

B.A. in Mathematics (Education)

Academic Program Guide for New First-Year Students (Effective Fall 2018) Department of Mathematics (mathadvising@rowan.edu)

Students who entered Rowan University prior to Fall 2018 should follow the guide for their program and start year in consultation with their advisor.

Rowan University Graduation Requirements for all Majors / Degrees

- Students must complete at least 120 semester hours (sh) of coursework that apply to their Rowan University degree.
- Students must have a cumulative GPA of at least 2.0 in Rowan University coursework. (Transfer courses/credit do not count toward the RU GPA.)
- A minimum of 30 sh of coursework must be completed at/through Rowan University.
- Only grades of "D-" or above may apply to graduation/degree requirements. (Some programs may set higher minimums.)
- Students must meet the Rowan Core and Rowan Experience Requirements.
 - An individual course can potentially satisfy one Rowan Core literacy and/or multiple Rowan Experience attributes.
 - Rowan Core & Rowan Experience designations are listed in course details in Section Tally (www.rowan.edu/registrar) and may also be searched on that site under "Attributes." A list of Rowan Core courses is here: <https://confluence.rowan.edu/display/AS/Rowan+Core+Course+List>.
- Students must apply for graduation and should do so for the term in which they will complete all program requirements.

Program-Specific Graduation Requirements for this Major / Degree

- Students must receive a grade of C- or better in all courses satisfying Major requirements.

Rowan Core Requirements¹

Students must satisfy all six Rowan Core Literacies. A minimum total of 3 sh of coursework is required to satisfy each Literacy. With the exception of the 9 sh counted here for Communicative Literacy, credits attached to the courses in this section will apply elsewhere.

- (COML) Communicative Literacy: Must be met by the following three courses or their official equivalents:
- COMP 01111 College Composition I (3 sh) COMP 01112 College Composition II (3 sh) CMS 04205 Public Speaking (3 sh)
- (ARTL) Artistic Literacy *Recommendation from major:* (sh counted under Non-Program or Free Elective categories)
- (GLBL) Global Literacy *Recommendation from major:* (sh counted under Non-Program or Free Elective categories)
- (HUML) Humanistic Literacy *Recommendation from major:* (sh counted under Non-Program or Free Elective categories)
- (QNTL) Quantitative Literacy *Recommendation from major:* MATH 01130 (4 sh counted under major)
- (SCIL) Scientific Literacy *Recommendation from major:* PHYS 00220 (4 sh counted under non-program)

Subtotal of credits counted in this section: 9 sh

Rowan Experience Requirements

Students must satisfy all three Rowan Experience attributes. Credits attached to the courses in this section will apply elsewhere.

- (LIT) Broad-Based Literature Attribute *Recommendation from major:*
- (WI) Writing Intensive Attribute *Recommendation from major:* MATH 01497 (3 sh counted under major)
- (RS) Rowan Seminar Attribute² *Recommendation from major:*

Non-Program Courses (minimum 18 sh)

Courses in this section cannot be in the major department.

| Course # | Course Name | Course Attributes / Notes | Sem/Yr | Grade | Credits |
|---|---|-------------------------------|--------|--------------------|--------------------|
| PHYS 00220 | Introductory Mechanics | Satisfies Scientific Literacy | Fall/2 | >= D- | 4 |
| PHYS 00222, or PHYS 00221 or CS 04225 | Intro to Electricity & Magnetism, or Intro to Thermodynamics, Fluids, Waves & Optics or Principles of Data Structures | | Spr/2 | >= D- | 4, or 4 or 3 |
| CS 04103 | Computer Science and Programming | | Fall/1 | >= D- ³ | 4 |
| PHIL 09130 | Intro to Symbolic Logic | | Fall/1 | >= C- | 3 |
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| | | | | | Subtotal: 18 sh |

¹ The Rowan Core requirements are waived for transfer students with an earned A.A. or A.S. degree from a NJ community/county college.

² The Rowan Seminar requirement is waived for all students transferring 24 or more approved credits into Rowan University at the time of initial entry.

³ Students need a C- or better in CS 01104 to get into MATH 01332 (Numerical Analysis).

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Major Requirements (42-43 sh)

SUMMARY OF MAJOR REQUIREMENTS

- 24 sh of Foundational Courses
 - 16 sh of Mid-Level Courses for the Education Concentration
 - 2-3 sh of Education Concentration Restricted Electives
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- 42-43 sh total

FOUNDATIONAL COURSES

| Course # | Course Name | Course Designations / Notes | Sem/Yr | Grade | Credits |
|------------------|---------------------------------------|---------------------------------|--------|-------|--------------|
| MATH 03150 | Discrete Mathematics | | Spr/1 | >= C- | 3 |
| MATH 01130 | Calculus I | Satisfies Quantitative Literacy | Fall/1 | >= C- | 4 |
| MATH 01131 | Calculus II | | Spr/1 | >= C- | 4 |
| MATH 01230 | Calculus III | | Fall/2 | >= C- | 4 |
| MATH 01210 | Linear Algebra | | Fall/2 | >= C- | 3 |
| STAT 02320 | Concepts in Statistical Data Analysis | | Spr/2 | >= C- | 3 |
| MATH 01340 | Modern Algebra I | | Fall/3 | >= C- | 3 |
| Subtotal: | | | | | 24 sh |

MID-LEVEL COURSES FOR THE EDUCATION CONCENTRATION

| Course # | Course Name | Course Designations / Notes | Sem/Yr | Grade | Credits |
|------------------|-----------------------------------|-----------------------------|--------|-------|--------------|
| MATH 01232 | Mathematical Modeling | | Spr/2 | >= C- | 3 |
| MATH 01361 | Real and Complex Variables | | Spr/3 | >= C- | 3 |
| MATH 01310 | College Geometry | | Fall/3 | >= C- | 4 |
| MATH 01410 | History of Mathematics | | Spr/3 | >= C- | 3 |
| MATH 01497 | Mathematics Seminar for Educators | Satisfies WI requirement | Fall/4 | >= C- | 3 |
| Subtotal: | | | | | 16 sh |

EDUCATION CONCENTRATION RESTRICTED ELECTIVES (CHOOSE ONE OF THE FOLLOWING COURSES)

| Course # | Course Name | Course Attributes / Notes | Sem/Yr | Grade | Credits |
|----------------------------------|---|---------------------------|--------|-------|---------------|
| <input type="radio"/> MATH 01205 | Technological Tools for Discovering Mathematics | | | >= C- | 2 |
| <input type="radio"/> MATH 01332 | Numerical Analysis | | | >= C- | 3 |
| <input type="radio"/> MATH 01341 | Modern Algebra II | | | >= C- | 3 |
| <input type="radio"/> MATH 01352 | Theory of Numbers | | | >= C- | 3 |
| <input type="radio"/> MATH 03411 | Deterministic Models in Operations Research | | | >= C- | 3 |
| <input type="radio"/> STAT 02360 | Probability and Random Variables | | | >= C- | 3 |
| Subtotal: | | | | | 2-3 sh |

Free Electives for this Major/Degree (50-51 sh)

Students should choose Free Electives that satisfy any Rowan Core or Rowan Experience requirements that are not fulfilled by Major or Non-Program courses.

| Course # | Course Name | Course Attributes / Notes | Sem/Yr | Grade | Credits |
|------------------|-------------|---------------------------|--------|-------|-----------------|
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| Subtotal: | | | | | 50-51 sh |

Total Program Credits Required for this Major / Degree: 120 SH