The College of New Jersey
Department of Mathematics and Statistics

Fall 2020

**Mathematics Major: Data Science Specialization**

**Freshman Year** Units

 *Fall*: MAT 099 Orientation for Math/Stat Majors 0

 MAT 127 Calculus A (LL) 1

 CSC 220 Computer Science I 1

 FSP 1xx First Seminar (LL) 1 1

 ----- --- Liberal Learning (LL) 1

 4

 *Spring:* MAT 128 Calculus B 1

 MAT 200 Discrete Mathematics 1

 CSC 230 Computer Science II 1

 WRI 102 Academic Writing3 1

 4

**Sophomore Year**

 *Fall* MAT 205 Linear Algebra 1

 STA 215 Stastistical Inference 1

 ----- --- Liberal Learning (LL) 1

 ------ --- Second Language2 1

 4

 *Spring:* MAT 229 Multivariable Calculus 1

 STA 306 Multivariate Statistics 1

 MAT 275 Sophomore Seminar 0.5

 ------ --- Second Language2 1

 ------ ---- Liberal Learning (LL) 1

 4.5

**Junior Year**

 *Fall:* STA 305 Regression Analysis 1

 STA 370 Statistical Software Development 1

------ --- Second Language2 1

 ------ --- Liberal Learning (LL) 1

 4

 *Spring:* MAT 341 Computational Mathematics 1

 STA 307 Data Mining 1

 ------ --- Laboratory Science (LL) 1

 ------ --- Liberal Learning (LL) 1

 4

 **Senior Year**

 *Fall:*  MAT/STA 3-- Mathematics/Statistics Option5 1

 STA 404 Computational and Bayesian Statistics 1

 ------ --- Liberal Learning (LL) 1

 ------ --- Elective 1

 4

 *Spring:* MAT/STA 3-- Mathematics/Statistics Option5 1

 STA/CSC 498 Data Science Capstone 1

 ------ --- Liberal Learning (LL) 1

 ------ ---- Elective 0.5

 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 FSP 1xx will also count as a Liberal Learning requirement. The xx in 1xx is used to designate the Liberal Learning area satisfied by the course.

2 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.

3 If you are exempted from WRI 102, you must take another writing intensive course in its place. However, some major courses or Liberal Learning courses you take may fulfill the writing requirement.

4 Must be a natural science course that counts for a science major with an associated lab requirement.

5 All STA and MAT options must come from approved list that follows. Only one course unit of independent work from STA 39x/49x or MAT 39x/49x (in addition to the capstone) may count toward requirements.

Revised: ---- 2020