

MATHEMATICS MAJOR: APPLIED MATHEMATICS SPECIALIZATION

FRESHMAN YEAR				<u>UNITS</u>
<i>Fall:</i>	MAT	099	Orientation for Math/Stat Majors	0
	MAT	127	Calculus A (LL)	1
	CSC	220	Computer Science I (or CSC 250) ¹	1
	FSP	16x	First Seminar (LL)	1
	-----	----	Second Language ³	$\frac{1}{4}$
				4
<i>Spring:</i>	MAT	128	Calculus B	1
	MAT	200	Discrete Mathematics	1
	WRI	102	Academic Writing ²	1
	-----	----	Second Language ³	$\frac{1}{4}$
				4
SOPHOMORE YEAR				
<i>Fall:</i>	MAT	229	Multivariable Calculus	1
	MAT	205	Linear Algebra	1
	MAT/STA		Second course of computer science	1
	/CSC		requirement ¹ or liberal learning ⁵	
	-----	----	Second Language ³	$\frac{1}{4}$
				4
<i>Spring:</i>	MAT	326	Differential Equations	1
	-----	----	Science (LL) ⁴	1
	STA	215	Statistical Inference	1
	MAT	2xx	Sophomore Seminar	.5
	-----	----	Liberal Learning (LL)	$\frac{2}{4}$
				4.5
JUNIOR YEAR				
<i>Fall:</i>	MAT	310	Real Analysis	1
	-----	----	MAT/STA Option ⁵	1
	-----	----	Liberal Learning (LL)	$\frac{2}{4}$
				4
<i>Spring:</i>	-----	----	MAT/STA Option ⁵	1
	-----	----	MAT/STA Option ⁵	1
	-----	----	Liberal Learning (LL)	1
	-----	----	Elective	$\frac{1}{4}$
				4
SENIOR YEAR				
<i>Fall:</i>	-----	----	400 level MAT/STA Option ⁵	1
	-----	----	MAT/STA Option ⁵	1
	-----	----	Elective	1
	-----	----	Liberal Learning (LL)	$\frac{1}{4}$
				4

<i>Spring:</i>	-----	----	MAT/STA Option ⁵	1
	MAT	498	Applied Mathematics Capstone ⁶	1
	-----	----	Electives	<u>1.5</u>
				3.5

TOTAL REQUIRED FOR GRADUATION: 32 UNITS

NOTE: The official major requirements, including retention and graduation grade requirements, can be found in the Undergraduate Bulletin and on the department website.

¹ Students may take either a) CSC 220 (Computer Science I) **and** either CSC 230 (Computer Science II or MAT 341: Computational Mathematics; or b) CSC 250 (Accelerated Computer Science I and II). Students are highly encouraged to take the Computer Science correlate as early as possible in their academic career. Note that a student who takes MAT 341 for the computer requirement can also count this as 1 of the 6 MAT/STA Options, but it cannot count towards the computational mathematics depth requirement.

² You may be able to be exempted from WRI 102. See <http://www.tcnj.edu/~writing/students/placement/index.html> for details.

³ If continuing in the same language as studied in high school, you must complete the language requirement at the 103 level or higher. Also, if you took three or more years of a language in high school and continue with this language and you are placed at the 101 level, then the 101 level course will NOT count towards the 32 units required for graduation.

⁴BIO 201, CHE 201, or PHY 201.

⁵ Majors are required to take 6 math/stat options. These courses need to be chosen to meet the following requirements:

- Three Applied math courses (see PAWS for the list)
- Two of the courses must be chosen to meet the major's depth requirement. See the math website or your Academic Requirements report in PAWS for details. Note these courses can (but don't have to) overlap with your three Applied math courses
- At least one course must be a 400-level Applied math course (can fulfill in Depth Requirement – see Applied Mathematics page on Math/Stat website or PAWS, and must fill 1 of the 3 Applied math courses)
- At most two of the six courses can be STA 300/400-level courses and at most one non MAT/STA course from the courses on the depth requirement list.
- Non MAT/STA courses do not count as Applied Math courses.
- Students can take at most one course unit of independent study, guided study, or independent research as one of the six course units. Regardless of the topic, this independent work course does not count as an applied math options course. Please note that when taking an independent study, guided study, or independent research course, a student's course load should not be more than 4.5 course units. Independent study, guided study, or independent research courses may not be taken in order to improve a grade, or to replace a course that a student failed to sign up for.

⁶ In their senior year, majors must complete the capstone experience. The capstone experience is concerned with oral and written communication of in-depth mathematics and serves as a summative experience for the Mathematics major.

Revised: 6/2019