Math 211 – Analytic Geometry and Calculus III  
Spring 2005

**Required Text:** *Calculus: Early Transcendentals* (5th edition), by J. Stewart  
**Class web-page:** [http://www.math.moravian.edu/hartshorn/math211/](http://www.math.moravian.edu/hartshorn/math211/)

**Lecture:** PPHAC 113  
**Instructor:** Kevin Hartshorn  
**Office:** PPHAC 222  
**Time:** MWF 11:25am – 12:30pm  
**e-mail:** hartshorn@moravian.edu  
**Office Hours:** TW 2:30-4:00pm, Tu 9:00-10:30am  
*or by appointment*

**Textbooks**  
James Stewart’s *Calculus: Early Transcendentals* (2nd Edition) is the only required text. Note that you need the full version (the full version includes the material from both the *Single Variable Calculus* and the *Multivariable Calculus* texts). Multivariable calculus uses all the same tricks and techniques that you learned in single variable calculus. Do not hesitate to go back and review material from Math 170 or Math 171.

**Goals and Objectives**  
I hope that we accomplish the following goals over the course of the semester:  
- Gain an understanding and appreciation of linearization as a central technique in calculus.  
- Develop facility visualizing and working with multidimensional objects (particularly 3-dimensional)  
- Build problem-solving techniques using multivariable calculus.  
- Enhance technical writing skills.

To help meet these goals, the following objectives must be met:  
- Timely completion of regular problem sets.  
- Work and completion of group projects assigned over the course of the semester.  
- Adequate performance on three midterms and a final exam.

**Homework**  
As you surely know by now, calculus is not a spectator sport. Your only chance to learn the subject is to practice on a daily basis. It is expected that you spend 8 hours per week outside of class working on calculus. To help you in your study, I will regularly assign homework – almost every class period will have an associated homework assignment.

I will not collect all the homework over the course of the semester. Some I will only check quickly in class to see that you have completed the work. Others will be collected and at least partially graded. I suggest you complete all homework as if it will be graded. Each homework assignment will be weighted equally when your final grade is computed.

*Homework must be handed in at the beginning of class on the date due.* If you are unable to turn your homework in when it is collected (e.g.: if you are sick, forgot your homework, or are late to class), then I can accept late homework until 4:00pm of the due date. Note that any homework handed in late may be subject to a penalty.  
*No late homework will be accepted after 4:00pm of the due date.*

**When completing your homework,** keep the following requirements in mind. Failure to meet these requirements will incur a penalty on your homework grade:  
- Homework should be neat, legible and written on clean standard-sized paper. I do not want to see your scratch paper. As with any assignment at Moravian, your homework should be demonstrative of your best work.  
- Your problems should be presented in the order they appear in the assignment. In completing your homework, be sure that it is clear where work from one problem ends and the next begins.
• Unless told otherwise, you should show your work. The correct answer is only one objective. I do not grade homework to see if you got the right answer (there are computerized multiple choice tests for that). I grade to ensure that you demonstrate a master of the tools and techniques introduced in the course.
• Your full name should be on first page of the submitted homework, clearly readable in the top right-hand corner of the page.
• If your homework has multiple pages, it must be stapled. Folding over the corner of the paper or using a paper clip is not sufficient.

Solutions to the problem sets will be provided – more on this later.

Quizzes

Short, in-class quizzes will be given sporadically throughout the semester. They are aimed at testing several things: proficiency in calculus and general mathematics; comprehension of new vocabulary or theorems; your overall attendance in class. Quizzes will occur at the beginning of class and will seldom last more than 5 or 10 minutes.

Each quiz will be weighted the same as a homework assignment when computing the final course grade.

Note that if you are late to class, you may miss a quiz altogether – you will not be given a chance to make up the quiz. If you will be missing a class or know that you will be late to class (e.g.: you have a doctor’s appointment), be sure to let me know before the class in question.

Exams

There will be three exams in the course and a final exam. The first exam will be an open-book, take-home exam during the week of January 31 – February 4. The second midterm will be a closed-book, in-class exam on Friday, March 4. The third exam will be an open-book take-home exam the week of April 11 – April 15. Details on the midterms will be provided as these dates approach.

Be sure to mark these dates on your calendar. Remember, vacation plans are not an acceptable reason to miss an exam date.

Projects

The class will divide into small groups (of three to four students each). Each group will be required to work together in completing several projects over the course of the semester. Each project will require you to write a short report solving a given problem. You will have several weeks to complete each project. Details will be provided when the first project is assigned.

Attendance

Although I will not be taking attendance, I do expect you to come to class for each session. Although I plan to post most class announcement on the class web page, you are responsible for any announcements made in class. If you miss a class, make sure that you find out from me or from a fellow student whether you missed any important information or announcements.

Late work is never accepted. I don’t accept late homework and I don’t give make-up exams. I will not allow additional time for in-class quizzes, nor will I provide make-up quizzes if you are late to class. If you expect to miss a class (due to a sporting event or conference or some planned activity), let me know ahead of time. Special arrangements can be made for homework and exams if I am alerted before the date. If you miss class due to an illness or other unforeseen emergency, let me know as soon as possible so that your grade is not adversely affected.

The class web-page will be updated regularly with any important announcements. However, it is your responsibility to make any deadlines for the course.

Academic Honesty

Students will be expected to adhere to the standard of the Academic Honesty policy as described in the Student Handbook (pages 51-53). Any violations of this will result in severe penalties on the assignment, a report to the
Dean, and the very real possibility of failing the course.

In this course, there are two special situations: homework and group projects.

**Honesty in Homework:** I believe that mathematics must be a group effort. Your work with classmates will do wonders in helping you internalize the new information. Thus you are encouraged to work with your fellow students on any homework that will not be graded. Use the solution manual to check your work and take any advantage you can to ensure that you know how to do the problems. The graded homework must demonstrate your own work – you may not consult with anyone except the instructor when working on graded homework. You may use the class textbook and any notes from class, but you may not use any other texts or sources. Do not use the solution manual when completing the graded homework and do not try to research the graded homework on the internet.

**Honesty on the Group Projects:** When working on the group projects, each group will submit a single response to the problem. Obviously, you must collaborate with the other members of your group in order to complete the assignment. You may use Stewart’s *Calculus*, as well as a graphing calculator or Maple. You may not use any other sources or reference tools without specific permission from the instructor. You may not consult with anyone outside the group, other than the instructor.

**Grading Policy**

When assigning letter grades at the end of the course, I generally use the following guidelines: 85% or better is an A (+ or –), 70% or better is a B (+ or –), 65% or better is a C (+ or –), and 50% is needed to avoid a failing grade. Note that these are only guidelines and are subject to change based on the difficulty of the work and the performance of the class in general. Also note that **I do not assign letter grades to individual assignments or exams**, but you can get a feel for how well you did by comparing your percentage score to this scale. To determine your numeric grade at the end of the course, I will use the following distribution:

<table>
<thead>
<tr>
<th>Points</th>
<th>Assignment</th>
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<tbody>
<tr>
<td>15</td>
<td>Homework</td>
</tr>
<tr>
<td>15</td>
<td>Projects (based on average of project scores)</td>
</tr>
<tr>
<td>15</td>
<td>Midterm 1 (January 31 – February 4)</td>
</tr>
<tr>
<td>15</td>
<td>Midterm 2 (Friday, March 4)</td>
</tr>
<tr>
<td>15</td>
<td>Midterm 3 (April 11 – April 15)</td>
</tr>
<tr>
<td>25</td>
<td>Final Exam</td>
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100 points Total possible

This percentage will determine your grade for the course.

**Disclaimers**

- This syllabus is subject to change through the semester. Any updates to the syllabus will be posted on the class web-page.
- If you are in need of special accommodations due to a disability, please contact the Learning Services Office as soon as possible. We can only accommodate your special needs if we are made aware of them.
- All grades given in this class are subject to my qualitative judgement as professor of the course.