Math 2415, Spring 2016
Calculus of Several Variables

Course Information
Math 2415.002  TR 11:30-12:45  GR 2.530
Math 2415.003  TR 02:30-03:45  JSOM 2.902

Professor Contact Information
Instructor:  Farid Khafizov
Office:  FO 2.410G
Email:  farid.khafizov@utdallas.edu
Webpage:  http://www.utdallas.edu/~ftk100020
Office Hours:  TR 5:30-6:30 or by appointment

Course Pre-requisites and Co-requisites
Pre-requisites:  A grade of C− or better in MATH 2414 or equivalent
Preparation:  In general, success in Math courses strongly depends on your grade in previous relevant courses. For Math 2415, the material in Math 2413 is much more important than that in Math 2414.
Co-requisites:  Students must be enrolled in one of the following problem sessions:

<table>
<thead>
<tr>
<th>Section</th>
<th>Course</th>
<th>Days</th>
<th>Time</th>
<th>Location</th>
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<tbody>
<tr>
<td>25818</td>
<td>Math 2415.301 F 8:00-9:50</td>
<td>CB1 1.106</td>
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<td>25706</td>
<td>Math 2415.302 F 8:00-9:50</td>
<td>CB3 1.308</td>
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<td>25518</td>
<td>Math 2415.303 F 10:00-11:50</td>
<td>CB3 1.308</td>
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<td>25519</td>
<td>Math 2415.304 F 10:00-11:50</td>
<td>CB1 1.106</td>
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<td>25616</td>
<td>Math 2415.305 F 1:00-2:50</td>
<td>CB1 1.106</td>
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<tr>
<td>26249</td>
<td>Math 2415.306 F 1:00-2:50</td>
<td>CB3 1.308</td>
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Students must be enrolled the following exam section (see below for exams dates):

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<thead>
<tr>
<th>Section</th>
<th>Course</th>
<th>Days</th>
<th>Time</th>
<th>Location</th>
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<tr>
<td>25440</td>
<td>Math 2415.701 F 7-8:30 pm</td>
<td>GR 3.302, SLC 2.303</td>
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<td>GR 4.428</td>
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Attendance
Attendance is mandatory and will be measured. Your attendance record may be considered when assigning your final course grade.
Course Description
This course is a continuation of the Math 2413, 2414 sequence. The course covers differential and integral calculus of functions of several variables. Topics include vector valued and scalar functions, partial derivatives, directional derivatives, chain rule, Lagrange multipliers, multiple integrals, double and triple integrals, the line integral, Green’s theorem, Stokes’ theorem, Divergence theorem.

This is a coordinated course. Dr.Zweck is the coordinator and his web page http://www.utdallas.edu/~zweck has additional information.

Student Learning Objectives/Outcomes
See Math 2415 Learning Outcomes on Dr. Zweck’s page.

Required Textbooks and Materials
Text: “Calculus (Early Transcendentals)”, Seventh Edition, by James Stewart, Chapters 12-16. (Do not purchase the 8th edition!) A less expensive Electronic Version is also available. You must have WebAssign access. Some Options:

2. Loose leaf copy of the text bundled with Enhanced WebAssign access code ISBN: 9781285111605

Calculators: You may use a scientific calculator on exams. However, the exam questions will designed so that you do not need a calculator. You may not use smart phones or other devices that can be used to acces the Internet.


Online Resources: We encourage you to make use of the online video lectures and other resources developed by MIT and the Khan Academy.

Academic Calendar and Assignments
The Course Schedule and Homework Assignments are available on Dr.Zweck’s web page.

Homework
There is a strong correlation between homework grades and performance on exams. There will be required digital homework (DHW), required paper homework (PHW), and
recommended homework posted on the course web page for each day of class. See the Instructor Policies section below for more information on required homework. Recommended problems will not be graded. However, since the only way to learn math is to do it, you are expected to do the recommended problems, and some of them may appear on the exams!

Grading Policy

Grades: Active Participation in Problem Sessions 5%, Digital Homework (DHW) 10%, Paper Homework (PHW) 15%, Midterm I 20%, Midterm II 20%, Final 30%.

Participation: Five percent of your final grade will be assigned by The Teaching Assistant based on the degree to which you actively participate in small group learning in the Friday Problem Sessions. For each problem session you can earn a maximum of 5 points if you arrive within the first 25 minutes and actively participate. You can earn a maximum of 3 points if you are 25 minutes or more late and actively participate.

Homework: Your lowest two paper homework scores will be dropped.

Midterm Exams: There will be two midterm exams, each 75 minutes.

- Midterm I: Friday Feb 19th, from 7:00-8:30pm, on 12.1-12.6, 13.1-13.3 (excluding curvature), 14.1, 15.8 (cylindrical coordinates only), 15.9 (spherical coordinates only).
- Midterm II: Friday Apr 1st, from 7:00-8:30pm, on 14.2-14.8, 15.1-15.3, 16.6.

Final Exam: Wednesday May 4th, from 2:00-4:45pm. Rooms for final exams TBD. The final will be based on the whole course and will be 2 hours 45 mins.

Letter grade assignment policy

Normally students with scores 90% and higher get A, 80% and higher get B, etc. However because exams vary in number of problems they have and their complexity, the following letter grade assignment procedure will be used. After all problems are graded and scores for the whole class are available, expected score for the bottom A will be determined by looking at complexity of the exam and individual exams. That expected score will not be higher than 90 %, so you can think of this process as possible curving, if you like. Hence, it is possible for the whole class to receive grade A (if all students get scores 90% or higher). Similarly expected scores for the bottom B, C, and D will be determined by looking at complexity of the exam and individual exams.

To decide on the course letter grades of borderline students we evaluate performance on the final exam and learning improvements demonstrated throughout the semester.
Instructor Policies

Attendance at Lectures

Attendance is mandatory. You will also be encouraged to actively participate in the lectures in a variety of ways.

Digital Homework (DHW)

Unless otherwise advertised in WebAssign or by email, required digital homework (DHW) assigned on TuTh will be due at 11:59pm the following Wednesday. Each problem will be worth 5 points. Students will have three attempts, with a maximum score of 5/5 for the first and second attempts and a maximum score of 3/5 for the third attempt. You will be able to submit each part of a multi-part question separately. Therefore, if you get a part correct by second try then you get full credit for that part. You may ask me and the TA’s questions about the digital homework.

Paper Homework (PHW)

Unless otherwise stated on the course Schedule and by email required paper homework (PHW) assigned on TuTh will be due at the start of your Problem Session on the Friday of the following week. Each week about 5 of the assigned problems will be graded. You must staple the cover sheet to the front of your paper homework and follow all instructions on the cover sheet. No late homework will be accepted! Your lowest two paper homework grades will be dropped. You may ask me and the TA’s questions about the paper homework and you may collaborate with another student in the class. In fact you are encouraged to do so! However the final write up is your own – two identical homework papers will both be given zero. I do not encourage large groups of people to work together on homework.

Making up an exam you missed

If you miss one of the midterms you may be given the chance to take a make up exam. Notify us immediately if you know that you will be missing an exam. Be prepared to bring appropriate evidence in support of your request. There will be no make ups for the final exam.

Academic Integrity

We will be vigorous in reporting all instances of cheating to the University administration. (See http://www.utdallas.edu/deanofstudents/dishonesty/) In particular, you may not use solutions manuals, solutions you find online, or solutions copied verbatim from other students for the digital or paper homework. The graders are trained to detect such instances of cheating and will report them to the course coordinator. The course coordinator reserves the right to impose penalties varying from receiving zero points for a particular homework, to zero for your entire homework grade for the course, to failing the course. Analogous statements apply to the exams.
UT Dallas Syllabus Policies and Procedures

The information at http://go.utdallas.edu/syllabus-policies constitutes the University’s policy and procedures segment of the course syllabus.

*The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.*