The College of New Jersey
Department of Mathematics and Statistics

Fall 2021

**Mathematics Major: Statistics Specialization**

**Freshman Year** Units

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

 MAT 127 Calculus A (LL) 1

 STA 215 Statistical Inference 1

 FYW 102 Academic Writing1 1

 ----- --- Second Language2 1

 4

 *Spring:* MAT 128 Calculus B 1

 MAT 200 Discrete Mathematics 1

 FYS 1xx First Seminar (LL) 3 1

 ------ --- Second Language2 1 4

**Sophomore Year**

 *Fall* MAT 205 Linear Algebra 1

 MAT 229 Multivariable Calculus 1

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

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

 4

 *Spring:* STA 3-- Statistics Option5 1

 ------ ---- Science (LL) 4 1

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

 MAT 275 Sophomore Seminar .5

 CRI 215 Data Management & Analysis 1

 4.5

**Junior Year**

 *Fall:* MAT 316 Probability 1

 STA 305 Regression Analysis 1

 ------ --- Science (LL) 4 1

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

 4

 *Spring:* STA 410 Mathematical Statistics 1

 STA 3-- Statistics Option5 1

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

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

 4

 **Senior Year**

 *Fall:*  STA 3-- Statistics Option5 1

 MAT/STA 3-- Mathematics/Statistics Option5 1

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

 ------ --- Elective 1

 4

 *Spring:* STA 498 Statistics Capstone 1

 MAT/STA 3-- Mathematics/Statistics Option5 1

 ------ --- Elective 1

 ------ ---- Elective .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 If you are exempted from FYW 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.

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 FYS 16x will also count as a Civic responsibility, depending on its course number.

4 Must be a natural science course that counts for a science major, and at least one of the sciences courses must involve 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.

Mathematics and Statistics Options

Statistics:

 STA 303 Design of Experiments

 STA 304 Sampling and Nonparametric Statistics

 STA 306 Applied Multivariate Analysis

 STA 307 Data Mining and Predictive Modeling

 STA 314 Quality Control

 STA 318 Operations Research

 STA 370 Topics in Statistics

 STA 391 Independent Study in Statistics

 STA 392 Guided Study in Statistics

 STA 393 Independent Research in Statistics

 STA 399 Internship in Statistics

 STA 401 Bayesian and Computational Statistics

 STA 494 Seminar in Statistics

Mathematics: Can be any 300- or 400-level MAT course not required for the Statistics specialization

Revised: ---- 2018