3 p.m.: this information will be posted by the registrar several weeks before the end of the semester.