



Instructor Policy - Section 11 (MWF)

Math 129 - Calculus II - Spring 2021

Harvill 305, MoWeFr 2:00PM – 2:50PM

Description of Course

Continuation of MATH 122B or MATH 125. Techniques of symbolic and numerical integration, applications of the definite integral to geometry, physics, economics, and probability; differential equations from a numerical, graphical, and algebraic point of view; modeling using differential equations, approximations by Taylor series.

Course Prerequisites or Co-requisites

MATH 122B, 124, 125 or 129 with C or higher.

Instructor and Contact Information

Instructor: Jared McBride (Ph.D. candidate in applied math, my research is focused on data-driven model reduction)

Phone: (765) 405-0570

Email: jaredm@email.arizona.edu

Webpage: <http://math.arizona.edu/~jaredm/>

Office Zoom Link: <https://arizona.zoom.us/my/math610>

Math Department Online Tutoring: every week there will be drop-in tutoring sessions available remotely. During these sessions you can come and ask questions about the course. This is a great place to get homework questions answered or clarify different points about the lecture. For information on times and how to attend visit <https://www.math.arizona.edu/academics/tutoring>

Office Hours will be held online at the above office Zoom link or through the Math Department Online Tutoring (see below). They are scheduled for:

Monday 10:00 AM – 10:50 AM (<https://arizona.zoom.us/my/math610>)

Thursday 12:00 PM – 12:50 PM (in Math Department Online Tutoring)

Friday 9:00 AM – 9:50 AM (<https://arizona.zoom.us/my/math610>)

Course Webpage: <https://math129.math.arizona.edu>

D2L sites: There are two D2L sites for this class - one for our section, and one for all Math 129 students (the common site).

- *Our Section's D2L Site:* Will serve as the central hub for communication and materials for our course.
 - Announcements will be made on our section's D2L.
 - Links to our remote meetings and office hours will be on our section's D2L.
 - The eText and WebAssign will be delivered digitally via our section's D2L through the Inclusive Access program.
 - The course policy and the course calendar are posted in our section's D2L.

- Grades will be posted in our section's D2L. (Please verify the accuracy of all homework, quiz, and exam scores in a timely fashion.)
- *Common D2L Site:* Will serve as a distribution center for materials common to all sections of Math 129. Namely, it will contain:
 - Links to online lectures (delivered by our course coordinator) and recordings of these lectures. You are expected to either join the livestream of the lectures (on Tuesdays and Thursdays), or watch recordings of these lectures.
 - Links to the final exam.

Course Format and Teaching Methods

This class is scheduled to be taught in the Flex In-Person modality. As a glimpse at the agenda's of most days, the class period will begin with about 20 minutes of review of the material. Then the remaining 30 minutes will be guided practice and usually small-group activities.

Class Meetings

Meeting Times for remote teaching: We will be meeting remotely until the University notifies us that in-person meetings may commence. In order to provide an appropriately social distanced in-person experience, we will divide the class into two cohorts, creatively named Student Cohort Monday and Student Cohort Wednesday. We will meet on Zoom; Student Cohort Monday will meet on Mondays at 2:00 PM, Student Cohort Wednesday will meet on Wednesdays at 2:00 PM, and all students will meet on Fridays at 2:00 PM. The Monday and Wednesday meetings will include discussions, seat-work, and group work on problem sets. The Friday meetings will be used for assessments and Q&A.

Meeting Times for in-person teaching: When the COVID-19 situation permits teaching on campus, Student Group Monday will meet on Mondays at 2:00 PM in room Harvill 305, Student Group Wednesday will meet on Wednesdays at 2:00 PM in room Harvill 305, and all students will meet on Fridays on Zoom at 2:00 PM. The Monday and Wednesday meetings will include discussions, seat-work, and group work on problem sets. The Friday meetings will be used for assessments and Q&A.

Student Groups: The D2L Announcements will contain a note prior to the first class describing how you will know if you are in Student Cohort Monday or Student Cohort Wednesday. For the meeting days when your group is NOT in class, you may be required to meet with your group for the purposes of completing homework assignments or uploading presentations of your work.

Remain flexible: If pandemic conditions warrant, the University may require that we return to remote operations. If that is the case, we will notify you by D2L Announcement and email that we are moving to remote operations.

Face coverings are required in our classroom: Per UArizona's [Administrative Directive](#), face coverings that cover the nose, mouth, and chin are required to be worn in all learning spaces at the University of Arizona (e.g., in classrooms, laboratories and studios). Any student who violates this directive will be asked to immediately leave the learning space, and will be allowed to return only when they are wearing a face covering. Subsequent episodes of noncompliance will result in a Student Code of Conduct complaint being filed with the Dean of Students Office, which may result in sanctions being applied. The student will not be able to return to the learning space until the matter is resolved.

- The [Disability Resource Center](#) is available to explore [face coverings and accessibility considerations](#) if you believe that your disability or medical condition precludes you from utilizing any face covering or mask option. DRC will explore the range of potential options as well as remote course offerings. Should DRC determine an accommodation to this directive is reasonable, DRC will communicate this accommodation with your instructor.

Physical distancing is required in our classroom: During our in-person class meetings, we will respect CDC guidelines, including restricted seating to increase physical distancing. Any

student who does not maintain physical distance from others may be asked to immediately leave the learning space. Noncompliance may result in a Student Code of Conduct complaint being filed with the Dean of Students Office, which may result in sanctions being applied.

Classroom attendance:

- Students are expected to come to class and to be active participants. You will be learning mathematics that is computationally and conceptually difficult. When learning such material, passively watching videos is not nearly as effective as actively participating in class.
- If you feel sick, or may have been in contact with someone who is infectious, stay home. Except for seeking medical care, avoid contact with others and do not travel.
- Notify your instructors if you will be missing an in-person or online course, or you will miss an assignment deadline.
- Non-attendance for any reason does not guarantee an automatic extension of due date or rescheduling of examinations.
- Please communicate and coordinate any request directly with your instructor.
- Campus Health is testing for COVID-19. Please call (520) 621-9202 before you visit in person.
- Visit the UArizona COVID-19 page for regular updates.
- **Students who need to miss more than one week of classes in any one semester must provide a doctor's note of explanation to DOS-deanofstudents@email.arizona.edu.**

Staying current: By Friday of each week, there will be two lectures you are required watch - one that will be recorded on Tuesday, and one that will be recorded on Thursday. These lectures will be available on the Common D2L Site - and you are welcome to join the livestream of the lectures (at 2pm on Tuesdays and Thursdays).

Class Recordings: For lecture recordings, which are used at the discretion of the instructor, students must access content in D2L only. Students may not modify content or re-use content for any purpose other than personal educational reasons. All recordings are subject to government and university regulations. Therefore, students accessing unauthorized recordings or using them in a manner inconsistent with UArizona values and educational policies are subject to suspension or civil action.

Course Communications

It is the student's responsibility to keep informed of any announcements, syllabus adjustments or policy changes made during scheduled classes, by email, or through D2L. If there is a need for me to contact you, I will use your @email.arizona.email. If you wish to contact me please you my jaredm@email.arizona.edu. If I need to contact the whole class I will either send a mass email or post an announcement in D2L or both. So, course-wide announcements will be distributed using D2L.

Course Goals and Objectives

Math 129 covers the fundamentals of the integral calculus, including:

- developing the techniques of analytical and numerical integration, including improper integrals;
- applying the definite integral to problems arising in geometry and in physics;
- developing the concept of infinite series and the ability to calculate and use Taylor series;
- analyzing first order differential equations from a graphical and algebraic point of view and modeling physical and biological situations by differential equations;
- promoting problem-solving and critical thinking skills through the application of calculus concepts to various situations.

Learning Outcomes

Upon completion of the course, the student will:

- identify appropriate integration technique(s) and successfully execute them;
- for a given geometric, or physical quantity, set up an integral that measures the quantity, and use integration techniques to calculate it;
- determine if an infinite series or improper integral converges to a finite value; calculate, manipulate, and determine the radius of convergence of Taylor series;
- solve first order differential equations analytically and graphically and determine an appropriate differential equation to model various physical and biological situations.

Course Materials

The course materials include the textbook (*Calculus Single Variable*; Sixth Edition by Hughes-Hallett et al.; published by Wiley) and access to the online homework system (WebAssign).

Course materials are being delivered digitally via D2L through the Inclusive Access program. Please access the material through D2L the first day of classes to make sure there are no issues in the delivery, and if you are having a problem or question it can be addressed quickly.

You automatically have access to the course materials FREE through January 20, 2020. You **must** take action (even if you have not accessed the materials) to opt-out if you do not wish to pay for the materials, and choose to source the content independently. **The deadline to opt-out is 9:00pm MST, January 20, 2020. If you do not opt-out and choose to retain your access, the cost of the digital course materials will appear on your February Bursars account.** Please refer to the Inclusive Access FAQs at <https://shop.arizona.edu/textbooks/Inclusive.asp> for additional information.

Other handouts and worksheets will be available in the content tab of D2L. Assignments will also be available of Gradescope.

Required Materials

A graphing calculator is a tool that will be used in this course. We recommend any model in the TI-83 or TI-84 series. Models that can perform symbolic calculations (also known as CAS) are NOT allowed on exams and quizzes. CAS models include (but are not limited to) the TI-89, TI NSpire CAS and HP 50g. Students are not allowed to share calculators during exams and quizzes. If you have a mobile device, you will be required to download the free Desmos Test Mode App, which may be used as a graphing calculator during the final exam. The Desmos Test Mode App will be used on all midterm exams.

Equipment and software requirements: For this class you will need daily access to a device with webcam and microphone and reliable internet signal that can:

- Access D2L
- Join Zoom meetings
- Watch videos posted on D2L
- Access Gradescope, WebAssign, and the eText
- Scan and upload written work
- View pdf documents

Note: enrolled students can borrow technology from the UA Library on a first come, first served basis. See <https://new.library.arizona.edu/tech/borrow> for details.

University-wide Policies link

The Links to the following UA policies are provided here, <https://academicaffairs.arizona.edu/syllabus-policies>:

- Absence and Class Participation Policies
- Threatening Behavior Policy
- Accessibility and Accommodations Policy
- Code of Academic Integrity
- Nondiscrimination and Anti-Harassment Policy

Classroom Behavior Policy

To foster a positive learning environment, students and instructors have a shared responsibility. We want a safe, welcoming, and inclusive environment where all of us feel comfortable with each other and where we can challenge ourselves to succeed. To that end, our focus is on the tasks at hand and not on extraneous activities (e.g., texting, chatting, reading a newspaper, making phone calls, web surfing, etc.).

Students are asked to refrain from disruptive conversations with people sitting around them during lecture. Students observed engaging in disruptive activity will be asked to cease this behavior. Those who continue to disrupt the class will be asked to leave lecture or discussion and may be reported to the Dean of Students.

Netiquette

Netiquette is an abbreviation for "internet etiquette" – more simply put, guidelines for communicating online to ensure meaningful and polite exchanges. The common standards listed below work well for both the online classroom and beyond in professional online communication:

- Behavior. Maintain the same standard of behavior and ethics that you would follow in a face-to-face context.
- Tone. Treat others with respect. Be mindful of your tone and how that is conveyed in your writing style. DO NOT USE ALL CAPS. It is considered shouting and not appropriate in a classroom. Avoid sarcasm and irony as it is easily misinterpreted in an online environment.
- Clarity and Content. Be succinct. Write, reread, and then post. Carefully consider what you have written. Does it make sense? Is it free from errors? Does it add to the conversation? Is it unnecessarily confrontational or offensive?
- Contribute. Online learning is not passive. It is expected that you will share your knowledge and insight. Be an active contributor to the learning community.
- Be forgiving. If someone makes a mistake or does something inappropriate, address it privately and politely. You can always let the instructor know and ask them to address it as well.

Assignments and Examinations

WebAssign Homework : (75 points) A computer grading program called WebAssign will be used for problems assigned from the text. The due dates for all assignments are posted in WebAssign - it is your responsibility to know when the assignments are due. Late work, without appropriate documentation, will not be accepted. A final WebAssign homework score based on 75 possible points will be computed by summing the total points earned from each assignment, dividing that by a denominator to be determined, and then multiplying the quotient by 75 to obtain the final WebAssign homework score (maximum of 75). The denominator mentioned above will be less than the total possible points for this category, and will be effectively dropping at least two assignments.

Written/Presentation Work: (70 points) Hand-written homework showing all work with

proper notation will be submitted. These problems will come from the text and/or from a set of problems created by your instructor. Some assignments may also require a video upload of you or your group presenting a solution. When applicable these assignments will be submitted through Gradescope. Assigned videos will be uploaded to D2L, in the assignments tab. A final written/presentation work score based on 70 possible points will be computed. The assignments in this category will not be averaged but rather given weight according to the points assigned to them, meaning we will all the points earned among assignments in this category divide that by the total points possible and multiply by 70 to get the final written/presentation work score. More details on how the written/presentation work will be posted on D2L in a pdf document.

Class Activities: (30 points) Graded class activities, such as poll questions, seat work, or group work will be assigned almost every class meeting, notable exceptions being days we have an exam (see "In-Class Exams" below). We expect to have around 20 graded class activities, each worth 10 points. In general, no make-up activities will be offered. When computing your final class activities grade (out of 30 points) we will take the total number of class activities points earned and divide by 170 and multiply by 30 (to a maximum of 30) to get the final class activities score.

Quizzes: (75 points) Short quizzes will be given regularly. The quizzes are closed-book and closed-notes, and will be administered each Friday (beyond the first Friday) that there is not an Exam on that day (see "In-Class Exams" below). The quizzes will be delivered using either WebAssign or Gradescope and students may be expected to upload solutions to selected problems. They will usually consist of 1 or 2 problems based on the WebAssign assignments. They will become available at 12:00 AM and are due at 11:59 PM. They will be timed and students will usually be given 20 mins (unless an upload is required in which case a more suitable time restriction will be given). Grading disputes regarding a quiz must be addressed within one week after the quiz has been returned. Each quiz will be out of 10 points. There will be 11 Quizzes total, one or more of which may be dropped. A final quiz score based on 75 possible points will be computed, this means the average of the quizzes considered will be multiplied by 7.5 to achieve the final quiz score.

In-Class Exams: (300 points)

Four in-class exams are tentatively scheduled for 2:00 PM on the following days: Friday February 12th, Monday March 8th, Wednesday March 31st, and Friday April 30th.

Each exam will be worth 75 points. All exams are closed book and closed notes. They will be delivered using WebAssign and students will be expected to upload solutions to selected problems. **They will be proctored using Zoom, with video sharing. Any student who has concerns about sharing video during an exam must meet with their instructor at least two weeks prior to the exam to discuss options. This is not a conversation that can take place immediately prior to an exam.** If you miss an exam for any reason, contact your instructor as soon as possible. In general, there will be no make-up exams without prior arrangement with the instructor. However, a make-up exam may be given in exceptional circumstances. Approval in these cases is at the sole discretion of the instructor and/or the dean of students, and decisions will be made on a case-by-case basis. This may require providing a detailed account of the situation. According to university policy, no exams will be held on the week of May 3rd.

Final Examination

(150 points) The final exam is a comprehensive common exam that is closed book and closed notes. It is scheduled for Monday, May 10th from 8:00 – 10:00 am (see the University's Final Exam Schedule at <http://www.registrar.arizona.edu/schedules/finals.htm>). It will be delivered using Gradescope and students will be expected to upload solutions to selected problems. It will be proctored using Zoom, and any student who is unable or unwilling to share their video during the final exam must contact their instructor at least a week prior to the exam so a suitable

proctoring alternative can be arranged. Additional information and a study guide can be found at <https://math129.math.arizona.edu>. The University's Exam regulations will be strictly followed <https://www.registrar.arizona.edu/courses/final-examination-regulations-and-information>.

Grading Scale and Policies

Your final course grade will be determined by a percentage of the 700 total possible points in the course. Grades will be no lower than the following:

A: 100-90% B: 89-80% C: 79-70% D: 69-60% E: 59-0%

No extra credit or bonus points are offered in this course.

Note: A grade of C or better in Math 129 is a necessary prerequisite for Math 223 (Vector Calculus) and Math 254 (Differential Equations). Students who receive a D in Math 129 will receive credit for the course towards graduation requirements, and will be able to use their course for the general education math requirement, but will not be automatically qualified to register for Math 223 or 254.

Requests for incomplete (I) or withdrawal (W) must be made in accordance with University policies, which are available at <http://catalog.arizona.edu/policy/grades-and-grading-system#incomplete> and <http://catalog.arizona.edu/policy/grades-and-grading-system#Withdrawal> respectively.

You may drop the class without a W through **January 26** using UAccess. The class will appear on your UAccess record, but will not appear on your transcript. You may withdraw with a W through **March 30** using UAccess. The University allows withdrawals through **April 13**, but only with the Dean's approval. Late withdrawals are dealt with on a case by case basis, and requests for late withdraw without a valid reason may or may not be honored.

Dispute of Grade Policy: Any questions regarding the grading of any assignment, quiz, or exam need to be cleared up within one week after the graded item has been returned.

Additional Resources for Students

UA Academic policies and procedures are available at <http://catalog.arizona.edu/policies>

Student Assistance and Advocacy information is available at <http://deanofstudents.arizona.edu/student-assistance/students/student-assistance>

Academic advising: If you have questions about your academic progress this semester, or your chosen degree program, please note that advisors at the Advising Resource Center can guide you toward university resources to help you succeed.

Life challenges: If you are experiencing unexpected barriers to your success in your courses, please note the Dean of Students Office is a central support resource for all students and may be helpful. The Dean of Students Office can be reached at 520-621-2057 or DOS-deanofstudents@email.arizona.edu.

Physical and mental-health challenges: If you are facing physical or mental health challenges this semester, please note that Campus Health provides quality medical and mental health care. For medical appointments, call (520-621-9202. For After Hours care, call (520) 570-7898. For the Counseling & Psych Services (CAPS) 24/7 hotline, call (520) 621-3334.

Scheduled Topics/Activities

Week	Topics	WebAssign	HW/Quizzes/ Exams
1: Jan 13 - Jan 17	Integration by substitution (7.1) and parts (7.2)		WW1
2: Jan 18 - Jan 24	Integration by parts (7.2), Tables of integrals (7.3)	Sec 7.1	Quiz #1 & WW2
3: Jan 25 - Jan 31	Partial fractions (7.4) & Trig substitution (7.4)	Sec 7.2 & 7.3	Quiz #2
4: Feb 1 - Feb 7	Numerical methods of integration (7.5), Improper integrals (7.6)	Sec 7.4 & 7.5	Quiz #3 & WW3
5: Feb 8 - Feb 14	Comparison of improper integrals (7.7)	Sec 7.6	WW4 & Exam #1 (Fri, Feb 12)
6: Feb 15 - Feb 21	Areas & volumes (8.1)	Sec 7.7	Quiz #4 & WW5
7: Feb 22 - Feb 28	Applications to geometry (8.2)	Sec 8.1	Quiz #5 & WW6
8: Mar 1 - Mar 7	Density (8.4)	Sec 8.2	WW7
9: Mar 8 - Mar 14	Density (8.4)		Quiz # 6 & Exam #2 (Wed, Mar 8)
10: Mar 15 - Mar 21	Applications to physics (8.5), Sequences (9.1), geometric series (9.2)	Sec 8.4 & 8.5	Quiz #7 & WW8
11: Mar 22 - Mar 28	Convergence of series (9.3), Tests for convergence (9.4)	Sec 9.1 & 9.2	Quiz #8 & WW9
12: Mar 29 - Apr 4	Power series & intervals of convergence (9.5)	Sec 9.3 & 9.4	WW10 & Exam #3 (Wed, Mar 31)
13: Apr 5 - Apr 11	Taylor polynomials (10.1), Taylor series (10.2)	Sec 9.5	Quiz #9 & WW 11
14: Apr 12 - Apr 18	Finding and Using Taylor series (10.3),	Sec 10.1 & 10.2	Quiz #10 & WW 12
15: Apr 19 - Apr 25	What is a differential equation (11.1), Slope fields (11.2), Separation of variables (11.4),	Sec 10.3 & 11.1	Quiz #11 & WW 13
16: Apr 26 - May 2	Growth & decay (11.5)	Sec 11.2 & 11.4	WW14 & Exam #4 (Fri, Apr 30)
17: May 3 - May 5	Growth & decay (11.5)	Sec. 11.5	WW15

Subject to Change Statement

Information contained in the course syllabus, other than the grade and absence policy, may be subject to change with advance notice, as deemed appropriate by the instructor.

Confidentiality of Student Records

<http://www.registrar.arizona.edu/personal-information/family-educational-rights-and-privacy-act-1974-ferpa?topic=ferpa>

Where to go, who to call if you're in crisis:

Located in Tucson? Call the [Community-Wide Crisis Line](#) 24 hours a day, 7 days a week at 520-622-6000.

Are you a University of Arizona student? If it is not an emergency and you are a UA student, call or walk-in to Counseling and Psych Services at 520-621-3334 Monday - Friday. Walk-in triage is available between 9 am and 4 pm Monday - Friday.

Are you a concerned friend? Concerned friends can find out more about helping a friend who might be experiencing problems through our [Friend 2 Friend](#) website.

[Resources for sexual assault, relationship violence, and stalking.](#)

24-Hour Hotlines:

[The National Suicide Prevention Lifeline](#) is a 24-hour, toll-free, confidential suicide prevention hotline available to anyone in suicidal crisis or emotional distress. By dialing [1-800-273-TALK](#) (8255), the call is routed to the nearest crisis center in our national network of more than 150 crisis centers. The Lifeline's national network of local crisis centers provides crisis counseling and mental health referrals day and night.

[Crisis Text Line](#): Text HOME to 741741 from anywhere **in the United States**, anytime, about any type of crisis. A live, trained Crisis Counselor receives the text and responds, all from a secure online platform. Find out more about how it works at [crisistextline.org](#).

[Suicide Prevention for LGBTQ Youth through the Trevor Project](#):

- **The Trevor Lifeline** is a 24/7 suicide hotline: 866-4-U-TREVOR (1-866-488-7386)
- **TrevorChat**: Online instant messaging available 7 days a week, 3 pm - 10 pm ET (12 pm -- 7 pm PT)
- **TrevorText**: Confidential and secure resource that provides live help for LGBTQ youth with a trained specialist, over text messages. Text TREVOR to 1-202-304-1200 (available 7 days a week, 3 pm - 10 pm ET, 12 pm -- 7 pm PT)

[Veterans' Suicide Prevention Lifeline](#): 1-800-273-TALK (1-800-273-8255)

[SAMHSA Treatment Referral Hotline](#) (Substance Abuse): 1-800-662-HELP (1-800-662-4357)

[National Sexual Assault Hotline](#): 1-800-656-HOPE (1-800-656-4673)

[Loveisrespect \(National Dating Abuse Helpline\)](#): Call 1-866-331-9474 (TTY: 1-866-331-8453). Text LOVEIS to 22522 - you'll receive a response from a peer advocate prompting you for your question. Go ahead and text your comment or question and we will reply.