

Course Information

Course Number: MATH 601
Course Title: Methods of Applied Mathematics I
Section: 602
Lecture time: TR 9:35-10:50am
Lecture location: Blocker 160
Credit Hours: 3

Instructor Details

Instructor: Simon Foucart
Office: Blocker 502D
Phone: None
E-Mail: foucart@tamu.edu
Office Hours: T 8:30-9:20am, W 8:30-9:00am, R: 11:00-11:30am, and by appointment.

Course Description

Methods of linear algebra, vector analysis, and complex variables.

Course Prerequisites

MATH 308 or equivalent (with instructor's approval).

Special Course Designation

None.

Course Learning Outcomes

Upon completion of this course, students will have a working knowledge of the following linear algebra and complex variables topics.

- Linear algebra: Systems of linear equations, matrix algebra, vector spaces, linear mappings and their matrices, inner product spaces, determinants, eigenvalues and eigenvectors, diagonalization of matrices.
- Complex variables: Algebra of complex numbers, complex differentiation and the Cauchy-Riemann equations, complex integration and Cauchy's theorem, Cauchy integral formula, Taylor and Laurent series, residue theorem and how it is used to evaluate real integrals.

Textbook and/or Resource Materials

- S. Lipschutz, M. Lipson: Schaum's Outline of Linear Algebra, McGraw-Hill, 6th edition.
- M. Spiegel: Schaum's Outline of Complex Variables, McGraw-Hill, 2nd edition.
- G. Cain, [Complex Analysis](#).

Grading Policy

- Grades will be assigned on the scale A, B, C, D, F (without + or – modifiers).
- The following minimum grade is guaranteed, given the following score:
A:100%-90%, B:89%-80%, C:79%-65%, D:65%-50%, F: 49%-0%.
- The grade is based on the following items:
 - Homework (50pts). Homework problems will be assigned weekly, some of which will be graded. The graded problems will be collected at the beginning of class on the due date. Late homework will not be accepted. You are encouraged to come and see me during my office hours to obtain some help on particular questions, provided that a genuine attempt to solve them has been made.
 - Midterm Exam (50pts). Thursday, March 7th
 - Final Exam (100pts). Thursday, May 2nd.

Late Work Policy

The graded homework assignments will be collected at the beginning of class on the due date. Late assignments will not be accepted.

Work submitted by a student as makeup work for an excused absence is not considered late work and is exempted from the late work policy. See also [Student Rule 7](#) for attendance and excused absence policies.

Course Schedule

The course is delivered over the span of 15 weeks. The following weekly schedule is preliminary, with possible deviation at the instructor's discretion.

1. LA 1 (Jan 16, Jan 18)
2. LA 2 (Jan 23, Jan 25)
3. LA 3 (Jan 30, Feb 01)
4. LA 4 (Feb 06, Feb 08)
5. LA 5 (Feb 13, Feb 15)
6. LA 6 (Feb 20, Feb 22)
7. LA 7 (Feb 27, Feb 29)
8. LA 8 + Midterm (Mar 05, Mar 07)
9. CV 1 (Mar 19, Mar 21)
10. CV 2 (Mar 26, Mar 28)
11. CV 3 (Apr 02, Apr 04)
12. CV 4 (Apr 09, Apr 11)
13. CV 5 (Apr 16, Apr 18)
14. CV 6 (Apr 23, Apr 25)
15. Final Exam (May 02)

University Policies

Own device policy

As a result of the changing landscape in higher education, Texas A&M University now requires students to have access to an appropriate computer to complement course instruction. Exact requirements can be found [here](#).

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](#)).

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 the 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.

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.

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

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.