



School of Theoretical and Applied Science

Mathematics

Recommended Graduation Plan (Fall 2024)

The recommended graduation plan is designed to provide a blueprint for students to complete their degrees within four years. These plans are the recommended sequences of courses. Students must meet with their Major Advisor to develop a more individualized plan to complete their degree. This plan assumes that no developmental courses are required. If developmental courses are needed, students may have additional requirements to fulfill which are not listed in the plan.

NOTE: This recommended Graduation Plan is applicable to students admitted into the major during the 2024-2025 academic year.

Items labeled [1] through [3] are explained in the footnotes on the bottom of this file.

Course sequences that use developmental courses as prerequisites (*if applicable*):

CRWT Placement
CRWT 101 to CRWT 102
CRWT 101S to CRWT 102S

Math Placement
MATH 021/ 022 to MATH 024 to MATH 110 to MATH 121 MATH 021/022 to MATH 101-108

NOTE: Developmental courses are determined by placement testing and should be taken first. If developmental courses are needed, please follow the sequence above. See the Ramapo College Catalog for a complete list of prerequisites for each course.

First Year					
Fall Semester F24	HRS	✓	Spring Semester S25	HRS	✓
Gen Ed Quantitative Reasoning: MATH 121 - Calculus I [1]	4		CMPS 130 - Sci Problem Solving with Python or CMPS 147 – Computer Science I	4	
Gen Ed: INTD 101 - First Year Seminar	4		General Education Requirement	4	
Gen Ed: CRWT 102 - Critical Reading & Writing II	4		MATH 237 - Discrete Structures WI OR MATH 205 - Mathematical Structures WI	4	
General Education Requirement	4		MATH 122 - Calculus II	4	
			TAS Pathways Module 1: (PATH-TS1) Career Assessment/ Advising	Degree Rqmt.	
Total:	16		Total:	16	

Second Year					
Fall Semester F25	HRS	✓	Spring Semester S26	HRS	✓
MATH 225 - Multivariable Calculus	4		MATH 305 – Differential Equations	4	

MATH 262 - Linear Algebra WI	4		MATH Elective numbered above 237	4	
Gen Ed Scientific Reasoning and Math Major Requirement: PHYS 116 - Physics I w/ Calculus Lecture and PHYS 116L - Introductory Physics I Lab	4+1		General Education Requirement	4	
General Education Requirement	4		General Education Requirement	4	
TAS Pathways Module 2: (PATH-TS2) Resume/CV Writing	Degree Rqmt.		TAS Pathways Module 3: (PATH-TS3) Interview Preparation	Degree Rqmt.	
Total:	17		Total:	16	

Third Year					
Fall Semester F26	HRS	<input checked="" type="checkbox"/>	Spring Semester S27	HRS	<input checked="" type="checkbox"/>
MATH 416 - Introduction to Analysis	4		MATH Elective numbered above 237	4	
MATH Elective 300 Level or Above (possibly Math 353 [2])	4		MATH Elective 300 Level or Above	4	
Free Elective (minor, certificate, or second major requirement)	4		Free Elective (minor, certificate, or second major requirement)	4	
General Education Requirement	4		Free Elective (minor, certificate, or second major requirement)	4	
Total:	16		Total:	16	

Fourth Year					
Fall Semester F27	HRS	<input checked="" type="checkbox"/>	Spring Semester S28	HRS	<input checked="" type="checkbox"/>
MATH 432 - Abstract Algebra WI	4		Free Elective (minor, certificate, or second major requirement)	4	
MATH 441 - History of Math WI	4		Free Elective (minor, certificate, or second major requirement)	4	
Free Elective (minor, certificate, or second major requirement)	4		Free Elective (minor, certificate, or second major requirement)	4	
Free Elective (minor, certificate, or second major requirement)	4		Free Elective (minor, certificate, or second major requirement) [3]	3	
Total:	16		Total:	15	

Total Credits Required: 128 credits

Major GPA required for graduation: 2.0

WI: Writing Intensive - 3 courses required in the major.

General Education courses can be done in any order with the exception of INTD 101, CRWT and MATH. Those three general education courses will need to be done first. First Year Seminar is taken in the first

semester. Failure to complete CRWT and MATH will result in a hold when the student hits 64 credits. The following general education courses can be done in any order. For more info on these courses, please visit the [General Education program requirements website in the College Catalog](#):

- Social Science Inquiry (SOSC 110) [+W]
- Scientific Reasoning
- Historical Perspectives [+W]
- Studies in the Arts & Humanities (*CRWT 102 is a prerequisite to this course*) [+W]
- Global Awareness [+W]
- Distribution Category (Systems, Sustainability, & Society **OR** Culture & Creativity **OR** Values and Ethics) **(Must be outside of TAS)**
- Distribution Category

+W: Students transferring in with 48 or more credits are waived from these general education requirements.

Important Footnotes explaining items [1] – [3] from the tables above:

[1] See the course catalog for prerequisites for Calculus I. One of the ways to enter Calculus I is to place into it via the Calculus Placement Test called Accuplacer Advanced Algebra and Functions Test (AAF Test) at the RCNJ Testing Center. The Testing Center is open all year round. If the placement test results for a given student indicate that developmental courses are required (for instance, Precalculus, or Elementary Algebra Topics followed by Precalculus), such developmental courses may be taken as early as during the summer session(s) preceding the student's freshman year [Summer Session I (late May – late June) or Summer Session II (mid July – mid August)]. See the RCNJ Testing Center website for more details on the Calculus Placement Test.

Those mathematics majors who end up taking Precalculus, which is a 4-credit-hour course counting towards graduation credits, can count it as, for instance, the 4 HR Elective in the Fourth Year Spring in the table above.

[2] If a student wishes to take a statistics course to fulfill one of their "MATH Elective Level 300 or Above" requirements, the student is advised to take exactly one of the following: Math 353 Statistics OR Math 370 Applied Statistics, but not both. If a student takes both of these two courses, then the one taken earlier will count as a "MATH Elective Level 300 or Above" requirement, but the one taken later will be counted as a general elective, and not as a "Math elective Level 300 or above". Similarly, if a student first takes MATH 237 and later takes MATH 205, then MATH 205 will not count as a math elective, but as a general elective.

[3] If a 3-credit hour elective cannot be found in the schedule, it may be replaced by an elective (or a combination of electives) worth at least 3 credits hours total.