October 2016

**Fall 2016 Advising Newsletter  
Department of Mathematics and Statistics**

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

Registration for Spring 2017 classes will start November 1st. We cannot emphasize enough the importance of meeting with your advisor to discuss your academic plans, progress, and career goals. To encourage you, every student who meets with their advisor will be entered to win a **$25 gift card** from the bookstore. To enter the raffle, please pick up an entry form when you meet with you advisor. Fill out the information and drop the form into the box in the department office. We’ll draw and announce the winner once registration is over. If you haven’t met with advisor yet, please reach out to them to arrange a meeting. Good luck in the drawing!

Here are a number of general department announcements that you should be aware of:

1. *Recent Curriculum Changes*:
   * *Sophomore/Junior Seminar:* The department is offering a .5 unit course MAT 270 to introduce students to topics not normally seen in the foundational courses of the curriculum, career opportunities, research methods, and the use of math/stat software.
   * *Applied Mathematics Specialization:* MAT 370: Computational Mathematics will now count towards the computing requirement. Applied math students can now fulfill the requirement by taking CSC 220/MAT 370 instead of CSC 220/230.
   * *Statistics Major:* Students can now take any 300/400 level STA courses to satisfy the 3.0 course units of statistics options for the major.
   * *MAT 265: Introduction to Financial Mathematics* is now officially listed in the course catalog (it was previously offered as STA 270). It also counts as a course for the Actuarial and Financial Risk Minor.
   * *Internships:* The department now offers students the opportunity to earn academic credit for internships with the courses MAT 299/399, STA 299/399. Please see the department webpage for details and contact internship coordinators Dr. Conjura and Dr. Ochs for more information.
2. *Waiting Lists.* The Department will again have a waiting list for all closed classes. Once your registration time opens up, if a class is closed, you should fill out the Google wait list form (the link is at the top right of our web site). As students change courses, and spots open up in closed classes, the Department will fill the spots with students from the wait-list. The wait list should be used only when there is a closed section that you need to enroll in and there is no open section that fits your schedule.
3. *Seat Reservations*: Some courses, such as MAT 128, MAT 229, and MAT 326, have seat reservations to help ensure that students from different specializations and majors can take the course. At registration, a course might be listed as open, but because of seat reservations, PAWS might not let register for the course. If you experience this, please try to register for another section of the course. If none fit your schedule, please let us know by filling out the waitlist. We will do our best to see if the problem can be solved.
4. *Differential Equations.* All students considering the Applied Mathematics specialization should take MAT 326: Differential Equations as early as possible in their college career, and if possible, no later than the end of their sophomore year. We have reserved seats in the course for sophomore math majors (any specialization).
5. *Capstone Courses Requirements:* Each specialization’s capstone course has prerequisites. Please ensure that you take the following before you take the capstone course:
   * For Applied Mathematics: Senior Standing and completion of MAT 310, MAT 326, CSC 220 (or CSC 250), and four 300/400 math options.
   * For Mathematics: Senior Standing, and completion of MAT 128, 200, 205, 229, 305, and 310, and at least one 400-level MAT course.
   * For Statistics: Senior Standing, and completion of CRI 215, STA 305, MAT 316, and two other 300-level STA courses.
6. *Capstone Courses*: All senior Mathematics and Statistics majors are required to complete a capstone course (MAT/STA 498). These courses are only offered in the Spring semester. When planning your fall schedule, you should ensure that your schedule will allow you to take the capstone course in the spring. Also, students who expect to graduate in Fall 2017 will need to take the capstone course in the Spring 2017 semester. Education students take the capstone course that accompanies their student teaching experience which can be done in either semester. Please make sure that you have completed the necessary prerequisites for the capstone. Remember that one of the prerequisites for the capstone is to attend four seminar/colloquium presentations in your junior and senior years prior to taking the capstone course. Students currently enrolled in a capstone will be giving presentations at the end of this semester. Other students, especially juniors, are encouraged to attend.
7. *Departmental Honors.* Departmental honors are awarded by our department at graduation and appear on one’s transcript. They are independent of the College’s Honors Program, and the Latin honors (*summa cum laude*, …) awarded at graduation. To earn departmental honors, students must have a 3.5 GPA in mathematics and statistics courses and complete the following:
   * A student must engage in independent research during their junior or senior year. The student should successfully complete an Independent Research 493 course during a semester they spend on-campus, and prepare a paper which will be due the middle of their last (graduating) term. A presentation (which we envision being a 40 minute talk, perhaps during a lunch period) will be given in the two week period following the submission of the paper. The members of the student's Honors Committee will be present, and be given ample opportunity to ask the students questions about their research to gauge their level of understanding.

There will be Honors presentations in April in the department. Students considering departmental honors should attend these presentations.

1. *Sections of Courses*. The following list shows the currently anticipated number of sections to be offered for the upper level courses in the major. The list of all regular offerings can be found on the course offering page of our web site: <http://mathstat.pages.tcnj.edu/information-for-students/courses-2/courses/> . The math/stat options for the 2017-18 academic year have not yet been decided, but will be chosen by January.

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| *Spring 2017 Semester (# of sections)* | |
| **MAT 270: Sophomore/Junior Seminar (1)**  MAT 301: Number Theory (2)  MAT 305: Abstract Algebra (1)  **MAT 310: Real Analysis (1)**  **MAT 315: Topics in Linear Algebra\* (1)**  MAT 316: Probability\* (2) | MTT 390: Methods of Teaching Mathematics  II (1)  MTT 490: Student Teaching (as needed)  **STA 303: Design of Experiments (1)**  **STA 318: Operations Research\* (1)** |
| MAT 326: Differential Equations (2)  MAT 351: Geometry (1)  **MAT 451: Seminar in Algebra  (Group Theory) (1)**  MAT 498: Capstone | STA 498: Capstone (1) |

***BOLD*** *= A course not offered every semester or in the Spring semester.  
 \*= an Applied Mathematics Options course*

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

Sincerely,

Professor Thomas Hagedorn Professor Cathy Liebars  
Chair Associate Chair  
Department of Mathematics and Statistics Department of Mathematics and Statistics

**MAT 270: Sophomore/Junior Seminar Description**

**Spring 2017**

Instructor:  Professor Steffen Marcus

Meeting Time:  Tuesdays: 11-12:20

Description:  The department will offer a once-a-week .5 course unit pass-fail course in the Spring 2017 semester to introduce mathematics and statistics majors to topics not often seen elsewhere in the foundational courses. The seminar will present a series of talks, discussions and group work sessions that:

1. Provide an introduction to various special topics in mathematics and statistics
2. Introduce students to the use of computer technology in math/statistics
3. Provide students with information about mathematics and statistics careers
4. Introduce students to research methods and topics in mathematics and statistics offered in the department.

Workload: Students will be expected to attend class, participate in discussions and group work throughout the semester, and give short prepared presentations about various topics investigated in class.

Major Credit:  The course will count as an elective course towards graduation, but does not count as one of the major’s mathematics or statistics options.