The College of New Jersey Mathematics and Statistics Department

2025-2026 Academic Year

Mathematics Major: Mathematics Specialization

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| **Freshman Year** |  | Units |
| *Fall:* MAT 099 | Orientation for Math/Stat Majors | 0 |
| MAT 127 | Calculus A (LL) | 1 |
| MAT 203/MAT 270 | Introduction to Mathematical Computing | 1 |
| FYS 16x | First Year Seminar | 1 |
| ------ ---- | Second Language2 | 1 |
|  |  | 4 |
| *Spring:* MAT 128 | Calculus B (LL) | 1 |
| MAT 200 | Discrete Mathematics | 1 |
| ------ ---- | College Core | 1 |
| ------ ---- | Second Language2 | 1 |
|  |  | 4 |
| **Sophomore Year** |  |  |
| *Fall:* MAT 229 | Multivariable Calculus | 1 |
| MAT 205 | Linear Algebra | 1 |
| ------ ---- | Science (LL) 3 | 1 |
| ------ ---- | Second Language2 | 1 |
|  |  | 4 |
| *Spring:* ------ ---- | Mathematics Options4 | 1 |
| ------ ---- | Mathematics Option4 | 1 |
| MAT 275 | Sophomore Seminar | .5 |
| ------ ---- | College Core/Elective | 1 |
|  |  | 3.5 |
| **Junior Year** |  |  |
| *Fall:* ------ ---- | Mathematics Option4 | 1 |
| MAT 305 | Abstract Algebra | 1 |
| ------ ---- | Liberal Learning (LL) | 2 |
|  |  | 4 |
| *Spring:* ------ ---- | Mathematics Options4 | 1 |
| MAT 310 | Real Analysis 6 | 1 |
| ------ ---- | Liberal Learning (LL) | 1 |
| ------ ---- | Electives | 1 |
|  |  | 4 |

**Senior Year**

|  |  |  |
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| *Fall:* ------ ---- | Mathematics Options4 | 1 |
| ------ ---- | Mathematics Options4 | 1 |
| ------ ---- | Electives | 1.5 |
|  |  | 3.5 |
| *Spring:* MAT 498 | Capstone5 | 1 |
| ------ ---- | Electives | 2 |
|  |  | 3 |
|  | Total Required for Graduation: | 30 Units |

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

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 See the department website for the list of possible courses.

4 Any MAT course at the 300/400 level (with advisement) or STA 410, with at least two 400-level MAT course units. The MAT 4xx courses must have a number between 400 and 480. One suitable science course (as indicated on PAWS) may count towards the 6 required course units of MAT 300/400 courses. Students can take at most one 300/400 level course unit of independent study, guided study, or independent research as one of the six course units, but this unit may only count as a 3xx course towards this requirement. 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.

5 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.

6 It is not a prerequisite for MAT 305: Abstract Algebra, but many students find it helpful to take

MAT 301: Number Theory before taking Abstract Algebra.

Revised: June 14, 2023

June 25, 2024