

**BA Degree in Mathematics**  
**Comprehensive Concentration (C750)**  
Starting Fall 2018

- NOTES:** 1. This way of counting the credits is different from the Rowan Core “bubble sheet” Academic Program Guide for **New First-Year Students**.
2. Transfers in Fall 2018+: the old “one-size” B.A. and this Concentration are virtually the same, so don’t panic if you planned on the old B.A.

**FOUNDATIONAL COURSES .....20 SH**

MATH 03.150 - Discrete Mathematics (3 sh)
MATH 01.131 - Calculus II (4 sh)
MATH 01.230 - Calculus III (4 sh)
MATH 01.210 - Linear Algebra (3 sh)
STAT 02.320 - Concepts in Statistical Data Analysis (3 sh)
MATH 01.340 - Modern Algebra (3 sh)

**MID-LEVEL COURSES .....9 SH**

MATH 01.231 - Ordinary Differential Equations (3 sh)
MATH 01.330 - Introduction to Real Analysis (3 sh)
MATH 01.498 - Mathematics Seminar (3 sh, <b>WI</b> )

**RESTRICTED ELECTIVE COURSES – choose three .....9-10 SH**

MATH 01.310 - College Geometry (4 sh)
MATH 01.430 - Intro Complex Analysis (3 sh)
MATH 01.331 - Introduction to Real Analysis II (3 sh)
MATH 01.341 - Modern Algebra II (3 sh)
MATH 01.354 - Intro to Topology (3 sh)
MATH 01.332 - Numerical Analysis (3 sh)
STAT 02.360 - Probability & Random Variables (3 sh)
STAT 02.361 - Mathematical Statistics (3 sh)
MATH 03.400 - Applications of Mathematics (3 sh)
MATH 01.421 - Mathematics Field Experience
MATH 01.386 - Intro. to Partial Differential Equations (3 sh)
MATH 01.352 - Theory of Numbers (3 sh)
MATH 01.410 - History of Mathematics (3 sh)
MATH 03.411 - Deterministic Models in Operations Research (3 sh)
MATH 03.412 - Stochastic Models in Operations Research (3 sh)
STAT 02.371 - Design of Experiments: Analysis of Variance (3 sh)

**TOTAL for this page:.....38-39 SH**

**ROWAN CORE COURSES .....26 SH**

<b>Communicative Literacy (Written/Spoken)</b>	<b>9 SH</b>
Composition I	3
Composition II	3
Public Speaking	3
<b>Scientific Literacy</b>	<b>4 SH</b>
Introductory Mechanics	4
<b>Quantitative Literacy</b>	<b>4 SH</b>
Calculus I	4

<b>Humanistic Literacy</b>	<b>3 SH</b>
Choice	3
<b>Global Literacy</b>	<b>3 SH</b>
Choice	3
<b>Artistic Literacy</b>	<b>3 SH</b>
Choice	3

**NON-CORE COURSES Required for the Program:** Computer Science & Programming (4 SH), Intro to Symbolic Logic (3 SH), {Intro to Electricity & Magnetism, or Intro. Thermodynamics, Fluids, Waves, and Optics} (4 SH), LIT course (3 SH) .....**14 SH**

**Rowan Seminar (RSEM)** required for all native students and students who transfer in with less than 24 SH at the time of transfer (SH absorbed by above?) ..... **0-3 SH**

**FREE ELECTIVES** (any course counting towards a Rowan BA/BS).....**38-42 SH**

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**POOL OF RESTRICTED ELECTIVES, Depending on Your Specialization (Note: all prerequisites require a C- or better to get into said course):**

MATH 01.205 **Technological Tools for Discovering Mathematics** - Intro to Scientific Programming, Discrete MATH, and Calculus II

MATH 01.231 **Ordinary Differential Equations**- Calculus III and Linear Algebra

MATH 01.310 **College Geometry**- Discrete Math, Calculus III, Linear Algebra and Intro to Symbolic Logic

MATH 01.330 **Introduction to Real Analysis** – Discrete Math and Calculus III

MATH 01.331 **Introduction to Real Analysis II**- Introduction to Real Analysis I

MATH 01.332 **Numerical Analysis**- Intro to Scientific Programming\*\*, Calculus III, and Linear Algebra

MATH 01.341 **Modern Algebra II**- Modern Algebra I

MATH 01.352 **Theory of Numbers** - Discrete Math and Linear Algebra

MATH 01.354 **Intro to Topology**- Intro to Real Analysis I

MATH 01.386 **Introduction to Partial Differential Equations**- Ordinary Differential Equations

MATH 01.410 **History of Mathematics** - Two 300/400 level math courses that count toward the math major

MATH 01.421 **Mathematics Field Experience**- Calculus II, Probability & Random Variables and permission of instructor

MATH 01.430 **Intro to Complex Analysis**- Introduction to Real Analysis I

MATH 03.400 **Applications of Mathematics**- Calculus III, Linear Algebra, and Ordinary Differential Equations

MATH 03.411 **Deterministic Models in Operations Research** – Calculus III and Linear Algebra

MATH 03.412 **Stochastic Models in Operations Research**- Probability & Random Variables and either (Calculus III and Linear Algebra) or Deterministic Models in Operations Research

STAT 02.340 **Elements of Statistical Learning** – {Concepts in Statistical Data Analysis or Probability & Random Variables} and Linear Algebra and Intro to Scientific Programming\*\*

STAT 02.360 **Probability & Random Variables** - Discrete Math and Calculus III

STAT 02.361 **Mathematical Statistics** - Probability & Random Variables

\*\*The program now requires *Computer Science & Programming (CS 04-103)*. If you took Intro to Scientific Programming before Fall 2018, see the instructor of the course that requires a programming course

**B.A. in Mathematics – Comprehensive Concentration (C750): Suggested order to take courses**

Year <b>FRESHMEN</b>	<b>FALL – 16 sh, 17sh, 15 sh, 15sh</b> <b>Calculus I</b> (Quantitative Literacy) <b>Intro to Symbolic Logic</b> <b>College Comp I *RS</b> (Rowan Core) <b>Humanistic Literacy</b> (Rowan Core) <b>Artistic Literacy</b> (Rowan Core)	<b>SPRING – 17 sh, 16 sh, 15 sh, 12 sh</b> <b>Calculus II</b> <b>Discrete Mathematics</b> <b>College Comp II</b> (Rowan Core) <b>Computer Science &amp; Programming</b> <b>Choice</b>
<b>SOPHMORE</b>	<b>Calculus III</b> <b>Linear Algebra</b> <b>Introductory Mechanics</b> (Rowan Core) <b>Public Speaking</b> (Rowan Core) <b>Choice</b>	<b>Ordinary Diff Equations</b> <b>Concepts in Statistical Data Analysis</b> <b>Intro to Electricity &amp; Magnetism</b> (or Intro to Thermodynamics, or 2 <sup>nd</sup> CS) <b>Literature Elective</b> <b>Global Literacy</b> (Rowan Core)
<b>JUNIOR</b>	<i>(Odd or even year?*)</i> <b>Modern Algebra I</b> <b>Math Restricted Elective*</b> <b>Choice</b> <b>Choice</b> <b>Choice</b>	<i>(Odd or even year?*)</i> <b>Intro to Real Analysis I</b> <b>Math Restricted Elective*</b> <b>Choice</b> <b>Choice</b> <b>Choice</b>
<b>SENIOR</b>	<i>(Odd or even year?*)</i> <b>Math Restricted Elective*</b> <b>Choice</b> <b>Choice</b> <b>Choice</b> <b>Choice</b>	<i>(Odd or even year?*)</i> <b>Mathematics Seminar 498 (WI)</b> <b>Choice</b> <b>Choice</b> <b>Choice</b>

\*Because some Math Restricted Electives are offered only once every two years, it may be necessary to move some of the junior and senior level courses in order to be able to take certain electives or a specific concentration. *(Odd or even year?)* Please speak with your advisor prior to taking Calculus III and Linear Algebra so that you can map out your schedule in order to be able to take any courses you sodesire.

**Note:** Students obtaining a dual major in education should meet each semester with both advisors to make sure that you are on track with both sets of courses. Many of the non-specified general education and free elective courses will be satisfied by specific education course requirements

