

Course Information

Course Number:	221
Course Title:	Calculus 3 Several Variable Calculus
Section,	504, Lecture: MWF 12:40pm-1:30pm Bloc 161
Time and	Recitation: Th 3:55pm-4:45pm Bloc 161
Room:	505, Lecture: MWF 1:50pm-2:50pm Bloc 161
	Recitation: Th 2:20pm-3:10pm Rich 114
Credit Hours:	4
Class Website:	http://www.math.tamu.edu/~yasskin/currclas/221.21c/
Department Website:	http://www.math.tamu.edu/courses/math221/
Math Learning Center	http://mlc.tamu.edu/
Help Sessions	http://mlc.tamu.edu/Online-Help-Services/MLC-Help-Sessions
Tutoring by Appt	http://mlc.tamu.edu/Online-Help-Services/Tutoring-Central

Instructor Details

Instructor:	Dr. Philip Yasskin
Office:	BLOC 620 I, but I will not be there this semester
Phone:	979-845-3261, for leaving a message
E-Mail:	yasskin@math.tamu.edu Please include your phone number.
Website:	http://www.math.tamu.edu/~yasskin
Office Hours:	T 2:00pm-3:00pm and Th 10:30am-11:30am or by appointment, In Zoom. The link will be provided in an email and in Canvas. If you email for an appointment, be sure to include a phone number!
TA:	Jared Rudd <jaredruddofficial@tamu.edu>

Course Description

Vector algebra and solid analytic geometry; calculus of functions of several variables; Lagrange multipliers; multiple integration, theory, methods and application; line and surface integrals, Green's and Stokes' theorems; Jacobians. Designed to be more demanding than MATH 251 and MATH 253. Only one of the following will satisfy the requirements for a degree: MATH 221, MATH 251 and MATH 253.

Course Prerequisites

Grade of C or better in MATH 148, MATH 152, or MATH 172.

Special Course Designation

None

Course Learning Outcomes

After this course, students should have developed an intuitive understanding of two- and three-dimensional geometry, vectors, partial derivatives and multiple integrals. They should be able to use vectors to compute angles and projections between vectors, and to find the equations of lines and planes and find their intersections. They should be able to use partial derivatives to find tangent planes, linear approximations, gradients, directional derivatives, divergences and curls and to use those to solve applied rate, related rates and max-min problems. And they should be able to use line integrals, multiple integrals (in rectangular, polar, cylindrical, spherical and other coordinates) and surface integrals to compute area, volume, arc length, surface area, average values, mass, center of mass, work, circulation, flux and expansion. In addition, they should be able to use the Fundamental Theorem of Calculus for Curves, Green's Theorem, Stokes' Theorem and Gauss' Theorem (which relate partial derivatives and multiple integrals) to simplify the computation of many integrals.

Textbook and/or Resource Materials

Text: *MYMathApps Calculus 3* P. Yasskin et. al.
available at:
<https://www.math.tamu.edu/maple/maplets/MYMACalc/>
The book is FREE for all Aggies.

Extra Tutorial Practice: *Maplets for Calculus 1.4*
available at:
<https://www.math.tamu.edu/maple/maplets/MYMACalc/>
You must be on a Computer which has Maple and can run Java applets,
e.g. the Univ Open Access Labs in person or remotely via
<https://voal.tamu.edu/>.

MYMathApps Exercises: These are not graded. Each exercise may have buttons for a Hint, Answer, Solution, Check and Remark. Try as many problems as possible. Try doing a problem. If you need to, read the Hint. Once you get an answer, check it against the Answer. If it is not correct, try again. Only read the Solution after you get it correct or you are absolutely stumped. Frequently, there is a way to Check the answer, especially on indefinite integrals. Get in the habit of checking your answers. After some problems, there is a Remark which discusses aspects of the problem which would give away the solution if it were displayed before the problem. Read the remarks.

Online Homework: Edfinity.com Online Homework
Available in Canvas Modules or at:
<https://edfinity.com/>
Students are expected to purchase a subscription to Edfinity.com for \$25.

Math Learning Center: The Math Learning Center (MLC) offers various forms of support for Math 221, both online and face-to-face, including drop-in Help Sessions, Tutoring by Appointment and other activities. Additionally, the MLC hosts an archive of Supplemental Material, such as recorded review sessions.

Grading Policy

Assessment	Covers MYMA Calc	Points	Dates
Exam 1	Chs. 1-9	100	Thu, Sep 30, 2021 Fri, Oct 1, 2021
Exam 2	Chs. 10-17	100	Thu, Oct 28, 2021 Fri, Oct 29, 2021
Exam 3	Chs. 18-22	100	Thu, Dec 2, 2021 Fri, Dec 3, 2021
Final	All, Chs. 23-27	150	504 Mon 12/13 10:30am–12:30pm 505 Tue 12/14 3:30pm–5:30pm
eHW & Quiz	All	100	Thursdays at 11:55pm or as Announced
Total:		550	

I may curve any grade or the total and then compute the course grade from the following list:

550 points \geq A \geq 495 points $>$ B \geq 440 points $>$ C \geq 385 points $>$ D \geq 330 points $>$ F \geq 0 points

e-Homework: <https://edfinity.com/>

Edfinity Homework will be due on Thursday nights at 11:55pm unless otherwise announced. It is automatically graded. Late homework will be accepted for up to 2 days but there will be a 20% penalty on the portion that was not completed by the due date. The enrollment code for Edfinity Homework is on [Canvas](#). You will pay \$25 when you enroll. You can get a refund during the first two weeks.

Quizzes: Quizzes may be given in lecture or lab and may not be announced, or they may be Take-Home-Quizzes due on announced dates. Late Take-Home Quizzes will be accepted only if there is a University excused absence. There will be no make-ups for In-Class Quizzes since some will be dropped.

HW & Quiz Grades: Homework and Quizzes are grouped together for grading purposes. The lowest 5 Homework or Quiz grades will be dropped. The remaining grades will be averaged and then rescaled to 100 points.

Exams: There will be 3 midterm exams and a final exam. The first half of each midterm will be online, in Canvas and proctored in class. The second half will be in class. No calculators are allowed on exams. Make-Ups for Major Exams will be given only in case of an absence authorized under University Regulations. If you know in advance that you will miss an exam, please contact me in advance. If you email me, be sure to include your phone number.

Math is Comprehensive: All Math is comprehensive in nature (in that every concept uses concepts previously covered). Therefore, each exam may cover material from previous exams. Further, to recognize that you may have learned material by the end of the course that you had difficulty with earlier, if the score on your final exam is higher than your lowest midterm exam score, then the score on the final exam will replace that score on that midterm in the course grade calculation. To be eligible for this, you must have taken all 4 exams.

Late Work Policy

This is discussed above under Grading Policy.

Course Schedule

Week	Starting	MYMACalc	Topics	
1	8/30	Chs: 1,2	Coords, Fns	
2	9/6	Chs: 3,4,5	Vectors, Dot, Cross	
3	9/13	Chs: 6,7,8	Line, Plane, Crv, Surf, Props	
4	9/20	Chs: 9,10,11	Line Int, Limit, Par Deriv	
5	9/27	Ch. 11	Review	Exam 1
6	10/4	Chs: 12,13,14	Lin Approx, Chain, Grad	
7	10/11	Chs: 15,16	Higher Deriv, Max-Min	
8	10/18	Chs: 17,18	Div, Curl, Iterated Int	MidTerm Gds 10/18
9	10/25	Ch. 19	Review	Exam 2
10	11/1	Chs: 19,20	Mult Int, Rect Int	
11	11/8	Chs: 21,22	Polar, Cyl, Sph, Crv, Surf Ints	
12	11/15	Chs: 23,24,25	Thms, FTCC, Green	Q-drop 11/19
13	11/22	Chs: 26,27	Stokes, Gauss, Thanksgiving	
14	11/29	Chs: 26	Review	Exam 3
15	12/6	Chs: 27	Review for Final	12/6isFri 12/7isThurs 12/8Last class
16	12/13	All	504 Final Exam Mon	10:30 a.m. – 12:30 p.m.
	12/14	All	505 Final Exam Tue	3:30 – 5:30 p.m.

Optional Course Information Items

Name & Email: Be sure to use your tamu.edu email address to log into Zoom and Edfinity and be sure your Name appears in Zoom and Edfinity as it does on Howdy.

FERPA: Due to FERPA privacy issues, I cannot discuss grades over email or phone. If you have a question about your grade, please schedule a one-on-one Zoom meeting with me.

Final Conflicts: If you have 3 exams on the day on your 221 final, please tell me about this before Exam 2. We will see what we can work out.

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University Policies

Attendance Policy

The university views class attendance and participation as an individual student responsibility. Students are expected to attend class and to complete all assignments.

Please refer to [Student Rule 7](#) in its entirety for information about excused absences, including definitions, and related documentation and timelines.

Makeup Work Policy

Students will be excused from attending class on the day of a graded activity or when attendance contributes to a student's grade, for the reasons stated in Student Rule 7, or other reason deemed appropriate by the instructor.

Please refer to [Student Rule 7](#) in its entirety for information about makeup work, including definitions, and related documentation and timelines.

Absences related to Title IX of the Education Amendments of 1972 may necessitate a period of more than 30 days for make-up work, and the timeframe for make-up work should be agreed upon by the student and instructor" ([Student Rule 7, Section 7.4.1](#)).

"The instructor is under no obligation to provide an opportunity for the student to make up work missed because of an unexcused absence" ([Student Rule 7, Section 7.4.2](#)).

Students who request an excused absence are expected to uphold the Aggie Honor Code and Student Conduct Code. (See [Student Rule 24](#).)

Academic Integrity Statement and Policy

"An Aggie does not lie, cheat or steal, or tolerate those who do."

"Texas A&M University students are responsible for authenticating all work submitted to an instructor. If asked, students must be able to produce proof that the item submitted is indeed the work of that student. Students must keep appropriate records at all times. The inability to authenticate one's work, should the instructor request it, may be sufficient grounds to initiate an academic misconduct case" ([Section 20.1.2.3, Student Rule 20](#)).

You can learn more about the Aggie Honor System Office Rules and Procedures, academic integrity, and your rights and responsibilities at aggiehonor.tamu.edu.

Americans with Disabilities Act (ADA) Policy

Texas A&M University is committed to providing equitable access to learning opportunities for all students. If you experience barriers to your education due to a disability or think you may have a disability, please contact Disability Resources in the Student Services Building or at (979) 845-1637 or visit disability.tamu.edu. Disabilities may include, but are not limited to attentional, learning, mental health, sensory, physical, or chronic health conditions. All students are encouraged to discuss their disability related needs with Disability Resources and their instructors as soon as possible.

Disability Resources is located in the Student Services Building or at (979) 845-1637 or visit disability.tamu.edu.

Title IX and Statement on Limits to Confidentiality

Texas A&M University is committed to fostering a learning environment that is safe and productive for all. University policies and federal and state laws prohibit gender-based discrimination and sexual harassment, including sexual assault, sexual exploitation, domestic violence, dating violence, and stalking.

With the exception of some medical and mental health providers, all university employees (including full and part-time faculty, staff, paid graduate assistants, student workers, etc.) are Mandatory Reporters and must report to the Title IX Office if the employee experiences, observes, or becomes aware of an incident that meets the following conditions (see [University Rule 08.01.01.M1](#)):

- The incident is reasonably believed to be discrimination or harassment.
- The incident is alleged to have been committed by or against a person who, at the time of the incident, was (1) a student enrolled at the University or (2) an employee of the University.

Mandatory Reporters must file a report regardless of how the information comes to their attention – including but not limited to face-to-face conversations, a written class assignment or paper, class discussion, email, text, or social media post. Although Mandatory Reporters must file a report, in most instances, a person who is subjected to the alleged conduct will be able to control how the report is handled, including whether or not to pursue a formal investigation. The University's goal is to make sure you are aware of the range of options available to you and to ensure access to the resources you need.

Students wishing to discuss concerns in a confidential setting are encouraged to make an appointment with [Counseling and Psychological Services](#) (CAPS).

Students can learn more about filing a report, accessing supportive resources, and navigating the Title IX investigation and resolution process on the University's [Title IX webpage](#).

Statement on Mental Health and Wellness

Texas A&M University recognizes that mental health and wellness are critical factors that influence a student's academic success and overall wellbeing. Students are encouraged to engage in healthy self-care by utilizing the resources and services available from Counseling & Psychological Services (CAPS). Students who need someone to talk to can call the TAMU Helpline (979-845-2700) from 4:00 p.m. to 8:00 a.m. weekdays and 24 hours on weekends. 24-hour emergency help is also available through the National Suicide Prevention Hotline (800-273-8255) or at suicidepreventionlifeline.org.

College and Department Policies

None

COVID-19 Temporary Addendum to Minimum Syllabus Requirements

Campus Safety Measures

To promote public safety and protect students, faculty, and staff during the coronavirus pandemic, Texas A&M University has adopted policies and practices for the Spring 2021 academic term to limit virus transmission. Students must observe the following practices while participating in face-to-face courses and course-related activities (office hours, help sessions, transitioning to and between classes, study spaces, academic services, etc.):

- Self-monitoring—Students should follow CDC recommendations for self-monitoring. **Students who have a fever or exhibit symptoms of COVID-19 should participate in class remotely if that option is available, and should not participate in face-to-face instruction.**
- Face Coverings—[Face coverings](#) (cloth face covering, surgical mask, etc.) must be properly worn in all non-private spaces including classrooms, teaching laboratories, common spaces such as lobbies and hallways, public study spaces, libraries, academic resource and support offices, and outdoor spaces where 6 feet of physical distancing is difficult to reliably maintain. Description of face coverings and additional guidance are provided in the [Face Covering policy](#) and [Frequently Asked Questions \(FAQ\)](#) available on the [Provost website](#).
- Physical Distancing—Physical distancing must be maintained between students, instructors, and others in course and course-related activities.
- Classroom Ingress/Egress—Students must follow marked pathways for entering and exiting classrooms and other teaching spaces. Leave classrooms promptly after course activities have concluded. Do not congregate in hallways and maintain 6-foot physical distancing when waiting to enter classrooms and other instructional spaces.
- To attend a face-to-face class, students must properly wear an approved face covering. If a student refuses to wear a face covering, the instructor should ask the student to leave and join the class remotely. If the student does not leave the class, the faculty member should report that student to the [Student Conduct office](#) for sanctions. Additionally, the faculty member may choose to teach that day's class remotely for all students, or dismiss the class in the case of a traditional face to face lecture.

Personal Illness and Quarantine

Students required to quarantine must participate in courses and course-related activities remotely, if that option is available, and **must not attend face-to-face course activities**. Students should notify their instructors of the quarantine requirement. Students under quarantine are expected to participate in courses and complete graded work unless they have symptoms that are too severe to participate in course activities.

Students experiencing personal injury or illness that is too severe for the student to attend class qualify for an excused absence (See [Student Rule 7, Section 7.2.2.](#)) To receive an excused absence, students must comply with the documentation and notification guidelines outlined in Student Rule 7.