Math 129 – Calculus II – Section 09
Fall 2020 – Live Online
Monday, Wednesday, Friday from 2:00pm to 2:50pm

Description of Course:
This course is a continuation of MATH 122B or MATH 125 that will examine the 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 with C or higher, or Math 129

Instructor: Christina Durón
Office: Online via D2L
E-mail: duronc@math.arizona.edu
Website: https://cduron.info
Phone: 520-621-6870
Tutoring: http://math.arizona.edu/~tutoring
Official course communication: duronc@math.arizona.edu

Official course website:
https://d2l.arizona.edu/d2l/home/930081
Course Location: Live Online via Zoom on D2L
Office Hours: Held Online via Zoom on D2L
Monday 11am – 12pm (Calc tutoring)
Monday 3pm – 4pm
Wednesday 3pm – 4pm
Thursday 2pm – 3pm (UD tutoring)

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.
  - **Website**: https://d2l.arizona.edu/d2l/home/930081
  - **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:
  - **Website**: https://d2l.arizona.edu/d2l/home/943839
  - **Links** to online lectures (delivered by our course coordinator) and recordings of these lectures. You are welcome to join the livestream of the lectures (at noon and 7pm on Tuesdays and Thursdays) but are not required to do so. You are welcome to use the recorded lectures as a supplemental resource.
  - **Links** to the final exam.

Makeup Policy for Students Who Register Late: Students who register after the first course meeting may make up missed assignments/quizzes within two weeks upon successful registration. Additional time will be granted based upon the approval of the instructor.

Course Format and Teaching Methods: This class is scheduled to be taught in the Live Online modality.

Class Meetings: This class will meet live online on Mondays, Wednesdays, and Fridays at 2:00PM – 2:50PM via Zoom. The Zoom link for each meeting may be accessed through the Calendar on the D2L course page. Our synchronous meetings will give us the opportunity to develop our understanding of the content material and work to meet the course goals and objectives using a variety of instructional techniques. On any given day, this may include lecture, discussion, and group work. All lecture materials will be posted to the D2L course page before/after each class meeting.

Class Attendance: Although regular attendance is not required, you are expected to keep up with any and all missed material.

- 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.
- 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: You are required to complete each missed written homework, WebAssign homework, and online quiz, and watch each recorded lecture videos on your own time to develop a level of competence with the course objectives. In addition, you are required to complete and submit each written homework, WebAssign homework, and quiz by the due date listed on the Calendar on the D2L course page.

Class Recordings: For lecture recordings, which are used at the discretion of the instructor, students must access content in the D2L course page. 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. Course-wide announcements will be distributed using D2L. Emails may also be sent to the instructor directly through duronc@math.arizona.edu.

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 September 6, 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, September 6, 2020. If you do not opt-out and choose to retain your access, the cost of the digital course materials will appear on your October Bursars account.** Please refer to the Inclusive Access FAQs at https://shop.arizona.edu/textbooks/Inclusive.asp for additional information. (If you have any additional materials such as worksheets, include how to access them here.)

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 required on in-class exams, but not during the quizzes.

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 WebAssign and the eText
- Scan and upload written work
- View pdf documents
- View PowerPoints

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.

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 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.

Confidentiality of Student Records:
Policies available at http://www.registrar.arizona.edu/personal-information/family-educational-rights-and-privacy-act-1974-ferpa?topic=ferpa

University-Wide Policies Links:
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**
- **Subject to Change Statement**

Assignments and Examinations:

WebAssign Homework: (75 points) A computer grading program called WebAssign will be used for problems assigned from the textbook. The due dates for all assignments are posted in WebAssign and in the D2L course page - it is your responsibility to know when the assignments are due. Although the WebAssign homework should be turned in before the due date, extensions and late work will be granted in certain situations based upon the approval of the instructor. Please notify the instructor ahead of time if there is a (reasonable) conflict with any of the assignment due dates. A final WebAssign homework score based on 75 possible points will be computed by taking the earned average percentage of all WebAssign homework and multiplying it by 75.

Written Homework: (70 points) Hand-written homework showing all work with proper notation will be submitted weekly. These problems will come from the textbook and/or from a set of problems created by your instructor. Although the written homework should be turned in before the due date, extensions and late work will be granted in certain situations based upon the approval of the instructor. Please notify the instructor ahead of time if there is a (reasonable) conflict with any of the assignment due dates. A final written homework score based on 70 possible points will be computed by taking the earned average percentage of all written homework and multiplying it by 70.

Discussion Board: (30 points) Points will be awarded for regular use of the discussion board. Five groups of 7 students will be preassigned. These groups will not change and are set for the entire semester. Each group will have its own discussion board accessible on the D2L course page that may be used to get homework help, study help, etc. An active participation is expected by each team member, with a minimum of three posts per week. Two of the posts must include a thoughtful question from the class or the homework assignments, and third post must be a thoughtful response to another group member's question. If a question has already been answered by another group member, then posting the same (or similar) response does not count as one of the three required posts. In addition, posting the solution to a question does not count as a thoughtful post in the discussion board. A final discussion board score based on 30 possible points will be computed by taking the earned average percentage of all discussion board weekly percentages and multiplying it by 30.

Quizzes: (75 points) Short quizzes of 1 or 2 problems based upon the WebAssign homework will be given every Friday (unless otherwise noted). Each quiz will be delivered through the D2L course page and can be accessed through the Quizzes tab. Each quiz will be made available at 12AM each Friday and will close at 11:59PM that same day. When a quiz is stared, there will only be 15 minutes to complete it. If you are required to submit work for a free-response question, then an additional 5 minutes is allotted (for a total of 20 minutes) to upload all necessary work through the Assignments tab on the D2L course page. Students may use the textbook and notes on all quizzes, but peer collaboration of any kind is not allowed. You may use a graphing calculator on each quiz. Grading disputes regarding a quiz must be addressed within one week after the quiz has been returned. A final quiz score based on 75 possible points will be computed by

taking the earned average percentage of all quizzes and multiplying it by 75.

In-Class Exams: (300 points) Four in-class exams are tentatively scheduled for Monday, September 14th; Wednesday, October 7th; Wednesday, October 28th, and Friday, November 20th. Each exam will be worth 75 points. Exams will take place live online during our regularly scheduled class meeting time and will be written to be completed within thirty minutes. All exams are closed book and closed notes. Peer collaboration of any kind is not allowed during the exams. Students will be required to use the Desmos Test Mode App, which may be used as a graphing calculator. The exams will be delivered using WebAssign and students will be expected to upload solutions to selected problems through Gradescope. The exams will be proctored using Zoom in Gallery Mode, 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 December 7th. A final in-class exam score based on 300 possible points will be computed by taking the earned average percentage of all in-class exams and multiplying it by 300.

Final Examination:(150 points) The final exam is a comprehensive common exam that is closed book and closed notes. It is scheduled for Monday, December 14th 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 WebAssign and students will be expected to upload solutions to selected problems to Gradescope. Students will be required to use the Desmos Test Mode App, which may be used as a graphing calculator. 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 two weeks prior to the final exam so that a suitable proctoring alternative can be arranged. Additional information and a study guide can be found at https://math129.math.arizona.edu. A final examination score based on 150 points will be computed by taking the earned percentage of the final exam and multiplying it by 150.

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 September 6 using UAccess. The class will appear on your UAccess record, but will not appear on your transcript. You may withdraw with a W through November 1 using UAccess. The University allows withdrawals through November 22, but only with the Dean's approval.

Late withdraws 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.

Confidentiality of Student Records:

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

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.

Scheduled Topics/Activities

Calculus II Calendar - Fall 2020

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Aug 23, 2020	***Aug 24, 2020***	***Aug 25, 2020***	***Aug 26, 2020***	***Aug 27, 2020***	***Aug 28, 2020***	Aug 29, 2020
	Introduction 7.1 - Integration by Substitution First Day of Classes		7.1 - Continued 7.2 - Integration by Parts		7.2 - Continued **Quiz #1**	
Aug 30, 2020	***Aug 31, 2020***	***Sep 1, 2020***	***Sep 2, 2020***	***Sep 3, 2020***	***Sep 4, 2020***	Sep 5, 2020
	7.2 - Continued 7.3 - Tables of Integrals Last Day to Add Using UAccess		7.3 - Continued **Due: HW #1 (7.1, 7.2)**		7.4 - Partial Fractions & Trig Substitution **Quiz #2**	
Sep 6, 2020	Sep 7, 2020	***Sep 8, 2020***	***Sep 9, 2020***	***Sep 10, 2020***	***Sep 11, 2020***	Sep 12, 2020
1st Drop Date	Labor Day **Last Day to Add Using UAccess**		7.4 - Continued		7.4 - Continued Review **Due: HW #2 (7.3, 7.4)** **Quiz #3**	

Sep 13, 2020	***Sep 14, 2020***	***Sep 15, 2020***	***Sep 16, 2020***	***Sep 17, 2020***	***Sep 18, 2020***	Sep 19, 2020
	Exam 1 on WebAssign		7.5 - Numerical Methods		7.6 - Improper Integrals	
Sep 20, 2020	***Sep 21, 2020***	***Sep 22, 2020***	***Sep 23, 2020***	***Sep 24, 2020***	***Sep 25, 2020***	Sep 26, 2020
	7.6 - Continued		7.7 - Comparison of Improper Integrals **Due: HW #3 (7.5, 7.6)**		7.7 - Continued **Quiz #4**	
Sep 27, 2020	***Sep 28, 2020***	***Sep 29, 2020***	***Sep 30, 2020***	***Oct 1, 2020***	***Oct 2, 2020***	Oct 3, 2020
	8.1 - Areas & Volumes **Due: HW #4 (7.7)**		8.1 - Continued 8.2 - Applications to Geometry		8.2 - Continued **Quiz #5**	
Oct 4, 2020	***Oct 5, 2020***	***Oct 6, 2020***	***Oct 7, 2020***	***Oct 8, 2020***	***Oct 9, 2020***	Oct 10, 2020
	8.2 - Continued Review **Due: HW #5 (8.1, 8.2)**		***Exam 2 on WebAssign***		8.4 - Density	
Oct 11, 2020	***Oct 12, 2020***	***Oct 13, 2020***	***Oct 14, 2020***	***Oct 15, 2020***	***Oct 16, 2020***	Oct 17, 2020
	8.5 - Applications to Physics		8.5 - Continued 9.1 - Sequences **Due: HW #6 (8.4, 8.5)**		9.1 - Continued 9.2 - Geometric Series **Quiz #6**	
Oct 18, 2020	***Oct 19, 2020***	***Oct 20, 2020***	***Oct 21, 2020***	***Oct 22, 2020***	***Oct 23, 2020***	Oct 24, 2020
	9.2 - Continued 9.3 - Convergence of Series **Due: HW #7 (9.1, 9.2)**		9.3 - Continued		9.4 - Tests for Convergence **Quiz #7**	
Oct 25, 2020	***Oct 26, 2020***	***Oct 27, 2020***	***Oct 28, 2020***	***Oct 29, 2020***	***Oct 30, 2020***	Oct 31, 2020
	9.4 - Continued Review **Due: HW #8 (9.3, 9.4)**		***Exam 3***		9.5 - Power Series & Intervals of Convergence	
Nov 1, 2020	***Nov 2, 2020***	***Nov 3, 2020***	***Nov 4, 2020***	***Nov 5, 2020***	***Nov 6, 2020***	Nov 7, 2020
GRO Date **2nd Drop Date**	9.5 - Continued		10.1 - Taylor Polynomials **Due: HW #9 (9.5)**		10.2 - Taylor Series **Quiz #8**	
Nov 8, 2020	***Nov 9, 2020***	***Nov 10, 2020***	Nov 11, 2020	***Nov 12, 2020***	***Nov 13, 2020***	Nov 14, 2020
	10.3 - Finding & Using Taylor Series **Due: HW #10 (10.1)**		Veteran's Day		10.3 - Continued **Quiz #9**	
Nov 15, 2020	***Nov 16, 2020***	***Nov 17, 2020***	***Nov 18, 2020***	***Nov 19, 2020***	***Nov 20, 2020***	Nov 21, 2020
	10.3 - Continued 11.1 - What is a Differential Equation **Due: HW #11 (10.2, 10.3)**		11.1 - Continued Review		***Exam 4***	
Nov 22, 2020	***Nov 23, 2020***	***Nov 24, 2020***	***Nov 25, 2020***	Nov 26, 2020	Nov 27, 2020	Nov 28, 2020
Last Day to Petition for Late Withdrawal	11.2 - Slope Fields		11.4 - Separation of Variables **Due: HW #12 (11.1, 11.2)**	Thanksgiving Recess		

Nov 29, 2020	***Nov 30, 2020***	***Dec 1, 2020***	***Dec 2, 2020***	***Dec 3, 2020***	***Dec 4, 2020***	Dec 5, 2020
	11.4 - Continued 11.5 - Growth & Decay		11.5 - Continued		11.6 - Applications & Modeling **Due: HW #13 (11.4, 11.5)** **Quiz #10**	
Dec 6, 2020	***Dec 7, 2020***	***Dec 8, 2020***	***Dec 9, 2020***	Dec 10, 2020	***Dec 11, 2020***	Dec 12, 2020
	11.6 - Continued		Review **Due: HW #14 (11.6)** Last Day of Classes	Reading Day		
Dec 13, 2020	***Dec 14, 2020*** ***Final Exam*** ***8:00 - 10:00 am***	Dec 15, 2020	Dec 16, 2020	Dec 17, 2020	Dec 18, 2020	Dec 19, 2020

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.