MAC 2313-U05 (11684) – Spring 2022 – Calculus 3

TuTh 12:00-1:40 pm PC 331

Instructor: Tedi Draghici   **Website:** https://faculty.fiu.edu/~draghici/
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Office Hours: MW 12:00 - 1:45 PM (via zoom), or by appointment

Zoom Office Hour Room: 910 8196 8747   Password: **w4c2Cd**

Direct link https://fiu.zoom.us/j/91081968747?pwd=aGlVYWQxMkdIQkYvTlk4d215K0kxdz09

Learning Assistant (LA): Melanie Gonzalez   **Email:** mgonz1020@fiu.edu

LA Help Hours: TBA

*The professor reserves the right to modify this syllabus during the semester.

Textbook: *Calculus: Early Transcendentals, 3rd edition, Briggs, Cochran, Gillett, and Schulz.*
You can purchase just the MyLab access code, which gives you online access to the
textbook. You need a valid MyLab Math access code to do the online homework!

 Pre-requisite: A grade of C or better in MAC 2312, MAC 2282, or equivalent.

Course Description: The course covers the differential and integral calculus of real
multivariable functions. This syllabus assumes a semester with 28 instructional days. Each class
period has 100 minutes.

Method of Evaluation: Your grade in the course is based **solely** on your overall percentage. The
following items have the corresponding weight in your grade:

1. Online homework (MyLab)– 10%; (Available via Canvas)
2. Quizzes, worksheets, class participation - 10%; (One quiz or worksheet per week)
3. Three 100 minutes in-class exams (20% each) – Tentative schedule;

 Exam 1 – Thursday, Feb. 10;   Exam 2 – Thursday, Mar. 17; Exam 3 – Thursday, April 15

4. FINAL EXAM (20%) - comprehensive exam – Exact date TBA.

If beneficial to your grade, the lowest midterm will be replaced by the average of the final
exam score and the score on that midterm.

Important: All exams are based on class lectures, quizzes, worksheets, and assigned problems.

Grade-scale: Your overall grade is based solely on your overall percentage. The following percentage guarantees the associated grade (but small variations from this scale are possible, to your advantage):

Letter	Range%	Letter	Range%	Letter	Range%
A	90 or above	B	80 – 84.9	C	65 – 72.9
A-	88 – 89.9	B-	78 – 79.9	D	55 – 64.9
B+	85 – 87.9	C+	73 – 77.9	F	Less than 55

Make up policy: There are NO make ups for missed exams, quizzes or worksheets. **However,** I will discard three lowest scores on quizzes and worksheets. **Excused (documented)** absences on quizzes or worksheets, could also be replaced by the averages of the others. **One missed exam due to an excused absence can be replaced by the final.** The final exam is mandatory. An absence related to the P3 app, accompanied by a letter from the FIU Covid Response Team (CRT) is certainly considered an excused absence. More on Covid policies below.

Be aware that excessive absences, even excused ones, may lead to failure of the course or an incomplete grade. To be considered for an incomplete grade, the student must have completed at least three fourths (3/4) of the course and must be passing the grade of C or better.

Drop deadlines: Last day to Add/Drop with tuition refund: Tuesday, Jan. 18;
Last day to drop with a DR grade (but no refund): Monday, Mar. 21.

Holidays: Monday, Jan. 17 (MLK Day); **Spring Break**: Feb. 28-Mar. 5.

Help and Free Tutoring at the FIU Centre for Academic Success, GL 120, MMC. You can make appointments by calling 305- 348-2441 (MMC).   For more information, check out this link https://learningcenter.fiu.edu/how-does-tutoring-work/

Academic Misconduct will not be tolerated. This includes: **Cheating**– The unauthorized use of books, notes, aids, electronic sources; or assistance from another person with respect to examinations, course assignments, field service reports, class recitations; or the unauthorized possession of examination papers or course materials, whether originally authorized or not. **Plagiarism** – The use and appropriation of another's work without any indication of the source and the representation of such work as the student's own. Any student who fails to give credit for ideas, expressions or materials taken from another source, including internet sources, is responsible for plagiarism. To learn more about the academic integrity policies and procedures visit http://integrity.fiu.edu/

Accessibility and Accommodation: The Disability Resource Center collaborates with students, faculty, staff, and community members to create diverse learning environments that are usable, equitable, inclusive and sustainable. The DRC provides FIU students with disabilities the necessary support to successfully complete their education and participate in activities available

to all students. If you have a diagnosed disability and plan to utilize academic accommodations, please contact the Center at 305-348-3532 or visit them at the Graham Center GC 190.

Important Covid related policies and recommendations:

As cases due to the Omicron variant continue to increase in our community, we must unite and take necessary steps to prevent further spread.

· Daily and before arriving to campus, complete the P3 app. If you are not given the green check mark to enter campus, then return home, and contact me by email.

· Please check your FIU email account and the class website at least once a day. Email and Canvas are the best ways for the university, and your professors, to contact you.

· If you do not feel well, have tested positive for COVID, or have been in contact with a person with COVID while not yet being fully vaccinated, please do not come to class, immediately complete the P3 app to notify the COVID Response Team or call them at 305-348-1919, and contact me by email as soon as you can. To excuse absences for P3 failure/COVID, please contact the COVID Response Team at 305-348-1919. If you are directed to quarantine because of COVID-19, your absences will be considered excused. The make-up policies were outlined above.

· A vaccinated, asymptomatic individual exposed to a COVID positive person does not need to quarantine. They need to continue to wear a mask. It is recommended to test 3-5 days post known exposure. However, if at any time they become symptomatic, they need to test immediately. If the test returns positive, they need to follow the COVID positive protocol at that time.

· Please take every precaution to keep yourself and others healthy. Per CDC guidelines, **you are encouraged to get vaccinated and strongly advised to wear a mask indoors and in public including all FIU facilities.**

· **For me to assist you in achieving your goals, it is important for you to contact me as soon as you experience any events that might disrupt your course participation.** For up-to-date information about COVID, please see the repopulation.fiu.edu FAQs.

Topics: The course covers chapters 13, 14, 15, 15, 16, and 17 from the textbook.

Chapter 13: Vectors and the Geometry of Space (4 lectures)

Vectors in the Plane; Vectors in 3 Dimensions; Dot Product; Cross Product; Lines and Planes in Space; Cylinders and Quadric Surfaces

• **Chapter 14:** Vector-Valued Functions (3 lectures)

Vector-Valued Functions (Introduction); Calculus of Vector-Valued Functions; Motion in Space; Length of Curves; Curvature and Normal Vectors

• **Chapter 15:** Functions of Several Variables (6 lectures)

Graphs and Level Curves; Limits and Continuity; Partial Derivatives and the Gradient; Tangent Planes and Linear Approximation; Maximum/Minimum Problems; Lagrange Multipliers

• **Chapter 16:** Multiple Integration (6 lectures)

Double Integrals Over Rectangular Regions; Double Integrals in Polar Coordinates; Triple Integrals in Cylindrical and Spherical Coordinates; Integrals for Mass Calculation; Change of Variables in Multiple Integrals

• **Chapter 17:** Vector Calculus (5 lectures)

Vector Fields; Line Integrals; Conservative Vector Fields; Green's Theorem; Divergence and Curl; Surface Integrals; Stokes' Theorem; Divergence Theorem

Suggested Homework: The following list of suggested exercises has a big overlap with your online homework, but it does not coincide entirely. I encourage you to do the problems with paper and pencil first (have a notebook reserved for this), and afterwards do your online homework from the corresponding section. The online system has various forms of help if you get stuck on some problems, but it is good to give them a first try without any help. Make a habit of watching the video lecture from MyLab before you attempt the problems from a section. Actually, it is ideal to watch the video before we even cover the corresponding section in class.

Starred numbers denote more challenging or theoretical exercises.

13.1 # 7, 11, 15, 17, 19, 26, 30, 37, 44, 53, 57, 58, 65, 71, 72, 76, 84*

13.2 # 4, 7, 9, 19, 21, 23, 27, 29, 33, 41, 45, 51, 57, 63, 74, 77*, 85*

13.3 # 1, 3, 12, 19, 25, 35, 40, 43, 46, 51, 63, 65

13.4 # 2, 9, 13, 18, 21, 25, 30, 34, 41, 43, 45, 49, 57, 62, 63*

13.5 # 1, 11, 15, 23, 33, 38, 45, 48, 49, 62, 65, 71, 73, 79, 81

13.6 # 1, 9, 11, 23, 24, 26, 29, 31, 34, 35, 47, 54, 59

14.1 # 1, 3, 4, 9, 13, 15, 21, 23, 31, 45, 52

14.2 # 1, 5, 13, 19, 39, 45, 53, 65, 79

14.3 # 9, 17, 19, 31, 37, 57

14.4 # 11, 15, 16, 23, 43

14.5 # 11, 13, 15, 18, 23, 35, 49, 50*, 51

15.1 # 1, 3, 11, 13, 17, 25, 28, 30, 31, 34

15.2 # 17, 25, 29, 31, 39, 41, 61, 62, 79

15.3 # 1, 5, 10, 16, 17, 23, 40, 41, 43, 55, 60, 69, 71, 76, 79, 87, 89

15.4 # 3, 4, 9, 16, 21, 27, 37, 49, 51, 61, 68

15.5 # 3, 11, 13, 28, 31, 33, 59, 67, 68

15.6 # 1, 3, 16, 17, 33, 36, 42, 53, 58

15.7 # 3, 4, 14, 17, 23, 24, 25, 34, 47, 52 67

15.8 # 11, 17, 30, 33, 36, 44, 47, 48

16.1 # 1, 6, 9, 15, 25, 29, 30, 37, 42, 47, 51

16.2 # 5, 10, 14, 19, 28, 31, 45, 50, 56, 63, 73, 74, 75

16.3 # 1, 5, 8, 11, 17, 22, 25, 26, 28, 32, 48, 67

16.4 # 3, 9, 13, 19, 20, 31, 39, 54, 56, 67, 69

16.5 # 4, 8, 9, 18, 19, 31, 41

16.6 # 3, 16, 17, 28, 29, 39

16.7 # 19, 20, 27, 29, 33, 39, 54

17.1 # 3, 10, 13, 15, 21, 27, 35, 53, 56

17.2 # 9, 15, 16, 19, 23, 49, 51, 54, 66

17.3 # 3, 5, 6, 7, 19, 21, 27, 59, 62, 67

17.4 # 3, 11, 17, 18, 25, 27, 31, 35, 38, 44, 67

17.5 # 1, 7, 9, 17, 20, 21, 27, 33

17.6 # 1, 10, 21, 24, 25, 31, 48

17.8 # 17, 19, 20