Course Syllabus
MAT 302–Calculus IV
Spring 2018
Dr. John Peter
Utica College

Course Description: In MAT 302 we will begin by covering the calculus of functions of several variables. We'll then cover topics in multiple integration, and conclude the course with a study of vector analysis. We will cover most of Chapters 13 through 15 of the textbook. This is the fourth part of Utica College's four-part calculus sequence. The course will be predominantly example-driven, but we will spend some time developing ideas and deriving the necessary formulas.

Course Learning Goals:

- In accordance with the Program Learning Goals of the Mathematics Department, this student will demonstrate an ability to formulate and solve mathematical problems (PG3) and to communicate mathematics in written form (PG4).

- *Functions of Several Variables:* The student should learn the calculus of functions of several variables, including topics such as limits and continuity, partial differentiation, chain rules, directional derivatives and gradients, tangent planes and normal lines, and extrema.

- *Multiple Integration:* The student should understand multiple integration as it applies to area in the plane and volume in space. The student should also learn how to use multiple integration to study centers of mass and moments, and surface area. The student should be able to carry out multiple integration in various coordinate systems.

- *Vector Analysis:* The student should become familiar with vector fields and be able to compute line integrals. The student should also become familiar with parametric surfaces, surface integrals, the Divergence Theorem, and the famous theorems of Green and Stokes.

Class Meetings: Tuesday & Thursday from 10:00am to 11:15am in 272 Gordon Science Center

Required Text: *Calculus: Early Transcendental Functions*, Sixth Edition, by Ron Larson and Bruce H. Edwards. ISBN: 978-1-285-77477-0

Contacting me: EMAIL: jwpeter@utica.edu (The best way to contact me)
OFFICE PHONE: 315-792-3730

Office/Hours: Room 257 White Halll
Monday, Tuesday, Thursday, Friday from 11:30AM to 12:30PM
or By Appointment (made either in person or by email)

Coursework/Weights:

Assessment	% of Final Grade
Participation	5%
Weekly Homework	20%
Midterm Exam 1	25%
Midterm Exam 2	25%
Final Exam	25%

Final Exam Date/Time: Tuesday, May 1 at 8am

NO MAKE-UP WORK WILL BE GIVEN.

Grading: The grading scale will be *no worse* than:
90 – 100% = A/A-   70 – 79% = C+/C/C-   Below 60% = F
80 – 89% = B+/B/B-   60 – 69% = D+/D

Course Webpage: http://www.utica.edu/faculty_staff/jpeter/mat302as18.cfm

Secrets to success in this course:

- Do lots of problems . . . homework and more!

- Come to class

- Read the book

- ASK QUESTIONS!

Calculators: You may find a graphing calculator useful for a number of topics that we cover. However, everything that will appear on quizzes and exams can be done without one! Calculators will typically not be allowed on exams.

Attendance: It is mandatory that I keep track of your attendance. An attendance sheet will be available for you to sign at the beginning of each class. Your attendance

will not formally count for any part of your grade. However, it may be used, at the instructor's discretion, to determine borderline grades at the end of the semester. YOU ARE EXPECTED TO ATTEND EVERY CLASS PERIOD. In the event that you miss class (or are mentally absent from class!) it is your responsibility to keep up with all announcements, syllabus adjustments, and/or policy changes made during scheduled class time and/or sent to you via your Utica College email. Please make sure that your Utica College email is functioning properly, and make every effort to contact me using your Utica College email address (as opposed to gmail, yahoo, etc.) to avoid confusion. If class must be canceled for some reason, you will be notified as early as possible via your Utica College email.

Derivatives/Integrals Proficiency Test: During the latter half of the semester students will be given several opportunities to take both a Derivatives Proficiency Test (DPT) and an Integrals Proficiency Test (IPT). Knowledge of basic differentiation and integration rules is vital to success in this course and in further courses in the calculus sequence and beyond. In order to pass this course a student must receive a score of at least 90% on both the DPT and the IPT. Failure to score 90% on these test will result in a grade of F for the course. Otherwise, these tests will have no affect on the grade for this course. A link to a practice tests will be available on the course webpage.

Classroom Etiquette: Always keep in mind that you are in a college classroom. You and all of the people around you have paid to be here. By simply showing up for class, you are demonstrating that you take very seriously the opportunity to pursue the best learning experience possible. You are expected to treat all people in the classroom with respect, and to come to class prepared to learn. Disruptive behavior, including (but not limited to) talking, whispering, texting, eating loudly, etc. will negatively impact EVERYONE'S experience and will not be tolerated.

Academic Honesty: Academic honesty is necessary for the free exchange of ideas. Utica College expects academic honesty from all students and Utica College faculty are authorized to assign a wide range of academic penalties for incidents of academic dishonesty. Academic dishonesty includes both cheating and plagiarism. Plagiarism is the intentional or unintentional use of other people's ideas, words, and/or factual information as your own and without crediting the source. It doesn't matter if the words come from a book, journal article, web site, or personal letter; if somebody else originally wrote them you may not use them without attributing them to that individual by appropriately citing the source. Plagiarism also refers to self-plagiarism, or re-purposing material that you've already completed for another course or assignment. Cheating refers to giving and/or receiving unauthorized assistance in taking examinations or creating assigned and/or graded class work. Students who assist

other students in, or contribute to, acts of academic dishonesty are subject to the appropriate penalties.

As mentioned above, Utica College faculty are authorized to assign a wide range of academic penalties for incidents of academic dishonesty. Depending on the nature of the offense, the penalty may include a reduced grade or grade of zero for the particular assignment, a grade of F for the course, or the grade of "F for cheating" in the course. Incidents of academic dishonesty are reported to the Vice President for Academic Affairs who will refer any repeat offense, or any particularly egregious first offense, to the Academic Standards Committee which may recommend a more severe penalty than that imposed by the faculty member.

Disability Disclosure: Any student who has need of special accommodations in this class due to a documented disability should speak with me as soon as possible, preferably within the first two weeks of class. You should also contact Kateri Henkel, Director of Learning Services in the Academic Support Services Center (315-792-3032 or khenkel@utica.edu) in order to determine eligibility for services and to receive an accommodation letter. We will work with you to help you in your efforts to master the course content in an effective and appropriate way.

Writing Proficiency: Students are expected to possess and use adequate writing skills. All written assignments should be well–written and free of grammar, punctuation, and spelling errors. Help is available in the Writing Center located in the library.

Math and Science Center: Peer tutors are available in the Math and Science Center located on the first floor of the library. These services are typically available beginning in the second week of a Fall/Spring semester.

Tentative Course Schedule

1/16: Syllabus / Section 12.4,12.5

1/18: Section 13.1

1/23: Section 13.2

1/25: Section 13.3

1/30: Sections 13.4 & 13.5

2/1: Section 13.6

2/6: Section 13.7

2/8: Sections 13.9 & 13.10

2/13: Section 14.1

2/15: **MIDTERM EXAM 1**

2/20: Section 14.2

2/22: Section 14.3

2/27: Section 14.4

3/1: Section 14.5

3/6: Section 14.6

3/8: Section 14.7

3/12-3/16: **NO CLASS - Spring Break**

3/20: Section 14.8

3/22: Section 15.1

3/27: **MIDTERM EXAM 2**

3/29: Section 15.2

4/3: Section 15.3

4/5: Section 15.4

4/10: Section 15.5

4/12: Section 15.6

4/17: Section 15.7

4/19: Section 15.8

4/24: Review

4/26: Review / Last Day of Class

The author of this syllabus reserves the right to change it at any time during the semester.