University of Texas at Arlington

Course Syllabus

**MATH 4351 – Calculus for Mid-Level Mathematics Teachers**

Section 001 – LEC (22053) Spring 2019

TuTh 5:00 – 6:20 pm

PKH 107

**Text Materials:** Harcharras and Mitrea. Calculus Connections: Mathematics for Middle School Teachers.

2007 Pearson Education Inc. ISBN # 9780131449237

**Calculator:** Ti-83/84/86/89 or similar required

**Instructor:** Mark Krasij M.A., M.S.

mkrasij@uta.edu

Room 450 Pickard Hall

Office Hours: TuTh 3:20-4:50pm; or by appointment

Office Phone: 817-272-7564

Mailbox in Math Office (PKH 478)

Math Department Phone # 817-272-3261 (8:00 am - 5:00 pm M-F) …to leave messages

**Faculty Profile:** <https://www.uta.edu/ra/real/editprofile.php?onlyview=1&pid=3337>

**Prerequisite:** ‘C’ or better in MATH 4350

**Course Description:** This course serves to introduce the basic concepts of calculus to middle level teachers. The primary goal is to help teachers develop a fundamental understanding of the key mathematical ideas in calculus in order to broaden their mathematical perspective and gain insight into the topics in the middle level curriculum which are related and foundational to its development. Participants will develop conceptual knowledge of the processes of differentiation and integration, and understanding of their applications and an understanding of the relationship between the two processes.

**Philosophy:** There will be lecturing in this course to help explain some of the more complicated calculus concepts. In addition, to help you develop your intuitive reasoning and problem-solving skills, we will spend some of our class time working in small groups. You are always expected to think about the problems, participate in solving them, and communicate your ideas with others. Communicating your ideas clearly to others is as important as developing them in the first place.

**Grading Format:** A (90-100), B (80-89), C (70-79), D (60-69), F (0-59)

**Grades:** Exams (3) – 60% (20% each); Attendance and Participation – 10%; Paper – 30%

**Exams:** These will be similar in nature to the problems we work in class.

**Note: If an emergency comes up and you need to miss a scheduled exam, I need to know about it before the exam occurs (unless hospitalized, e.g.). Official documentation must be provided.**

**Paper:**  Choose a college-level (TEKS - Texas Essential Knowledge and Skills for Mathematics) calculus problem and solve it completely, then choose a grade 4-8 (TEKS) problem that you believe is related. Highlight the mathematical connections between the two problems, and explain how the mathematics involved in each problem is related.

**Homework:** Timely completion of homework assignments is essential for keeping up with course material and is a prerequisite for understanding exam problems. Homework will be assigned regularly, but not graded.

**Attendance and Participation:** These are an important part of your grade because this course is more an experience than a set of material to be learned. Most of what I hope will happen for you in this course will take place inside the classroom, working in groups and talking with others.

You may miss up to 3 days (excused or not) without penalty; after that it starts affecting your grade. Arriving late (after we have started class) or leaving early counts as half an absence. Each absence after the third subtracts 2 points from your final average (20% off your Attendance and Participation grade).

 To get 100% credit for participation you must: (i) attend class regularly and not miss more than three class periods; (ii) always have a positive attitude in class and be courteous; (iii) always work diligently with all of your group members and be focused on your work.

**Etc.:** Class policy on drops, withdrawals, academic dishonesty, and accommodating disabilities follows the University policy on these matters. Copies can be obtained upon request.

**Important Dates:**

First Day of Class 1/15 (Tuesday)

Census date 1/30 (Wednesday)

**Mid-term Examination #1 2/14 (Thursday)**

Spring Break 3/11-3/15 (Monday-Friday)

**Mid-term Examination #2 3/26 (Tuesday)**

**Last day to drop course 3/29 (Friday)**

Last day of class 5/2 (Thursday)

**Final Exam 5/9 (Thursday) 5:30 – 8:00 pm**

**Drop Policy:** Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. **Students will not be automatically dropped for non-attendance**. Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. For more information, contact the Office of Financial Aid and Scholarships (<http://wweb.uta.edu/aao/fao/>).

**Disability Accommodations: UT** Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including *The Americans with Disabilities Act (ADA), The Americans with Disabilities Amendments Act (ADAAA),* and *Section 504 of the Rehabilitation Act.* All instructors at UT Arlington are required by law to provide “reasonable accommodations” to students with disabilities, so as not to discriminate on the basis of disability. Students are responsible for providing the instructor with official notification in the form of a letter certified by the **Office for Students with Disabilities (OSD).** Students experiencing a range of conditions (Physical, Learning, Chronic Health, Mental Health, and Sensory) that may cause diminished academic performance or other barriers to learning may seek services and/or accommodations by contacting:

**The Office for Students with Disabilities, (OSD)** [www.uta.edu/disability](http://www.uta.edu/disability) or calling 817-272-3364.

**Counseling and Psychological Services, (CAPS)** [www.uta.edu/caps/](http://www.uta.edu/caps/) or calling 817-272-3671.

Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at [www.uta.edu/disability](http://www.uta.edu/disability) or by calling the Office for Students with Disabilities at (817) 272-3364.

**Title IX Policy:** The University of Texas at Arlington (“University”) is committed to maintaining a learning and working environment that is free from discrimination based on sex in accordance with Title IX of the Higher Education Amendments of 1972 (Title IX), which prohibits discrimination on the basis of sex in educational programs or activities; Title VII of the Civil Rights Act of 1964 (Title VII), which prohibits sex discrimination in employment; and the Campus Sexual Violence Elimination Act (SaVE Act). Sexual misconduct is a form of sex discrimination and will not be tolerated.*For information regarding Title IX, visit* [www.uta.edu/titleIX](http://www.uta.edu/titleIX) or contact Ms. Michelle Willbanks, Title IX Coordinator at (817) 272-4585 or titleix@uta.edu

**Academic Integrity:** Students enrolled in this course are expected to adhere to the UT Arlington Honor Code:

*I pledge, on my honor, to uphold UT Arlington’s tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.*

*I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.*

UT Arlington faculty members may employ the Honor Code in their courses by having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System *Regents’ Rule* 50101, §2.2, suspected violations of university’s standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student’s suspension or expulsion from the University. Additional information is available at <https://www.uta.edu/conduct/>.

**Electronic Communication:** UT Arlington has adopted MavMail as its official means to communicate with students about important deadlines and events, as well as to transact university-related business regarding financial aid, tuition, grades, graduation, etc. All students are assigned a MavMail account and are responsible for checking the inbox regularly. There is no additional charge to students for using this account, which remains active even after graduation. Information about activating and using MavMail is available at <http://www.uta.edu/oit/cs/email/mavmail.php>.

**Campus Carry:** Effective August 1, 2016, the Campus Carry law (Senate Bill 11) allows those licensed individuals to carry a concealed handgun in buildings on public university campuses, except in locations the University establishes as prohibited. Under the new law, openly carrying handguns is not allowed on college campuses. For more information, visit <http://www.uta.edu/news/info/campus-carry/>

**Student Feedback Survey:** At the end of each term, students enrolled in face-to-face and online classes categorized as “lecture,” “seminar,” or “laboratory” are directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student’s feedback via the SFS database is aggregated with that of other students enrolled in the course. Students’ anonymity will be protected to the extent that the law allows. UT Arlington’s effort to solicit, gather, tabulate, and publish student feedback is required by state law and aggregate results are posted online. Data from SFS is also used for faculty and program evaluations. For more information, visit <http://www.uta.edu/sfs>.

**Final Review Week:** A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week *unless specified in the class syllabus*. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

**Emergency Exit Procedures:** Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit, which is located at the corner(s) of the building. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist individuals with disabilities.

**Student Support Services**:UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include [tutoring](http://www.uta.edu/universitycollege/current/academic-support/learning-center/tutoring/index.php), [major-based learning centers](http://www.uta.edu/universitycollege/resources/college-based-clinics-labs.php), developmental education, [advising and mentoring](http://www.uta.edu/universitycollege/resources/advising.php), personal counseling, and [federally funded programs](http://www.uta.edu/universitycollege/current/academic-support/mcnair/index.php). For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to resources@uta.edu, or view the information at <http://www.uta.edu/universitycollege/resources/index.php>.

**Course Schedule:**

1/15-1/17 Limits

1/22-1/24 Continuity

1/29-1/31 Derivatives

2/5-2/7 Product and Quotient Rules

2/12 Exam Review

[2/14 Exam #1]

2/19-2/21 Motion and Derivatives

2/26-2/28 Optimization

3/5-3/19 Graphing Functions

3/11-3/15 Spring Break

3/21 Exam Review

[3/26 Exam #2]

3/28-4/2 AntiDerivatives

4/4-4/9 Area Under Curves

4/11-4/16 Fundamental Theorem of Calculus

4/18-4/23 Definition of Area

4/25-4/30 Volume

5/2 Exam Review

[5/9 Final Exam]

“*As the instructor for this course, I reserve the right to adjust this schedule in any way that serves the educational needs of the students enrolled in this course.” – Mark A Krasij.*

**Emergency Phone Numbers**: In case of an on-campus emergency, call the UT Arlington Police Department at **817-272-3003** (non-campus phone), **2-3003** (campus phone). You may also dial 911. Non-emergency number 817-272-3381