**MATH 4390.06, (Math Project ) Spring, 2019**

Independent Project Course

**Instructor:** Andras Balogh

**Contact Information:** office: EMAGC 3.610, phone: 665–3460, e–mail: [andras.balogh@utrgv.edu](mailto:andras.balogh@utrgv.edu)

**Office Hours:** Tuesdays and Thursdays 6:00 p.m. – 7:00 p.m., or by appointment

**Prerequisite:** Credit for or concurrent enrollment in MATH 2415, STAT 3337, MATH 3341, MATH 3352, MATH 3363, MATH 3372.

**Textbook (recommended):** A Student’s Guide to the Study, Practice, and Tools of Modern Mathematics, Donald Bindner and Martin Erickson, CRC Press

**Useful Resource:** [https://en.wikibooks.org/wiki/LaTeX](https://en.wikibooks.org/wiki/LaTeX)

**Course Description:** Students will complete a major mathematical project communicating its results in oral and written form. Students will also take comprehensive test from the Mathematics core courses.

**Computers/Calculators** The use of computers will be required on this project course.

**Final Exam:** The project paper and presentation will serve as final exam.

**Grading policy:** 

\[
\begin{align*}
90\%, & 100\%: A \\
80\%, & 90\%: B \\
70\%, & 80\%: C \\
60\%, & 70\%: D \\
0\%, & 60\%: F
\end{align*}
\]

- Project Preparation and Participation (weekly attendance) 20%
- Project Paper 40% (students cannot pass the class without completing the Project Paper)
- Project Presentation 40% (students cannot pass the class without Project Presentation)
- Grading of project paper and presentation will be based on the completeness of the following parts:
  - MathScienet Literature Search and Bibliography
  - Brief history of the project topic
  - Use of Mathematics Software (as needed for the project) (Mathematica, Maple, Maxima, Sage, Matlab, Octave, Geogebra, etc.)
  - Quality and correctness of the \LaTeX Mathematical Typesetting:
    * abstract, introduction, main part, conclusion and future work
    * citation and references
    * tables
    * figures

The syllabus is subject to change
**Comprehensive Exam:** Students of MATH 4390 are required to take an assessment test (does not count toward grade) from all the math core courses: MATH 2413 (Calculus I) (or MATH 2487 Honors); MATH 2414 (Calculus II) (or MATH 2488 Honors); MATH 2415 (Calculus III); MATH 2318 (Linear Algebra); STAT 3337 (Probability and Statistics); MATH 3341 (Differential Equations); MATH 3350 (Introduction to Mathematical Proof); MATH 3352 (Modern Geometry I); MATH 3363 (Modern Algebra I); MATH 3372 (Real Analysis I)

**Important Dates:** The UTRGV academic calendar can be found at http://my.utrgv.edu at the bottom of the screen, prior to login. Important dates for the Spring 2019 term include:

- January 14 First day of classes
- January 17 Last day to add a course or register for spring 2019
- January 21 Martin Luther King Jr. Day – NO classes
- April 10 Last day to drop a course; will count toward the 6-drop rule
- April 19-20 Easter Holiday – NO classes
- May 2 Study Day – NO classes
- May 3-9 Final Exams
- May 10-11 Commencement Exercises

**UTRGV POLICY STATEMENTS**

**Students with Disabilities:** Students with a documented disability (physical, psychological, learning, or other disability which affects academic performance) who would like to receive academic accommodations should contact Student Accessibility Services (SAS) as soon as possible to schedule an appointment to initiate services. Accommodations can be arranged through SAS at any time, but are not retroactive. Students who suffer a broken bone, severe injury or undergo surgery during the semester are eligible for temporary services.

**Pregnancy, Pregnancy-related, and Parenting Accommodations:** Title IX of the Education Amendments of 1972 prohibits sex discrimination, which includes discrimination based on pregnancy, marital status, or parental status. Students seeking accommodations related to pregnancy, pregnancy-related condition, or parenting (reasonably immediate postpartum period) are encouraged to contact Student Accessibility Services for additional information and to request accommodations.

**Student Accessibility Services:** Brownsville Campus: Student Accessibility Services is located in Cortez Hall Room 129 and can be contacted by phone at (956) 882-7374 (Voice) or via email at ability@utrgv.edu. **Edinburg Campus:** Student Accessibility Services is located in 108 University Center and can be contacted by phone at (956) 665-7005 (Voice), (956) 665-3840 (Fax), or via email at ability@utrgv.edu.

**Mandatory Course Evaluation Period:** Students are required to complete an ONLINE evaluation of this course, accessed through your UTRGV account (http://my.utrgv.edu); you will be contacted through email with further instructions. Students who complete their evaluations will have priority access to their grades. Online evaluations will be available on or about April 10 – May 1.
Class Attendance/Participation: Attendance is mandatory. You are required to come to all class-
meetings; come on time. In mathematics missing a few minutes means you will have no idea
what the rest of the lecture is about. Turn off your cell-phones during the class. Students
are expected to attend all scheduled classes and may be dropped from the course for exces-
sive (more than 5) unexcused absences. UTRGV’s attendance policy excuses students from
attending class if they are participating in officially sponsored university activities, such as
athletics; for observance of religious holy days; or for military service. Students should con-
tact the instructor in advance of the excused absence and arrange to make up missed work or
examinations.

Scholastic Integrity: As members of a community dedicated to Honesty, Integrity and Respect,
students are reminded that those who engage in scholastic dishonesty are subject to disci-
plinary penalties, including the possibility of failure in the course and expulsion from the
University. Scholastic dishonesty includes but is not limited to: cheating, plagiarism (in-
cluding self-plagiarism), and collusion; submission for credit of any work or materials that
are attributable in whole or in part to another person; taking an examination for another
person; any act designed to give unfair advantage to a student; or the attempt to commit
such acts. Since scholastic dishonesty harms the individual, all students and the integrity
of the University, policies on scholastic dishonesty will be strictly enforced (Board of Re-
gents Rules and Regulations and UTRGV Academic Integrity Guidelines). All scholastic
dishonesty incidents will be reported to the Dean of Students.

Sexual Harassment, Discrimination, and Violence: In accordance with UT System regulations,
your instructor is a “Responsible Employee” for reporting purposes under Title IX regula-
tions and so must report any instance, occurring during a student’s time in college, of sex-
ual assault, stalking, dating violence, domestic violence, or sexual harassment about which
she/he becomes aware during this course through writing, discussion, or personal disclosure.
More information can be found at www.utrgv.edu/equity, including confidential resources
available on campus. The faculty and staff of UTRGV actively strive to provide a learn-
ing, working, and living environment that promotes personal integrity, civility, and mutual
respect that is free from sexual misconduct and discrimination.

Course Drops: According to UTRGV policy, students may drop any class without penalty earning
a grade of DR until the official drop date. Following that date, students must be assigned a
letter grade and can no longer drop the class. Students considering dropping the class should
be aware of the “3-peat rule” and the “6-drop” rule so they can recognize how dropped
classes may affect their academic success. The 6-drop rule refers to Texas law that dictates
that undergraduate students may not drop more than six courses during their undergraduate
career. Courses dropped at other Texas public higher education institutions will count toward
the six-course drop limit. The 3-peat rule refers to additional fees charged to students who
take the same class for the third time.

Student Services: Students who demonstrate financial need have a variety of options when it
comes to paying for college costs, such as scholarships, grants, loans and work-study. Stu-
dents should visit the Students Services Center (U Central) for additional information. U
Central is located in BMAIN 1.100 (Brownsville) or ESSBL 1.145 (Edinburg) or can be

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reached by email (ucentral@utrgv.edu) or telephone: (888) 882-4026. In addition to financial aid, U Central can assist students with registration and admissions. Students seeking academic help in their studies can use university resources in addition to an instructor’s office hours. University Resources include the Learning Center, Writing Center, Advising Center and Career Center. The centers provide services such as tutoring, writing help, critical thinking, study skills, degree planning, and student employment. Locations are:

- Learning center: BSTUN 2.10 (Brownsville) or ELCTR 100 (Edinburg)
- Writing center: BLIBR 3.206 (Brownsville) or ESTAC 3.119 (Edinburg)
- Advising center: BMAIN 1.400 (Brownsville) or ESWKH 101 (Edinburg)
- Career center: BCRTZ 129 (Brownsville) or ESSBL 2.101 (Edinburg)

**Course Student Learning Outcomes:** After completing this course students will

1. Demonstrate in–depth knowledge of Mathematics, its scope, application, history, problems, methods, and usefulness to mankind both as a science and as an intellectual discipline.

2. Identify, formulate, and analyze real world problems with statistical or mathematical techniques.

3. Utilize technology as an effective tool in investigating, understanding, and applying mathematics.

4. Communicate mathematics effectively to mathematical and non–mathematical audiences in oral, written, and multimedia form.

**Intended Student Learning Outcomes:**

**Students completing the B.S. program in Mathematics will**

1. Demonstrate in-depth knowledge of Mathematics, its scope, application, history, problems, methods, and usefulness to mankind both as a science and as an intellectual discipline.

2. Demonstrate a sound conceptual understanding of Mathematics through the construction of mathematically rigorous and logically correct proofs.

3. Identify, formulate, and analyze real world problems with statistical or mathematical techniques.

4. Utilize technology as an effective tool in investigating, understanding, and applying mathematics.

5. Communicate mathematics effectively to mathematical and non-mathematical audiences in oral, written, and multi–media form.

The new university policy requires all email communication between the University and students be conducted through the students’ official University supplied Email account. Therefore, please use your UTRGV assigned email for any future correspondence with UTRGV faculty and staff.

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