Class hours: Section 52: 5:00–7:00 PM, Tue and Thu in Ewing 205.
Section 51: 7:00–9:00 PM, Tue and Thu in Ewing 207.

Instructors: Dr. F. Lazebnik: EWG 507; Tel. 831–1867 (try not to leave me messages);
Email: lazebnik@math.udel.edu (best way to reach me).

Office Hours: Section 52: Tu 10:00-11:00AM, Th 9:00-10:00AM;
Section 51: Tu 9:00-10:00AM, Th 10:00-11:00AM,
or (in a very few cases) by appointment.

Student Solution Manual for Multivariable Calculus by D. Clegg and B. Frank can be found in the
Reserve Room, Morris Library.

Homework: Assignments will be given each week in class. They are to be finished by, and a
part of them submitted at, the beginning of the class on the day they are due. They will be graded
and returned to you within a week, and solutions will be provided. Some problems in these sets
will require a heavy use of Maple and their solutions should be presented in the form of a printed
document involving a mixture of text, graphics, Maple commands and outputs.

It is allowed to work on homework problems with other people. Always acknowledge collabora-
tion or help you received, or the sources you were using. The final writing of the solutions you
prepare to submit should be done by the student only with no collaboration or any help from others.
No late homework will be accepted.

For complete information on University policies relating to academic honesty, read the online

Exams: There will be three 60 minute exams (each including 15-20 minute Maple part), and a 120
minute cumulative Final exam.

The days of the exams: September 20 (Tue), October 25 (Tue), November 22 (Tue) (all at the
beginning of the class). Last class is on December 6 (Tue). Final exam: to be announced.

Almost all questions for exams will be taken directly from lectures and homework.

Grade for the course: Grade of each exam and homework will be expressed in percents. Let
$H, E, F$ denote the average of all homework, the average of three exams, and the grade for the final
exam, respectively. Take

$$G = .20H + .55E + .25F.$$ 

If the grade for the final exam is higher than of each of the intermediate exam (it happens, but
rarely), it will be given a greater weight. In this case take

$$G = .20H + .50E + .30F.$$ 

The grade for the course will be:

- A if $G \geq 85$;
- A- if $82 \leq G \leq 84$;
- B+ if $79 \leq G \leq 81$;
- B if $75 \leq G \leq 78$;
- B- if $73 \leq G \leq 74$;
- C+ if $69 \leq G \leq 72$;
- C if $65 \leq G \leq 68$;
- C- if $62 \leq G \leq 64$;
- D+ if $60 \leq G \leq 61$;
- D if $58 \leq G \leq 59$;
- D- if $55 \leq G \leq 57$;
- F if $G \leq 54$. 
NOTE:

1. If you miss an hour exam and you have a valid excuse, discussed and approved by the instructor before the test, then a student is offered one of the following choices. Either the exam should be taken within 1 week from the originally scheduled day, at the time convenient for the instructor, or the grade of the final exam will be substituted for the missed test. In the latter, the number $G$ will be computed according to the formula $G = .20H + .55E + .25F$.

2. The attendance is highly encouraged with our two 2 hour meetings per week schedule. Not everything discussed in class can be found in the text. Some homework problems will tie closely with class discussions.

3. If a class is missed, I suggest that the student copies the notes and email the instructor or a classmate to find out what is missed and which announcements were made. I will not be responsible if you miss an announcement given in class which may effect your performance in the course.

4. Complete understanding of all parts of the homework and lectures + the ability to present them in a clear, complete and concise way by the time they are due is the key part of your success. Even if the understanding is achieved with a help of the instructor, another person, or any other source.

Syllabus: Our syllabus is based on the Departmental one for this course. For the latter see: http://www.math.udel.edu/courses/243Syllabus.pdf. We will cover Chapters 12–16, with Sections 15.9, 16.8 excluded, and Section 15.5 included.

Presentations of some sections may differ from those in the text. Few theoretical topics or types of problems which are not in the text will be presented on lectures, or in handouts.

Good sources for information and examples on Maple (among many others) are:

http://www.math.udel.edu/~rakesh/TEACH/M243/m243.html (by Prof. Rakesh, UD)
http://www.math.udel.edu/~driscoll/teaching/243/maple/ (by Prof. T. Driscoll, UD)
http://www.maplesoft.com/products/Student/ (Maplesoft)
http://www.indiana.edu/~statmath/math/maple/ (Math Center Indiana University)
http://www.math.tamu.edu/~yasskin/resume/vcmstr.pdf (A draft of the book by A. Belmonte and P.B. Yasskin)

Though they use older versions of Maple, it is almost unimportant.

Comments and Suggestions.

I suggest that you begin each homework by reading the corresponding sections and notes. Start by going over all examples worked out in the text, handouts, and your lecture notes. Then do the assigned problems. It is important that you do most of them in all details. Most problems will have short solutions, but finding just a solution of some of them may take time. If you feel that your solution is long, ask me whether there is a shorter one. Writing down a reasonable solution should take between 3 (for the easier) and 10 (for the harder) minutes. Again, finding just a solution may take much longer.

Since your tests will almost always be composed of the problems (I assume) you have already seen, that will be the amount of time per problem you will have on the tests. I intend to include in every test the definitions and the statements of some important theorems. Problems on the tests
will vary in difficulty, but will carry equal weights. Your solutions should be presented in a logical and clear way. Presenting mathematics well in writing requires practice, and you should work on it while doing the homework. Sometimes, you will need to rewrite a solution several times until it is in a good form. Solutions from the text, lectures and discussion sessions should serve as examples of good presentations. You are welcome to use a word processor, or use Maple worksheet to mix text, Maple commands and Maple outputs.

Sometimes I hear from students that they did all homework problems, attended and understood all lectures but could not perform well on tests because of being nervous or/and time constraints. My advice is: while preparing for tests do not read solutions of the problems of theoretical facts, but try to reconstruct them without help from any source. Often you will fail to do this. Then read the solution carefully going over all details and understand what you were missing. Try to reconstruct the solution after a day or two. Sometimes you will not be able to do it again. Then read the argument carefully again and understand what you are still missing. Try to reconstruct the argument after a day or two... Do not try to memorize it, it is hard and it is not a purpose of the course. If your mathematical training is adequate, you will be able to finish a solution if you know its idea. But you should remember definitions, statements, some examples and counterexamples, and the main ideas behind solutions. Sometimes your difficulties can be caused by poor knowledge/rememberence of mathematics considered as prerequisite for this course, e.g., high school mathematics or M241, M242, or Maple. Then go back and review it. Ask me for help.

I expect that students will read the text. Few small topics and many examples you will have to learn through your own reading and consulting instructors me if you have questions. If you are lost, try first to understand what exactly is not clear. This is not an easy task, it will require your time and efforts, but if you succeed, then many of your questions will be eliminated right away, and the remaining can be explained by me quickly. Do not let a particular problem hold you for long from doing other problems. Many of them are independent from each other, and you can return to unclear ones later.

I will try my best to help you to succeed in this course, but remember that mathematics is largely self – taught: by reading, thinking about the concepts, discussing the subject with instructors and classmates, working on problems and thoroughly analyzing both successes and failures.

The course deals with interesting and useful mathematics. I hope you will like it.