March 2025

# Advising Newsletter
# Department of Mathematics and Statistics

Dear Majors and Minors in the Department of Mathematics and Statistics:

Registration for Fall 2025 classes will begin on April 1st. To prepare for registration, all majors will meet with their advisors, and minors are also encouraged to do so. You will hear from your advisor soon regarding scheduling for your advising appointment. In advance of your appointment, please review your academic requirements page in PAWS, consider your educational and career goals, and identify potential courses for the spring semester.

Here are several department announcements that you should be aware of:

1. ***Highlights:***
   - *Course offerings:* A list of the upper- level course offerings for the fall semester may be found at the end of this letter. Note that this includes the following courses which are not offered annually: MAT 320: Complex Analysis (Papantonopoulou); MAT 341: Computational Math (Nardini); MAT 405: Topology (Clifford); MAT 430: Seminar in Dynamical Systems (Mizuhara); STA 314: Statistical Quality Control (Navard).
   - *Seminar requirement*: Math/Stat majors must attend four department colloquia in their junior year or fall semester of senior year as a prerequisite for their capstone course. All students should attempt to meet this expectation. If you should take a capstone course this spring but cannot meet the seminar requirement, please discuss this with your advisor and contact Prof. Weber.
   - *Prerequisite changes*: The following courses have updated prerequisites: MAT 205, MAT 301, MAT 303, MAT 305, MAT 310, MAT 316, MAT 326, MAT 341, MAT 351, MAT 440, STA 303, STA 304, STA 305, STA 306, STA 307, STA 308, STA 309, STA 314, STA 318, STA 370, STA 410, STA 494. Please refer to the Course Offerings on the Mathematics & Statistics Department's website for details.

2. ***Research, Internship, and Learning Assistant courses:*** The department encourages students to engage in undergraduate research under the mentorship of a faculty member, to pursue academic credit for internships, and to explore pedagogy by acting as a learning assistant. Details about these opportunities are available on the website or by contacting Prof. Weber or Prof. Liebars, and of course you are welcome to talk to your advisor or to a professor whom you would like to do research with about these options. In addition, Dr. Liebars will send an email soon regarding Learning Assistant options.

3. ***Departmental Honors***. To earn departmental honors, students must have a 3.5 GPA in mathematics and statistics courses, complete an Independent Research 493 course during the junior year or the fall of the senior year, write a thesis, and give a research talk. Interested students should reach out to a potential research mentor by their junior year to discuss possible research projects.

4. ***Study abroad:*** The department encourages students to consider study abroad opportunities. Students considering study abroad should discuss this with their advisors. Explore links from our website:
   Study Abroad and Study Away | Mathematics and Statistics at TCNJ

5. ***a) Liberal Learning Requirements (for students who enrolled Fall 2015 until Spring 2023):*** The list of Liberal Learning courses that satisfy specific domains or civic responsibilities can be found at:
   https://liberallearning.tcnj.edu/approved-courses-for-liberal-learning/
   A new search tool for identifying liberal learning courses is available here:
   Liberal Learning Course Search Tool

   ***b) College Core Requirements for Mathematics Majors - All Specializations (for students who enrolled Fall 2023 and afterward AND students changing into Major after Fall 2023)***
   The list of approved college courses for the College Core requirements can be found at:
   Approved Courses for College Core | The College Core (tcnj.edu)

6. ***Waitlists and seat reservations***. Please look for an email from Records and Registration about the new collegewide wait list process.
   Some courses have seat reservations to help ensure that students from different specializations and majors can take the course. If you are unable to register for an open section due to seat reservations, please try to register for another section of the course.

7. ***Minors****:* Students with minors should plan their schedule so that they can complete the minors, if possible, before their last TCNJ semester. A few students have experienced problems where a required course for the minor conflicts with the required capstone for their major.

8. ***Required units for graduation****:* As you plan your schedule, please remember that in addition to completing the specific course requirements for Liberal Learning/ College Core and the major, you must complete 32 course units to graduate.

9. ***Computer Science courses***: Math majors interested in taking upper level computer science courses or pursuing a Computer Science minor need to take CSC 270 or the half-unit course CSC 271. Students interested in taking this course this spring should contact Dr. Salgian (Chair of CS).

10. ***Differential Equations***. Students considering the Applied Mathematics specialization should take MAT 326: Differential Equations as early as possible in their college career, ideally no later than the end of the sophomore year.

11. ***Math Secondary Ed Program Changes:*** The MAT 310 requirement has been removed. One of the MAT/STA options is now a choice from MAT 310, MAT 316, or MAT 326.

12. ***Preparing for future Capstone Courses****:* Students should plan their schedules so that they meet the prerequisites listed for their capstone course. In addition, all students must attend four seminar/colloquium presentations in their junior and senior years prior to enrolling in the capstone course. Please consult the appropriate webpage for your specialization, paying special attention to Options and Correlates; your four year planner, Checklist for graduation, Science Requirements and other important information:
    - For Applied Mathematics Specialization Students:
      Mathematics (Applied Mathematics specialization) | Mathematics and Statistics at TCNJ
    - For Mathematics Specialization Students:
      Mathematics (Mathematics specialization) | Mathematics and Statistics at TCNJ

- For Data Science and Statistics Specialization Students:
  Mathematics (Data Science and Statistics) | Mathematics and Statistics at TCNJ

- For Mathematics Secondary Education Students:
  Mathematics Secondary Education | Mathematics and Statistics at TCNJ

13. ***Change in frequency of course offerings starting Fall 2025:***
    - The following courses will be offered in Fall only:
      • MAT 305 Abstract Algebra
      • MAT 351 Geometry
    - The following courses will be offered in Spring only:
      • MAT 301 Number Theory
      • STA 305 Regression Analysis
      • MAT 310 Real Analysis
    - The following courses will occasionally be offered:
      • STA 303: Design of Experiments
      • STA 304: Sampling and Non-Parametric Statistics
      • STA 318: Operations Research
      • STA 404: Computational and Bayesian Statistics

We wish you a successful registration session. Please write or see us if you have any questions!
Sincerely,

Dr. Su Weber
Chair
Department of Mathematics and Statistics

## Upper Level Course Offerings for Fall 2025

MAT 305: Abstract Algebra (Fall only)
MAT 316: Probability (Fall only)
**MAT 320: Complex Analysis ***
MAT 326: Differential Equations (every semester)
**MAT 341: Computational Math ***
MAT 351: Geometry (Fall only)
**MAT 405: Topology ***
**MAT 430: Seminar in Dynamical Systems ***
MTT 380: Methods of Teaching Mathematics I (Fall only)
MTT 390: Methods of Teaching Mathematics II (Fall only)
**STA 314: Statistical Quality Control ***

*** Bold** indicates a course that is not offered every year

## Tentative List of Upper-Level Courses for Spring 2026

MAT 301: Number Theory (Spring only)
MAT 310: Real Analysis (Spring only)

MAT 326: Differential Equations
**MAT 331: Numerical Analysis ***
**MAT 370: Topics in Mathematics ***
MAT 497: Topics in Secondary Mathematics (Spring only)
MAT 498: Mathematics Capstone (Spring only)
MTT 490: Clinical Practice II
SED 498: Collaborative Capstone for Professional Inquiry
STA 305: Regression Analysis (Spring only)
**STA 307: Data Mining and Predictive Modeling ***
STA 498: Statistics Capstone (Spring only)

*** Bold** indicates a course that is not offered every year