Course Number and Title: CS-Math 311-501 - Topics in Applied Mathematics I
Course WEB Page: http://calclab.math.tamu.edu/docs/math311

Instructor: Dr. Jianxin ZHOU, **Office**: Blocker 641J, **Office Phone Number**: 845-2927
Office Hours: T 1:00-2:30 pm, R 2:30-4:00 pm or by Appointment
Text: Multivariable Mathematics, 4th ed., by R.E. Williamson and H.F. Trotter.
Meeting Time and Place: TR 9:35-10:50 at CE 223
Prerequisite: MATH 221, 251 or 253; MATH 308 or concurrent enrollment therein
Grading Policy: (If you are satisfied with the average of 3 tests, you may skip the final.)
3 Tests (100 pts each) = 300 pts, Homework = 100 pts, Final exam = 200 pts, Total = 600 pts.
Final Grade: $600 > A > 540 > B > 480 > C > 420 > D > 360 > F$. Curve is permitted if necessary.
*The Final Exam has been scheduled on May 8, Friday, 12:30-2:30 pm.

Weekly Schedule

Week 1	Vectors. Sections 1.1-1.4, 1.6
Week 2	Equations and Matrices. Sections 2.1A, 2.2, 2.3
Week 3	Matrices and Determinants. Sections 2.3, 2.4, 2.5
Week 4	Linear Transformations on Rn. Review for Test 1. Sections 2.5, 3.1.
Week 5	Test 1, Vector Spaces and Linear Transformations. Sections 3.2, 3.3
Week 6	Linear Transformations, Image and Null-space. Sections 3.3, 3.4
Week 7	Coordinates and Dimension. Section 3.5A-3.5C, 3.6C
Week 8	Eigenvalues, eigenvectors and diagonalization. Sections 3.6A-3.6B
Week 9	Inner products and orthogonal bases. Review for Test 2. Sections 3.7A, 3.7B. (Assign problems #12-17 on symmetric matrices.)
Week 10	Test 2. Rotations. Section 3.7C
Week 11	Series solutions to ODEs (review), Legendre polynomials, Bessel's equation and Bessel functions. Sections 14.6, 14.7 (problem #7,#8)
Week 12	Bessel functions, Fourier series. Sections 14.7, 14.8
Week 13	Fourier series, separation of variables - heat equation Sections 14.9A, 14.10A
Week 14	Heat equation, Review for Test 3. Sections 14.10A, 14.10B
Week 15	Test 3 and Review for Final.

Make-up policy: Make-ups for exams will only be given with documented University approved excuses in writing. You should inform me before an exam is missed and are required to notify me by the end of the next working day after missing an exam. **No late Homework will be accepted**.
Scholastic Dishonesty: Copying work done by others, either in-class or out of class, is an act of scholastic dishonesty and will be prosecuted to the full extent allowed by University policy. Collaboration on assignments, either in-class or out-of-class, is forbidden unless permission to do so is granted by your instructor. For more information on university policies regarding scholastic dishonesty, see University Student Rules
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Policies and Other Information: www.math.tamu.edu/teaching/operationspg.html