Rowan University BA Degree in Mathematics
THREE (3) CONCENTRATIONS
For Freshmen Entering in Fall 2017 and Spring 2018

Note to Transfers starting in Fall 2017 and Spring 2017: the old B.A. and the new "Comprehensive Concentration" are virtually the same, so don't panic if you have been planning with the old B.A.

BA Degree in Mathematics
Education Specialization ⇒ Concentration (P752)

FREE ELECTIVES (any course that counts towards a Rowan BA/BS)….. **30 or 31 SH**

GENERAL EDUCATION REQUIREMENTS and few more required by the major (see page 4)…….. **51 SH**

MATH MAJOR CORE 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)

MAJOR REQUIRED COURSES IN EDUC'N CONCENTRATION …**16 SH**

MATH 01.232 - Mathematical Modeling (3 sh)
MATH 01.361 - Real and Complex Variables (3 sh)
MATH 01.310 - College Geometry (4 sh)
MATH 01.410 - History of Mathematics (3 sh)
MATH 01.497 - Mathematics Seminar for Educators (3 sh, **WI**)

RESTRICTED ELECTIVES FOR ED – choose one ……..…...**2 or 3 SH**

MATH 01.205 - Tech. Tools for Discovering Mathematics (2 sh)
MATH 01.341 - Modern Algebra II (3 sh)
MATH 01.332 - Numerical Analysis (3 sh)
MATH 01.352 - Theory of Numbers (3 sh)
MATH 03.411 - Deterministic Models in Operations Research (3 sh)
STAT 02.360 - Probability & Random Variables (3 sh)

DCW: 25-June-2018

BA Degree in Mathematics

Comprehensive Specialization ⇒ Concentration (P750)

FREE ELECTIVES (any course that counts towards a Rowan BA/BS)….. **30 or 31 SH**

GENERAL EDUCATION REQUIREMENTS and few more required by the major (see page 4)…….. **51 SH**

MATH MAJOR CORE 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)

MATH REQUIRED COURSES IN COMP' CONCENTRATION ……..**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, **WI**)

RESTRICTED ELECTIVES for COMP' – choose three ……...**9 or 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)

BA Degree in Mathematics

Statistics Specialization ⇒ Concentration (P751)

FREE ELECTIVES (any course that counts towards a Rowan BA/BS)….. **30 or 31 SH**

GENERAL EDUCATION REQUIREMENTS and few more required by the major (see page 4)…….…… **51 SH**

MATH MAJOR CORE 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)

MATH REQUIRED COURSES IN STAT CONCENTRATION…….**9 SH**

STAT 02.360 - Probability & Random Variables (3 sh)
STAT 02.361 - Mathematical Statistics (3 sh)
MATH 01.498 - Mathematics Seminar (3 sh, **WI**)

RESTRICTED ELECTIVES for STAT – choose two from these four ……. **6 SH**

STAT 02.371 - Design of Experiments ANOVA (3 sh)
STAT 02.340 - Elements of Statistical Learning (3 sh)
MATH 03.411 - Deterministic Models in Operat'ns Research (3 sh)
MATH 03.412 - Stochastic Models in Operations Research (3 sh)

RESTRICTED ELECTIVES for STAT – choose one …….. **3 or 4 SH**

MATH 01.231 - Ordinary Differential Equations (3 sh)
MATH 01.310 - College Geometry (4 sh)
MATH 01.330 - Introduction to Real Analysis I (3 sh)
MATH 01.331 - Introduction to Real Analysis II (3 sh)
MATH 01.332 - Numerical Analysis (3 sh)
MATH 01.341 - Modern Algebra II (3 sh)
MATH 01.354 - Intro to Topology (3 sh)
MATH 01.386 - Intro. to Partial Differential Equations (3 sh)
MATH 03.400 - Applications of Mathematics (3 sh)
MATH 01.421 - Mathematics Field Experience
MATH 01.352 - Theory of Numbers (3 sh)
MATH 01.410 - History of Mathematics (3 sh)

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GENERAL EDUCATION Requirements for the Bachelor of Arts Degree in Mathematics……..51 SH

Communication Bank (Written/Spoken)…9 SH

Composition I	3
Composition II	3
Public Speaking	3

Science & Mathematics ……..14 SH

Introductory Mechanics	4
Intro. to Electricity & Magnetism OR Introductory Thermodynamics, Fluids, Waves, and Optics	4
Introduction to Scientific Programming	3
Discrete Math	3

Social and Behavioral Sciences (SBS)…6 SH

any combination of the following:

Economics	Geography
Sociology	Anthropology
Political Science	Psychology

History, Humanities and Language…….6 SH

Any course having the LIT classification	**3**
"Intro to Symbolic Logic (please note: you may not take it as P/NC)	**3**

Artistic and Creative Experience 3 SH

Any course having the ACE classification	**3**

Non-Program Electives (can include STAT 02100/02260/02261, but not STAT 023XX/024XX, or MATH) ……13 SH

Other requirements that can be satisfied by any Free Electiveor General Education course

Multi-cultural global studies (MCUL classification)

Rowan Seminar (RSEM) required for all native students and people who transfer to Rowan with fewer than 24 SH at the time of transfer

Note: To identify classes that satisfy the aforementioned classifications (SBS, ACE, LIT, MCUL, RSEM), go to http://banner.rowan.edu/reports/reports.pl?task=Section_Tally and select the classification in the Attribute: box.

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RESTRICTED ELECTIVES Depending on Your Specialization (Note: all prerequisites require a C- or better):

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

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

See also the Flow Chart

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