Instructor: Paul-Hermann Zieschang

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Office Hours: Tu, Th 3:55pm - 5:55pm

Prerequisite: MATH 2318 (Linear Algebra), MATH 3350 (Intro to Math Proof), and 9 additional advanced hours of MATH, all with grades of “C” or better.


Useful Resource: https://en.wikibooks.org/wiki/LaTeX

Course Description: Students will complete a major mathematical project communicating its results in oral and written form.

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: $[90\%, 100\%]: A, [80\%, 90\%]: B, [70\%, 80\%]: C, [60\%, 70\%]: D, [0\%, 60\%]: F

- Project Preparation and Participation 20%
  - MathScienet Literature Search and Bibliography
  - LATEX Mathematical Typesetting
  - Resume Preparation using LATEX
  - Mathematics Software (as needed for the project) (Mathematica, Maple, Maxima, Sage, Matlab, Octave, Geogebra, etc.)
  - Other as per instructor

- Project Paper 40% (students cannot pass the class without completing the Project Paper)
- Project Presentation 40% (students cannot pass the class without Project Presentation)

Project Presentation Format:

1. The length of the presentation is 10 minutes with 5 minutes questions. PRACTICE!!!
2. Make sure you speak loudly.
3. Know how to pronounce foreign names.
4. Must be done using LATEX.
5. Overleaf is recommended. Check that you can download PDF file to a computer, and know how to open it with Adobe AcrobatReader, and how to make it full screen.
6. Don’t have too many slides. (around 15 slides for 10 minutes) First page: title, you name; faculty advisor’s name; Institute; Example code:
   - \title{BiCGSTAB on GPUs}{Krylov Subspaces in Practice: BiCGSTAB on GPUs}
   - \author{J. Cisneros, a. Balogh}{Jorge Cisneros\Faculty Advisor: Andras Balogh}
   - \institute[]{School of Mathematical and Statistical Sciences\The University of Texas Rio Grande Valley}
7. Don’t use \tableofcontents{}. There is no time for it.
8. Brief history, or introduction of the problem 1 page.
9. Make sure you explain everything, lie you would to someone who does not know much mathematics. Most math faculty does not understand what others are doing.
10. At least one figure on one page, can be more if needed.
11. At the end: 1 page References. Example:
   - \begin{frame}
   - \frametitle{References}
   - \footnotesize{
   - \begin{thebibliography}{99} % Beamer does not support BibTeX so references must be inserted manually as below
   - \bibitem[Smith, 2012]{p1} John Smith (2012) \newblock Title of the publication\newblock \emph{Journal Name} 12(3), 45 -- 678. \bibitem....
   - \end{thebibliography}}
   - \end{frame}
12. No need or time for sections and subsections.

**Project Report Format:**

1. Minimum 5 pages long, no maximum requirement, but longer does not necessarily mean a better grade.
2. No manipulation of font size or page margin, just default settings with \documentclass{article}
3. LaTeX Commands to use:
   (a) \title{}
   (b) \author{}
   (c) \maketitle
   (d) \begin{abstract} ... \end{abstract}
   (e) \section{Introduction} The introduction must contain history, and at the end of introduction brief explanation of what each further section will do. Reference to further section must be made using "in Section \ref{xyz} and using \label{xyz} in the title of section you are referencing to.
   (f) If you have theorems and proofs use appropriate environments.
   (g) Figures must be labeled and referenced using the labels.
   (h) Equations must be numbered, labeled and referenced using labels.
   (i) If you have a Matlab or Mathematica code include it using \appendix \section{Matlab Code or something like this}
4. No forced page breaks, no separate title page, no separate references. Everything has to be continuous.
5. No forced placement of figures. Let LaTeX do its job.
6. Must use \cite{} command for citation references.
7. Last section must be \section{Conclusion} where you summarize what your report was about.
Learning Objectives/Outcomes for the Course: After completing this course students will be able to prepare and to present a mathematical talk.

Calendar of Activities: The UTRGV academic calendar can be found at the webpage https://my.utrgv.edu/home at the bottom of the screen, prior to login. Some important dates for spring 2018 include: January 16 First day of classes; January 19 Last day to add a course or register for spring 2018; March 12 - 17 SPRING BREAK - NO classes; March 30 - 31 EASTER HOLIDAY - NO classes; April 12 Last day to drop a course; will count toward the 6-drop rule; May 2 Last day of classes; May 3 Study Day - NO class; May 4 - 10 Spring 2018 Final Exams; May 11 - 12 Commencement Ceremonies.

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. 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: Spring 2018 Module 1: February 14 - February 20; Spring 2018 Module 2: April 11 - April 17; Spring 2018 (full semester): April 11 - May 2.

Class Attendance: Students are expected to attend all scheduled classes and may be dropped from the course for excessive 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 contact 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 disciplinary penalties, including the possibility of failure in the course and expulsion from the University. Scholastic dishonesty includes but is not limited to: cheating, plagiarism (including 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 Regents 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 regulations and so must report any instance, occurring during a student’s time in college, of sexual 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 learning, 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.