UNIVERSITY OF NORTH CAROLINA
CHARLOTTE
MATHEMATICS AND STATISTICS

Mathematics, B.S.

math.charlotte.edu

Degree Requirements

The B.S. in Mathematics degree consists of a minimum of 43 credit hours of approved Mathematics (MATH), Operations Research (OPRS), or Statistics (STAT) courses, one programming course in computer science (ITSC), 11 credit hours of science electives, and 18 credit hours of approved related coursework in an area outside of the department or an approved University minor from outside the department.

General Education Courses (18-26 credit hours)
For details on required courses, refer to the General Education Program. Total hours to satisfy General Education Requirements may vary as some general education requirements may be double-counted in the major with departmental approval. Please see your advisor for information.

Foreign Language (0-8 credit hours)
Students are required to demonstrate proficiency in the language of their choice through the 1202 level. For details on demonstrating proficiency refer to the College of Science Foreign Language Requirement in the Undergraduate Catalog.

Core Courses (34 credit hours)

ITSC 1212: Introduction to Computer Science
MATH 1241: Calculus I
MATH 1242: Calculus II
MATH 2164: Matrices and Linear Algebra
MATH 2167: Intro to Math Reasoning
MATH 2171: Differential Equations
MATH 2241: Calculus III
MATH 2242: Calculus IV
MATH 2688: Math Awareness Seminar
MATH 3141: Advanced Calculus of One Variable
MATH 3142: Advanced Calculus of Several Variables
MATH 3163: Introduction to Modern Algebra

Restricted Elective Courses (12 credit hours)

Select 9 credits of elective courses from MATH, STAT, or OPRS at the 3000-level or above.

Select 3 credits from:
MATH 3123: Probability and Statistics II
MATH 3181: Fundamental Concepts of Geometry
MATH 4163: Modern Algebra
MATH 4164: Abstract Linear Algebra
MATH 4181: Introduction to Topology
OPRS 3111: Operations Research: Deterministic Models

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Restricted Related Elective Courses (18 credit hours)

Courses that count towards this requirement must have a discipline prefix other than MATH, STAT, or OPRS. A minor or second major satisfies this requirement.

Capstone Project (1-6 credit hours)

MATH 3689: Mathematics Project Seminar 1 or the sequence
MATH 3790: Junior Honors Seminar 3
MATH 3791: Senior Honors Tutorial 3

Restricted Science Elective Courses (11 credit hours)

Any science course with prefix BIOL, CHEM, ESCI, GEOL, or PHYS is permissible.

Unrestricted Elective Courses

As needed to complete the 120 credit hours required for graduation.

Other Important Requirements:

Minimum 120 credit hours (all courses)

Minimum overall GPA of 2.0 (all courses)

Minimum major GPA of 2.0 (degree courses)

B.S. in Mathematics

Name: _____ Minor:_____ From AY 2024-2025

Core Courses	Semester/Year	Grade
ITSC 1212+L- Introduction to Computer ScienceI		
MATH 1241- Calculus I		
MATH 1242- Calculus II		
MATH 2164- Matrices and Linear Algebra		
MATH 2167- Introduction to Mathematical Reasoning		
MATH 2171- Differential Equations		
MATH 2241- Calculus III		
MATH 2242- Calculus IV		
MATH 2688- Mathematics Awareness Seminar		
MATH 3141- Advanced Calculus of One Variable		
MATH 3142- Advanced Calculus of Several Variables		
MATH 3163- Introduction to Modern Algebra		
MATH 3689- Senior project (or honors MATH 3790/3791)		

Restricted Elective Courses: from MATH, STAT, or OPRS at the 3000-level or above.

Course Number	Semester/Year	Grade
1.) *		
2.)		
3.)		
4.)		

Must be one of the following: MATH 3123, 3181, 4163, 4164, 4181 or OPRS 3111.

Science Electives: 11 hours of approved science courses from BIOL, CHEM, ESCI, GEOL, PHYS.

_____ _____ _____

Minor/Related Work: 18 hours

_____ _____ _____

_____ _____ _____

Check DegreeWorks for General Education and College's Foreign Language Requirements. A minimum of 120 credits are required for graduation.

Academic Plan of Study
B.S. in Mathematics

Name: _____ ID: _____

Freshman Year					
I			II		
Course ID	Course Name	Grade	Course ID	Course Name	Grade
MATH 1241	Calculus I		MATH 1242	Calculus II	
WRDS 1103/1104	Writing and Inquiry in Academic Contexts		ITSC 1212	Introduction to Computer Science	
XXXX	Theme Course		XXXX	Theme Course	
XXXX	Natural Science		XXXX	Natural Science with Lab	
FORL 1101/1201	Foreign Language or elective		FORL 1101/1201	Foreign Language or elective	

Sophomore Year					
I			II		
Course ID	Course Name	Grade	Course ID	Course Name	Grade
MATH 2241	Calculus III		MATH 2242	Calculus IV	
MATH 2164	Matrices and Linear Algebra		MATH 2167	Intro to Mathematical Reasoning	
MATH 2688	Math Awareness Seminar		MATH 2171	Differential Equations	
XXXX	Theme Course		XXXX	Theme Course	
CTCM 2530	Critical Thinking and Communication		XXXX	Science if needed	
XXXX	Related work or Minor				

Junior Year					
I			II		
Course ID	Course Name	Grade	Course ID	Course Name	Grade
MATH 3141	Advanced Calculus of One Variable		MATH 3142	Advanced Calculus of Several Variables	
MATH 3163	Intro to Modern Algebra		MATH 3 or 4xxx	Upper-level Math elective	
MATH 3 or 4xxx	Upper-level Math elective		XXXX	Related work or Minor	
XXXX	Science		XXXX	Related work or Minor	
XXXX	Related work or Minor		XXXX	Elective or as needed	

Senior Year					
I			II		
Course ID	Course Name	Grade	Course ID	Course Name	Grade
MATH 3689/3790	Math Project Seminar (or Honors)		MATH 3 or 4xxx	Upper-level Math elective	
MATH 3 or 4xxx	Upper-level Math elective		XXXX	Related work or Minor	
XXXX	Related work or Minor		XXXX	Elective or as needed	
XXXX	Elective or as needed		XXXX	Elective or as needed	
XXXX	Elective or as needed				

Color Legend

Related work or Minor

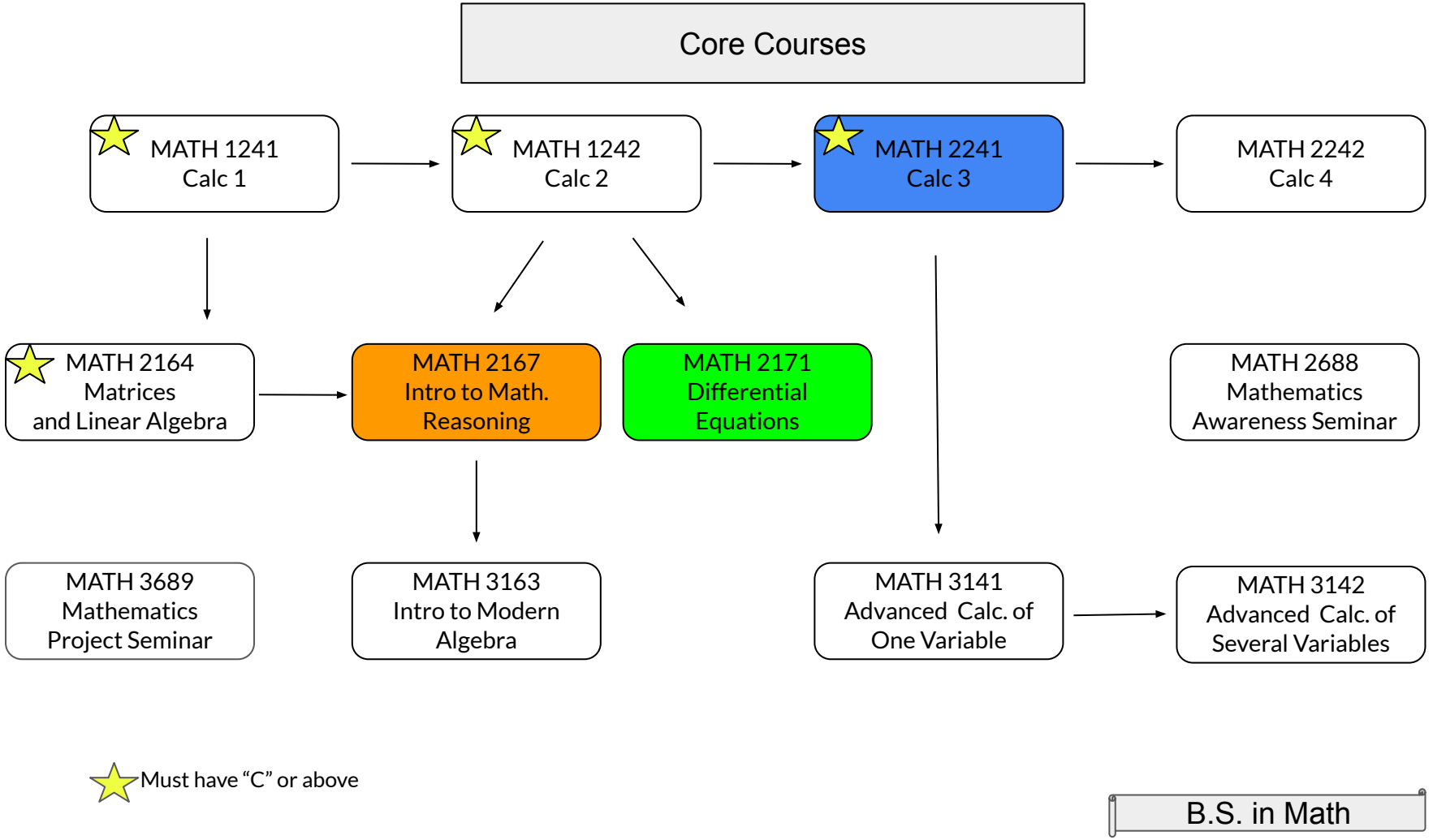
General Education

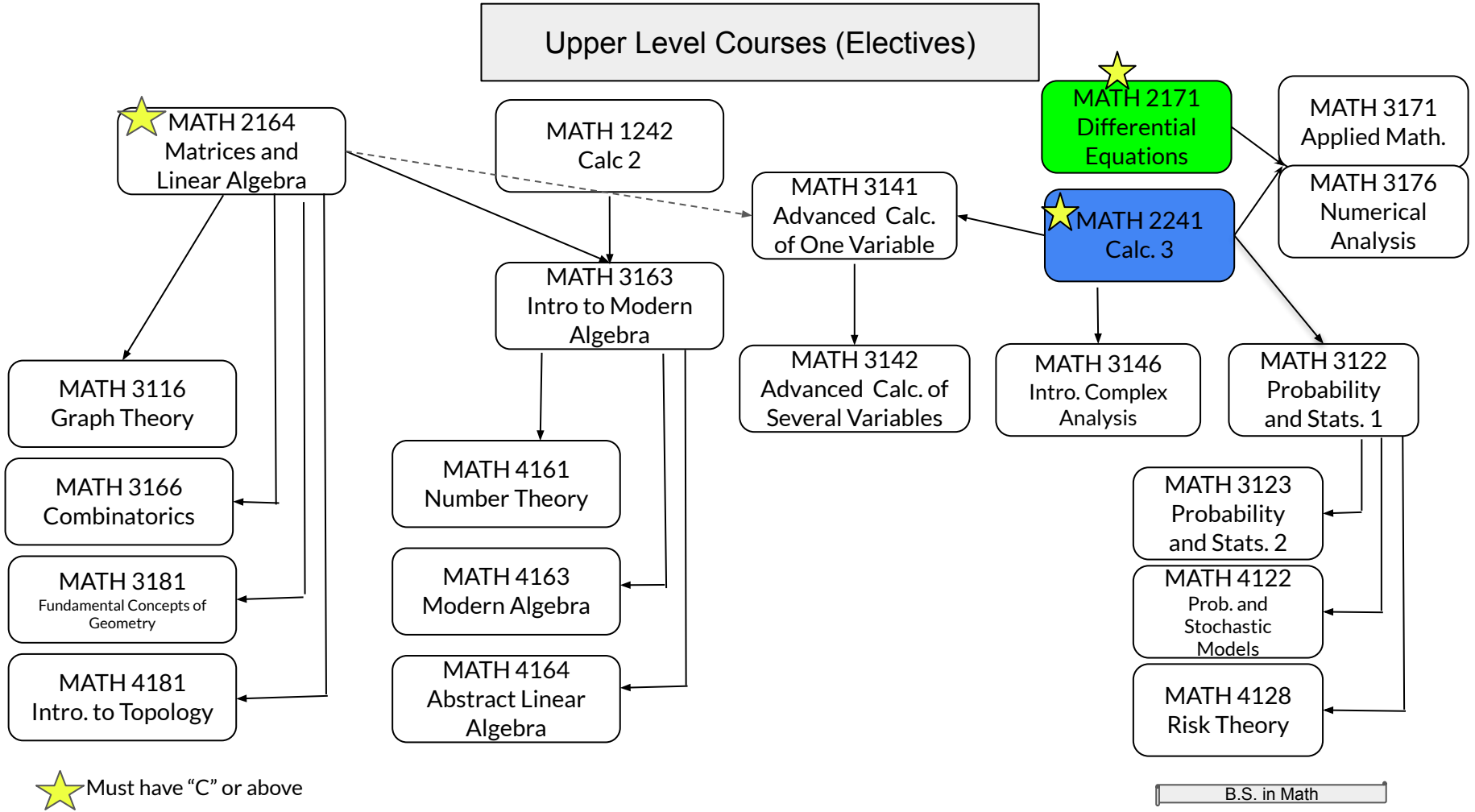
MATH 3 or 4xxx	Upper-level Math elective

One must be either MATH 3123, 3181, 4163, 4164, 4181, or OPRS 3111

Suggested Unrestricted Elective Courses:

MATH 3116- Graph Theory
MATH 3122/3123- Probability and Statistics I/II
MATH 3146- Intro to Complex Analysis
MATH 3166- Combinatorics
MATH 3181- Fundamental Concepts of Geometry
MATH 3171- Applied Mathematics
MATH 4128- Risk Theory
MATH 4161- Number Theory
MATH 4163- Modern Algebra
MATH 4164- Abstract Linear Algebra
MATH 4181- Intro to Topology


Core Courses
MATH 1241
Calc 1
MATH 1242
Calc 2
MATH 2241
Calc 3
MATH 2242
Calc 4
MATH 2164
Matrices
and Linear Algebra
MATH 2167
Intro to Math.
Reasoning
MATH 2171
Differential
Equations
MATH 2688
Mathematics
Awareness Seminar
MATH 3689
Mathematics
Project Seminar
MATH 3163
Intro to Modern
Algebra
MATH 3141
Advanced Calc. of
One Variable
MATH 3142
Advanced Calc. of
Several Variables
Must have “C” or above
B.S. in Math


Upper Level Courses (Electives)
MATH 2164 Matrices and Linear Algebra
MATH 1242 Calc 2
MATH 2171 Differential Equations
MATH 3171 Applied Math.
MATH 3176 Numerical Analysis
MATH 3141 Advanced Calc. of One Variable
MATH 2241 Calc. 3
MATH 3163 Intro to Modern Algebra
MATH 3116 Graph Theory
MATH 3166 Combinatorics
MATH 3181 Fundamental Concepts of Geometry
MATH 4181 Intro. to Topology
MATH 4161 Number Theory
MATH 4163 Modern Algebra
MATH 4164 Abstract Linear Algebra
MATH 3142 Advanced Calc. of Several Variables
MATH 3146 Intro. Complex Analysis
MATH 3122 Probability and Stats. 1
MATH 3123 Probability and Stats. 2
MATH 4122 Prob. and Stochastic Models
MATH 4128 Risk Theory
Must have "C" or above
B.S. in Math