March 2017

Spring 2017 Advising Newsletter
Department of Mathematics and Statistics

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

Registration for Fall 2017 classes will take place April 4-14th and advising is now starting. I cannot emphasize enough the importance of meeting with your advisor to discuss your academic plans, progress, and career goals. To encourage you to meet with your advisor, every non-graduating student (so seniors graduating this Spring aren't eligible, sorry!) 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 your 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 have already met with your advisor, you can pick up the form in the office. If you haven't set up an advising appointment yet, please contact your advisor. Good luck in the drawing!

We have listed all this advising information on the math/stat website under "advising information."

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

1. *Recent Curriculum Changes:*
    - *B.S. Degree:* The state of New Jersey has approved the department's proposal to change our degree programs from B.A. degree programs to B.S. degree programs. This change will be implemented for all students graduating in Fall 2017 and thereafter.
    - *Math Options:* MAT 370: Combinatorics and MAT 370: Computational Mathematics are two math option courses offered in Fall 2017 that are only offered occasionally. Please consider these very interesting courses as you design your schedule. MAT 331: Numerical Analysis will be offered in Spring 2018, instead of the Fall 2017 semester originally listed. It takes the place of Computational Mathematics, which is now offered in the Fall semester.
    - *Math 400 level courses in 2017-18:* MAT 405: Topology and MAT 454: Applied Dynamical Systems will be offered in the fall. MAT 451: Seminar in Algebra (Representation Theory) will be offered in the Spring.
    - *Statistics Options:* STA 304: Sampling and Nonparametric Statistics and STA 370: Bayesian and Computational Statistics will be offered in the Fall 2017 semester. STA 307: Data Mining will be offered in Spring 2018.
    - *Computer Science CSC 270 prerequisite:* The computer science course CSC 270 is a prerequisite for many upper level CSC courses. CSC 270 has significant content overlap with MAT 200 but is not the same course. The CS department has agreed to waive the CSC 270 prerequisite for students who have taken MAT 200 and who complete a .25 independent study course from the CS department focusing on the topics in CSC 270 not covered in MAT 200.
    - *Math Specialization 400-level requirement:* The 400-level requirement for students in the math specialization has been clarified. Students need to complete two course units of MAT

courses at the 400-level. These courses must be non-independent work courses with a number less than 490.

- *Calculus Placement Criteria*: To meet the MAT 125/127 Calculus prerequisite, students must now meet one of the following: a) earn a 630 on the math SAT or a 28 on the math ACT exam; b) pass a Precalculus course (with a grade of at least C) at another college or university; c) earn a 50 on the Collegeboard CLEP Precalculus exam; or d) pass a credit-by-examination Precalculus test.

2. *Sections of Courses*. The following list shows the currently anticipated number of sections to be offered for the upper level departmental courses. 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 courses listed in bold are courses that were not offered during the current 2016-17 year or are being offered in a new semester. Please take advantage of the opportunity to take them!

Fall 2017 Semester (# of sections)	***Spring 2018 Semester (# of sections)***
MAT 301: Number Theory (1)	MAT 301: Number Theory (2)
MAT 305: Abstract Algebra (2)	MAT 305: Abstract Algebra (1)
MAT 310: Real Analysis (1)	MAT 310: Real Analysis (1)
MAT 316: Probability* (1)	MAT 316: Probability* (2)
MAT 326: Differential Equations (1)	MAT 326: Differential Equations (2)
	MAT 320: Complex Analysis (1)
	MAT 331: Numerical Analysis* (1)
MAT 351: Geometry (1)	MAT 351: Geometry (1)
MAT 370-01: Topics in Mathematics (Combinatorics) (1)	
MAT 370-02: Topics in Mathematics (Computational Mathematics*) (1)	
MAT 405: Topology (1) **Topology (1)**	**MAT 451: Seminar in Algebra (Representation Theory) (1)**
MAT 454: Seminar in Applied Mathematics (Applied Dynamical Systems)* (1)	MAT 498: Capstone (2)
MTT 380: Methods of Teaching Mathematics I (1)	MTT 390: Methods of Teaching Mathematics II (1)
MTT 490: Student Teaching (as needed)	MTT 490: Student Teaching (as needed)
STA 304: Sampling and Nonparametric Statistics (1)	STA 306: Applied Multivariate Analysis (1)
STA 305: Regression Analysis (2)	**STA 307: Data Mining (1)**
STA 370: Bayesian and Computational Statistics (1)	
STA 410: Mathematical Statistics (1)	STA 498: Capstone (1)

* indicates an Applied Mathematics Option

3. *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.

4. *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.

5. *Differential Equations*. All students in the Applied Mathematics specialization, and all students considering switching to the Applied Mathematics specialization should take MAT 326: Differential Equations as early as possible in their college career. It should be taken no later than the end of their sophomore year. We have reserved some seats in the course for applied math students and sophomore math majors (any specialization).

6. *Capstone Courses Requirements:* Each specialization's capstone course has prerequisites. Please ensure that you take the following courses before the semester 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.

7. *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 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.

8. *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 three Honors presentations in April in the department. Students considering departmental honors should attend these presentations.

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

Sincerely,

Professor Hagedorn
Chair, Department of Mathematics and Statistics