Course Information

Course Information

Course Number: 172H
Course Title: Calculus 2 Honors
Section: 200
Lecture: TR 2:20-3:35pm in BLOC 164
Lab: W 11:30am-12:20pm BLOC 128 or 129 as announced
Credit Hours: 4   Lecture Hours: 4
Course Website: http://people.tamu.edu/~yasskin/currclas/172H.24a/
Dept. Website http://www.math.tamu.edu/courses/math172/

Instructor Details

Instructor: Dr. Philip Yasskin
Office: BLOC 620 I
Dept. Phone: 979-845-3261, for leaving a message
E-Mail: yasskin@tamu.edu Please include your phone number.
Personal Website: http://people.tamu.edu/~yasskin
Office Hours: T 1:30pm-2:15pm in BLOC 620 I
                W 10:30am-11:15am in BLOC 620 I
                or by appointment on Zoom
                or any day after class
    The Zoom link will be available in Canvas.
    If you email for an appointment, be sure to include a phone number!

TA: Samuel Hernandez samuelhq11@tamu.edu

Course Description

Course Description: 4 credits. 4 Lecture Hours.
    Techniques of integration, applications of integrals, improper integrals, sequences,
    infinite series, vector algebra and solid analytic geometry.
    Designed to be more demanding than MATH 152.
    Only one of the following will satisfy the requirements for a degree: MATH 148, MATH 152,
or MATH 172.

Course Prerequisites

MATH 147, MATH 151 or MATH 171 or equivalent with a grade of C or better.

Special Course Designation

This is a CORE curriculum course in Mathematics.
Courses in this category focus on quantitative literacy in logic, patterns, and relationships.
Courses involve the understanding of key mathematical concepts and the application of appropriate quantitative tools to everyday experiences.

Course Learning Outcomes

After taking this course, students should be able to:

- understand and explain the relation between Riemann sums and definite integrals.
- compute integrals using the methods of substitution, parts, trig substitutions and partial fractions.
- evaluate improper integrals and approximate integrals numerically.
- use integrals to compute: area; average value; volume by slicing and revolution; mass and center of mass of a bar; arclength and surface area of revolution of parametric curves; slope of, area inside, and arc length of polar curves; and work.
- find limits of sequences and infinite series including how to explain convergence tests and error estimates and how to find and use Taylor series.

Honors Course Learning Outcomes

After taking this course, honors students should be able to

- solve simple differential equations and apply them.
- use and apply the Maple Computer Algebra System.

Core Objectives

Critical Thinking: creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.

- Students will use graphs and visual skills to formulate and evaluate definite integrals to calculate areas, volumes, work, and arclength.
- Students will analyze definite and indefinite integrals to determine and apply appropriate methods of evaluation of these integrals.
- Students will apply logical reasoning to determine the convergence or divergence of improper integrals and evaluate convergent improper integrals where appropriate.
- Students will apply logical reasoning to determine the convergence or divergence of sequences and series and evaluate convergent sequences and series where appropriate.
- Students will use Taylor and Maclaurin series to represent functions which cannot be integrated conventionally.

Communication Skills: effective development, interpretation and expression of ideas through written, oral and visual communication.

- Students will clearly explain the relationship between Riemann sums and definite integrals.
- Students will clearly explain problem-solving strategies and analysis used to answer questions concerning topics discussed in class.
- Students will use appropriate theorems to present clear written arguments in support of the convergence or divergence of improper integrals, sequences, and series.
- Students will be able to explain (prove) various formulas and theorems used in the course.
- Students will create a recording in which they explain a mathematical topic.

Empirical and Quantitative Skills: manipulation and analysis of numerical data or observable facts resulting in informed conclusions.

- Students will interpret a given integral as the area of an appropriate 2-dimensional region or volume of an appropriate solid.
- Students will convert a practical situation into an appropriate first-order differential equation.
- Students will use appropriate calculations to analyze the convergence or divergence of ser

Textbook and/or Resource Materials

Text:
MYMathApps Calculus 2, P. Yasskin et al. available at:
https://mymacalc.math.tamu.edu/
The book is FREE for all Aggies.

Edfinity Homework:
https://edfinity.com/
Online homework will be provides through Edfinity. The first time you access the homework, you will be prompted to enroll and pay the registration fee which is about $25. You can get a refund during the first two weeks. So, wait to enroll until you need to start on the first homework, which will not be until the second week of class. There will be a form to fill out saying you agree to Edfinity storing your grades. If you disagree, there will be the option of doing this homework on paper and having some of it graded.

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.

Math Learning Center: http://mlc.tamu.edu/
The Math Learning Center (MLC) offers various forms of support for Math 172, both online and face-to-face, including drop-in Help Sessions, Tutoring by Appointment. Additionally, the MLC hosts an archive of Supplemental Material, such as recorded review sessions.

Help Sessions   http://mlc.tamu.edu/Online-Help-Services/MLC-Help-Sessions
Tutoring by Appt   http://mlc.tamu.edu/Online-Help-Services/Tutoring-Central

Maple: We will be using the Maple Computer Algebra System.
You may purchase Maple for $42 at https://software.tamu.edu/
You do not need to purchase Maple. You may access maple at the Univ Open Access Labs in person or remotely via https://voal.tamu.edu/.

Grading Policy .

This table shows exam dates, material covered and points

Assessment	Covers MYMACalc	Points	Dates
Exam 1	Chs. 1, 2, 3, 4, 6, 7, 10, 11, 12	100	Tuesday, Feb 13, 2024
Exam 2	Chs. 9, 8, 13, 14, 16	100	Tuesday, Mar 19, 2024
Exam 3	Chs. 17, 18, 19, 20, 21, 22, 23, 24	100	Tuesday, Apr 16, 2024
Final	All	150	Tuesday, May 7, 2024 1:00-3:00am BLOC 164
eHW, Quiz & Labs	All	100	Wed at 11:55pm or as Announced
Project	All	100	As Announced
Total:		**650**	

I may curve any grade or the total and then compute the course grade from the following list:
650 points ≥ A ≥ 585 points > B ≥ 520 points > C ≥ 455 points > D ≥ 390 points > F ≥ 0 points

Exams:
There will be 3 midterm exams and a final exam. You must have your ID with you at all exams. CALCULATORS and PHONES are NOT allowed. 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. The midterm exams will be night exams, so you can have a full 2 hours. Exams will be on the indicated days at 7:30-9:30 pm.

Online Homework:
Edfinity Online Homework is available at: https://edfinity.com/
See Canvas for instruction to access Edfinity.
Assignments are due on Wednesday 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. Each assignment will be graded out of 20 points.

Quizzes:
Quizzes may be given in lecture or recitation and may not be announced, or they may be Take-Home-Quizzes due on announced dates. Quizzes will count like Edfinity homeworks.

Maple Labs:
Maple lab assignments will be given in some labs. Students will work individually or in pairs. They are due at the beginning of the next lab. Lab assignments will count like Edfinity homeworks.

Homework, Quiz and Lab Gradess:
Homework and Quizzes are grouped together for grading purposes. The lowest 5 e-Homework or Quiz or Lab grades will be dropped. The remaining grades will be averaged and then rescaled to 100 points. There will be no make-ups for In-Class Quizzes. Rather, they will be among the dropped grades.

Lab Projects:
There will be a project using Maple. Students will work individually. It is due on an announced date. We hope to use 3D Printing. As part of the project, you will be expected to explain your reasoning in a written format and in an oral recording.

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

Late Exams:
Make-Ups for Major Exams will be given only in case of an absence authorized under University Regulations. You will need a note from your doctor or your academic dean's office. 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.

Late Homework, Quizzes or Lab Assignments:
Late Edfinity Homework is accepted up to 2 days late, but there will be a 20% penalty on the portion that was not completed by the due date. Late Take-Home Quizzes or late Lab Assignments will be accepted only if there is a University excused absence. There will be no make-ups for In-Class Quizzes. Rather, they will be included in the 5 assignments which are dropped.

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 meeting with me, in-person or on Zoom.

Final Conflicts:
If you have 3 exams on the day of your 172 final, please tell me about this before Exam 2. We will see what we can work out.

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Course Schedule

This table shows chapters and topics covered each week of the course.

Week	Starting	Covers MYMACalc	Topics	
1	1/15	Chs: 1,2,3	Antideriv, Riemann Sums, FTC, Substitution	
2	1/22	Chs: 10,4	Area, Average Value, Parts	
3	1/29	Chs: 11,6	Mass, C of M, Trig Int	
4	2/5	Chs: 12,7	Arc Length, Surface Area, Trig Subst	
5	2/12	Ch. 9	Review, Partial Fractions	2/13 Exam 1
6	2/19	Chs: 13	Volume	
7	2/26	Chs: 14,8	Work, Improper Int	
8	3/4	Chs: 16	Separable & Linear Diff Eqs	3/4 MidTerm Grades
	3/11		Spring Break	
9	3/18	Ch: 17	Review, Applications of Diff Eqs	3/19 Exam 2
10	3/25	Chs: 18,19	Sequences, Series	
11	4/1	Chs: 20,21	Convergence of Series	
12	4/8	Chs: 22,23	Power and Taylor Series	
13	4/15	Ch: 24	Applications of Taylor Series, Review	4/16 Q-drop 4/16 Exam 3
14	4/22	Ch: 15,5	Polar, Numerical Int	
15	4/29	All	Review for Final	4/30 Last Class
	5/7	1:00-3:00 pm	Final Exam, Tuesday	

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).

Texas A&M at College Station

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 office on your campus (resources listed below). 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.

Texas A&M at College Station

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.

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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 available resources and services on your campus.

Texas A&M College Station

*Students who need someone to talk to can contact **Counseling & Psychological Services** (CAPS) or 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**.*

Campus Specific Policies

Classroom Access and Inclusion Statement

Texas A&M University is committed to engaged student participation in all of its programs and courses and provides an accessible academic environment for all students. This means that our classrooms, our virtual spaces, our practices and our interactions are as inclusive as possible and we work to provide a welcoming instructional climate and equal learning opportunities for everyone. If you have an instructional need, please notify me as soon as possible.

The Aggie Core values of respect, excellence, leadership, loyalty, integrity and selfless service in addition to civility, and the ability to listen and to observe others are the foundation of a welcoming instructional climate. Active, thoughtful and respectful participation in all aspects of the course supports a more inclusive classroom environment as well as **our mutual** responsibilities to the campus community.

Statement on the Family Educational Rights and Privacy Act (FERPA)

FERPA is a federal law designed to protect the privacy of educational records by limiting access to these records, to establish the right of students to inspect and review their educational records and to provide guidelines for the correction of inaccurate and misleading data through informal and formal hearings. Currently enrolled students wishing to withhold any or all directory information items may do so by going to **howdy.tamu.edu** and clicking on the "Directory Hold Information" link in the Student Records channel on the MyRecord tab. The complete **FERPA Notice to Students** and the student records policy is available on the Office of the Registrar webpage.
Items that can never be identified as public information are a student's social security number, citizenship, gender, grades, GPR or class schedule. All efforts will be made in this class to protect your privacy and to ensure confidential treatment of information associated with or generated by your participation in the class.
Directory items include name, UIN, local address, permanent address, email address, local telephone number, permanent telephone number, dates of attendance, program of study (college, major, campus), classification, previous institutions attended, degrees honors and awards received, participation in officially recognized activities and sports, medical residence location and medical residence specialization.