October 2017

**Advising Newsletter  
Department of Mathematics and Statistics**

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

Registration for Spring 2018 classes will start November 7th. 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. *Highlights and recent curricular changes:*
   * *Sophomore/Junior Seminar:* The department will again be 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 computers.
   * *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.
   * *MAT 265: Introduction to Financial Mathematics* will be offered this spring. It counts for the Actuarial and Financial Risk Minor.
   * *MAT 255: Perspectives on the Development of Mathematics*, currently only offered in the fall, will be moved to the spring semester beginning Spring 2019. The next time this course will be offered is in Spring 2019. If anyone thinks they absolutely need to take this course in Fall 2018, please see Dr. Liebars.
   * *Computer Science courses*: Students interested in taking upper level computer science courses or pursuing a Computer Science minor should consider the new Computer Science course CSC 271: Discrete Structures of Computer Science for Math Majors. The course meets once a week and is worth .5 course units and is for students who have taken MAT 200. Completion of this course allows students to register for CSC courses that have CSC 270 as a prerequisite. Interested students should contact Prof. Salgian ([salgian@tcnj.edu)](mailto:salgian@tcnj.edu)) in the CS department. Depending on demand, the current expectation is that the course will run in the Fall semester.
   * *Internships:* The department now offers students the opportunity to earn academic credit for internships with the courses MAT 299/399, STA 299/399, and MTT 299. For more information, please see the department webpage for details and contact internship coordinators Dr. Conjura, Dr. Ochs, and Dr. Liebars (for MTT 299).
   * *MAT 497, Topics in Secondary Mathematics from an Advanced Viewpoint* is a new course that will be a requirement for Math Secondary Education majors entering the major as of Fall 2017. It will be an option for all other Math Secondary Education majors.
   * Students who will be taking *MTT 390: Clinical Practice I* (formerly JFE) after Fall 2018 will need to take Clinical Practice I and II (formerly Student Teaching) in sequence. We will offer MTT 390 (part of Clinical Practice I) in the spring for the last time in Spring 2018. It will not be offered again until Fall 2019. If anyone thinks they absolutely need to take this course in Fall 2018, please see Dr. Liebars.

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/> .

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| *Spring 2018 Semester (# of sections)* | |
| **MAT 265: Introduction to Financial  Mathematics (1)**  **MAT 270: Sophomore/Junior Seminar (1)**  MAT 301: Number Theory (2)  MAT 305: Abstract Algebra (1)  **MAT 310: Real Analysis (2)**  MAT 316: Probability\* (2)  **MAT 320: Complex Analysis (1)**  MAT 326: Differential Equations (2)  **MAT 331: Numerical Analysis\* (1)**  MAT 351: Geometry (1) | **MAT 451: Seminar in Algebra  (Representation Theory) (1)**  MAT 498: Capstone (2)  MTT 390: Methods of Teaching Mathematics  II (1)  MTT 490: Clinical Practice II (as needed)  SED 498: Math Secondary Ed Capstone (1)  **STA 306: Applied Multivariate Analysis (1)**  **STA 307: Data Mining and Predictive   Modeling\* (1)**  STA 498: Capstone (1) |

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

The tentative list of math/stat options for the 2018-19 academic year is:

* + Fall 2018: MAT 331: Mathematical Biology, MAT 451: Group Theory, MAT 454: Partial Differential Equations, STA 303: Design of Experiments
  + Spring 2019: MAT 315: Topics in Linear Algebra, MAT 370: Cryptography and Coding Theory, MAT 453: Seminar in Real Analysis, STA 306: Applied Multivariate Analysis, STA 370: Bayesian and Computational Statistics.

1. *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.
2. *Seat Reservations*: Some courses 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 you can be enrolled.
3. *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 applied math students and all sophomore math majors.
4. *Capstone Courses Requirements:* The prerequisite’s for the Applied Mathematics, Mathematics and Statistics capstones are:
   * For Applied Mathematics: Prerequisites: Senior Standing and completion of MAT 310, MAT 326, CSC 220 (or CSC 250), and two 300/400 MAT or STA options. Corequisites: Two additional 300/400 MAT or STA options.
   * For Mathematics: Prerequisites: Senior Standing, and completion of MAT 305, 310, one MAT 400-level course and one additional 300/400-level MAT course. Corequisites: Two additional MAT 300/400 courses.
   * For Statistics: Senior Standing, and completion of MAT 316.
5. *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 2018 will need to take the capstone course in the Spring 2018 semester. Education students take the capstone course that accompanies Clinical Practice II. 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 the Spring semester. Other students, especially juniors, are encouraged to attend.
6. *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.

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