Mathematics - Undergraduate Programs

Academic Advising: 406 Pickard Hall · 817-272-0939

Bachelor's Degrees in Mathematics

The Department of Mathematics offers programs leading to the Bachelor of Science Degree in Mathematics and the Bachelor of Arts Degree in Mathematics. The Bachelor of Science degree may also be acquired with the explicit addition of one of these options: actuarial science, applied mathematics, pure mathematics, statistics, data science, or secondary teaching pathway.

The Bachelor of Science pure math option is primarily intended for students wishing to pursue graduate work in mathematics. The applied mathematics option is aimed at students seeking careers as mathematicians in the emerging high-tech industries. The actuarial science option is intended for students with an interest in a career involving various applications of mathematics to the world of business. The data science option provides a mathematics major with the interdisciplinary skills to derive science and business insights from big data. The option with secondary teaching pathway is intended for students desiring to teach mathematics at the secondary school level, and is offered in coordination with UT Arlington's UTeach program. The Bachelor of Arts degree is intended for those students seeking a traditional liberal arts education with an emphasis on mathematics.

All students seeking a bachelor's degree in mathematics must take at least two mathematics sequences. A sequence is defined as a 3300-level course followed by a 4300-level course in the same general area of mathematics. Each of the two sequences must build from distinct 3300-level courses. The approved sequences are as follows:

MATH 3313 & MATH 4311	INTRODUCTION TO PROBABILITY and STOCHASTIC MODELS AND SIMULATION	6
or STATS 3313 & STATS 4311	INTRODUCTION TO PROBABILITY and STOCHASTIC MODELS AND SIMULATION	
MATH 3313 & MATH 4312	INTRODUCTION TO PROBABILITY and ACTUARIAL RISK ANALYSIS	6
or STATS 3313 & MATH 4312	INTRODUCTION TO PROBABILITY and ACTUARIAL RISK ANALYSIS	
MATH 3313 & MATH 4313	INTRODUCTION TO PROBABILITY and MATHEMATICAL STATISTICS	6
or STATS 3313 & STATS 4313	INTRODUCTION TO PROBABILITY and MATHEMATICAL STATISTICS	
MATH 3321 & MATH 4321	ABSTRACT ALGEBRA I and ABSTRACT ALGEBRA II	6
MATH 3335 & MATH 4303	ANALYSIS I and INTRODUCTION TO TOPOLOGY	6
MATH 3335 & MATH 4334	ANALYSIS I and ADVANCED MULTIVARIABLE CALCULUS	6
MATH 3335 & MATH 4335	ANALYSIS I and ANALYSIS II	6
MATH 3345 & MATH 4345	NUMERICAL ANALYSIS AND COMPUTER APPLICATIONS and NUMERICAL ANALYSIS & COMPUTER APPLICATIONS II	6
MATH 3314 & MATH 4314	DISCRETE MATHEMATICS and ADVANCED DISCRETE MATHEMATICS	6
MATH 3318 & MATH 4324	DIFFERENTIAL EQUATIONS and INTRODUCTION TO PARTIAL DIFFERENTIAL EQUATIONS	6
MATH 3330 & MATH 4330	INTRODUCTION TO LINEAR ALGEBRA AND VECTOR SPACES and ADVANCED LINEAR ALGEBRA	6

It is strongly recommended that mathematics majors take MATH 3330 and MATH 3300 as early as possible, since these courses are prerequisites for many other 3000/4000-level courses. It is suggested to take MATH 3330 simultaneously with Calculus III. Mathematics majors must pass MATH 3300 before attempting the required courses MATH 3321 and MATH 3335. It is strongly recommended that mathematics majors with little or no computer programming experience satisfy the computer programming requirement as early as possible with CSE 1310 INTRODUCTION TO COMPUTERS & PROGRAMMING, CSE 1311, CSE 1320, CSE 1325 OBJECT-ORIENTED PROGRAMMING, or MAE 2360 NUMERICAL ANALYSIS & PROGRAMMING.

Teacher Certification

Students interested in earning a Bachelor of Science degree with a major in mathematics with secondary teacher certification should refer to the "Bachelor of Science in Mathematics with Secondary Teaching Pathway" degree plan for teacher certification requirements. Students should also see an advisor in the UTeach Arlington department.

Second Major

A student who satisfies the requirements for any other baccalaureate degree qualifies for having mathematics named as a second major upon completion of **nine** mathematics courses at 3000/4000 level (except for capstone mathematics courses specifically for prospective middle or secondary grades mathematics teachers). The following courses are required:

MATH 3300	INTRODUCTION TO PROOFS	3
MATH 3316	STATISTICAL INFERENCE	3
MATH 3318	DIFFERENTIAL EQUATIONS	3
MATH 3321	ABSTRACT ALGEBRA I	3
MATH 3330	INTRODUCTION TO LINEAR ALGEBRA AND VECTOR SPACES	3
MATH 3335	ANALYSIS I	3
Select one of the following:		3
MATH 4321	ABSTRACT ALGEBRA II	
MATH 4335	ANALYSIS II	
MATH 4334	ADVANCED MULTIVARIABLE CALCULUS	
Additional advanced hours		6

Besides the sequence MATH 3321-MATH 4321 or the sequence MATH 3335 and (MATH 4335 or MATH 4334), a second sequence must be part of the second major. The GPA requirements on the mathematics courses for a second major are identical to those listed below under the heading Graduation Requirements.

First-time Admission Requirements

Students who wish to apply for major status in mathematics must first complete the University and College of Science requirements and the specific requirements of the Department of Mathematics listed below.

- Overall GPA of 2.25;
- Minimum GPA of 2.25 in at least nine hours of mathematics courses in residence at the level of MATH 1426 or above, excluding capstone mathematics courses specifically for prospective middle or secondary grades mathematics teachers;
- At least six hours from the science or computer science courses listed in the mathematics degree plans; and
- Twelve hours of courses of the University core curriculum in disciplines other than science and mathematics.

Students currently enrolled at the University may qualify to change their major to mathematics by meeting the requirements listed above.

Satisfactory Academic Standard Requirement

Majors whose overall GPA or GPA in major courses falls below 2.25 will be required to change their major.

To re-enter as a mathematics major, the student must meet the requirements listed in the First-time Admissions Requirements section.

Non-Credit Courses

The following courses will not be counted for credit (as mathematics or electives) toward a bachelor's degree in mathematics:

MATH 1301	CONTEMPORARY MATHEMATICS	3
MATH 1302	COLLEGE ALGEBRA	3
MATH 1308	ELEMENTARY STATISTICAL ANALYSIS	3
MATH 1315	COLLEGE ALGEBRA FOR ECONOMICS & BUSINESS ANALYSIS	3
MATH 1316	MATHEMATICS FOR ECONOMICS AND BUSINESS ANALYSIS	3
MATH 1330	ARITHMETICAL PROBLEM SOLVING	3
MATH 1331	GEOMETRICAL INFERENCE AND REASONING	3
MATH 1332	FUNCTIONS, DATA, AND APPLICATIONS	3
MATH 1402	COLLEGE ALGEBRA	4

MATH 4350	PRECALCULUS FOR MID-LEVEL MATHEMATICS TEACHERS	3
MATH 4351	CALCULUS FOR MID-LEVEL MATHEMATICS TEACHERS	3

Capstone mathematics courses specifically for prospective secondary grades mathematics teachers can be counted for credit only by those pursuing a B.S. with Secondary Teaching Certification.

Math Course Registration and Requirements

Students may not be "pre-enrolled" in mathematics courses while prerequisite courses at another institution are pending grades. Only UT Arlington credits may be used for pre-enrollment purposes.

Canvas grades (or other learning-management system grades) may not be used as proof of completion for a prerequisite course. Students must submit either an official transcript to the registrar's office, or submit a transcript with a letter grade for the prerequisite course to the undergraduate mathematics advisor in order to be enrolled in a mathematics course. If a student is submitting the transcript via email, the email must be sent from their UTA email address.

Requirements for a Bachelor of Science Degree in Mathematics

One of the following is required:		1
UNIV 1131	STUDENT SUCCESS	
or UNIV 1101	CAREER PREPARATION AND STUDENT SUCCESS	
Communication [1]		3
ENGL 1301	RHETORIC AND COMPOSITION I	3
Mathematics		8
MATH 1426	CALCULUS I	
MATH 2425	CALCULUS II	
Select one of the following Life and Physical Science sequences:		6-8
BIOL 1441 & BIOL 1442	BIOLOGY I FOR SCIENCE MAJORS: CELL AND MOLECULAR BIOLOGY and BIOLOGY II FOR SCIENCE MAJORS: ECOLOGY AND EVOLUTION	
CHEM 1441 & CHEM 1442	GENERAL CHEMISTRY I and GENERAL CHEMISTRY II	
GEOL 1301 & GEOL 1302	EARTH SYSTEMS and EARTH HISTORY	
PHYS 1443 & PHYS 1444	GENERAL TECHNICAL PHYSICS I and GENERAL TECHNICAL PHYSICS II	
Language, Philosophy, and Culture [1]		3
Creative Arts [1]		3
U.S. History (choose any two)		6
HIST 1301	HISTORY OF THE UNITED STATES TO 1865	
HIST 1302	HISTORY OF THE UNITED STATES, 1865 TO PRESENT	
HIST 1331	TECHNOLOGY AND SCIENCE IN AMERICAN SOCIETY, I	
HIST 1332	TECHNOLOGY AND SCIENCE IN AMERICAN SOCIETY, II	
Government/Political Science		6
POLS 2311	GOVERNMENT OF THE UNITED STATES	
POLS 2312	STATE AND LOCAL GOVERNMENT	
Social and Behavioral Sciences [1]		3
Foundational Component Area [1]		3
Additional Science requirements: select 6-8 hours from General Core Life and Physical Science list not previously utilized above. [1]		6-8
Select one of the following in computer programming:		3-4
CSE 1310	INTRODUCTION TO COMPUTERS & PROGRAMMING	
DATA 3401	PYTHON FOR DATA SCIENCE 1	
MAE 2360	NUMERICAL ANALYSIS & PROGRAMMING	
MATH 2326	CALCULUS III	3
MATH 3300	INTRODUCTION TO PROOFS (satisfies Oral Communication Competency)	3
MATH 3316	STATISTICAL INFERENCE	3
MATH 3318	DIFFERENTIAL EQUATIONS	3

MATH 3321	ABSTRACT ALGEBRA I	3
MATH 3330	INTRODUCTION TO LINEAR ALGEBRA AND VECTOR SPACES	3
MATH 3335	ANALYSIS I	3
MATH 3345	NUMERICAL ANALYSIS AND COMPUTER APPLICATIONS	3
Additional advanced hours in mathematics [2]		18
Select any two of the following: (Must be from seperate groups)		6
Group 1		
MATH 4321	ABSTRACT ALGEBRA II	
Group 2		
MATH 4334	ADVANCED MULTIVARIABLE CALCULUS	
MATH 4335	ANALYSIS II	
Group 3		
MATH 4311	STOCHASTIC MODELS AND SIMULATION	
MATH 4312	ACTUARIAL RISK ANALYSIS	
MATH 4313	MATHEMATICAL STATISTICS	
MATH 4314	ADVANCED DISCRETE MATHEMATICS	
MATH 4324	INTRODUCTION TO PARTIAL DIFFERENTIAL EQUATIONS	
MATH 4330	ADVANCED LINEAR ALGEBRA	
MATH 4345	NUMERICAL ANALYSIS & COMPUTER APPLICATIONS II	
Minor		18
The minor may be from any college [3]		
Total Hours		**120-125**

1 See general core requirements (http://catalog.uta.edu/archives/2024-2025/academicregulations/degreerequirements/generalcorerequirements/).

2 Additional advanced hours (MATH 3301 or above, except for capstone mathematics courses specifically for prospective middle grades or secondary grades mathematics teachers).

3 The student should consult the appropriate section in this catalog for the exact requirements for a minor in a given department or contact that department's undergraduate advisor.

Capstone mathematics courses specifically for prospective middle grade mathematics teachers do not count toward a degree in mathematics. Capstone mathematics courses for secondary mathematics teachers will count only for those working on the BS in Mathematics with Secondary Teaching Pathway.

SUGGESTED COURSE SEQUENCE

First Year

First Semester	Hours	Second Semester	Hours
MATH 1426	4	MATH 2425	4
Life and Physical Science (Additional Science Requirement)	3-4	MATH 3316	3
ENGL 1301	3	Life and Physical Science (Additional Science Requirement)	3-4
Creative Arts	3	Communication	3
UNIV 1131 (or UNIV 1101)	1	Computer Programming Elective	3-4
	14-15		**16-18**

Second Year

First Semester	Hours	Second Semester	Hours
MATH 2326	3	MATH 3318	3
MATH 3300	3	MATH 3321	3
MATH 3330	3	Social and Behavioral Science	3
Language, Philosophy and Culture	3	Component Area	3
Minor	3	Minor	3
	15		**15**

Third Year

First Semester	Hours	Second Semester	Hours
MATH 3345	3	MATH 33XX (Math Elective)	3
MATH 3335	3	MATH 33XX (Math Elective)	3

MATH 33XX (Math Elective)	3	MATH 33XX (Math Elective)	3
Select one of the following:	3	Select one of the following:	3
HIST 1301, HIST 1302, HIST 1331 or HIST 1332		HIST 1301, HIST 1302, HIST 1331 or HIST 1332	
Minor	3	Minor	3
	15		**15**

Fourth Year

First Semester	**Hours**	**Second Semester**	**Hours**
MATH 33XX (Math elective)	3	Mathematics Sequence (Select two and must be from seperate Groups)	6
MATH 33XX (Math Elective)	3	Group 1	
Select one of the following:	3	MATH 4321	
POLS 2311 or POLS 2312		Group 2	
Life and Physical Science (Sequence)	3-4	MATH 4334	
Minor	3	MATH 4335	
		Group 3	
		MATH 4311	
		MATH 4312	
		MATH 4313	
		MATH 4314	
		MATH 4324	
		MATH 4330	
		MATH 4345	
		Select one of the following:	3
		POLS 2311 or POLS 2312	
		Life and Physical Science (Sequence)	3-4
		Minor	3
	15-16		**15-16**

Total Hours: 120-125

Requirements for a Bachelor of Arts Degree in Mathematics

One of the following is required		1
UNIV 1131	STUDENT SUCCESS	
UNIV 1101	CAREER PREPARATION AND STUDENT SUCCESS	
ENGL 1301	RHETORIC AND COMPOSITION I	3
Communication [1]		3
Mathematics		8
MATH 1426	CALCULUS I	
MATH 2425	CALCULUS II	
Select one of the following Life and Physical Science sequences:		6-8
BIOL 1441 & BIOL 1442	BIOLOGY I FOR SCIENCE MAJORS: CELL AND MOLECULAR BIOLOGY and BIOLOGY II FOR SCIENCE MAJORS: ECOLOGY AND EVOLUTION	
CHEM 1441 & CHEM 1442	GENERAL CHEMISTRY I and GENERAL CHEMISTRY II	
GEOL 1301 & GEOL 1302	EARTH SYSTEMS and EARTH HISTORY	
PHYS 1443 & PHYS 1444	GENERAL TECHNICAL PHYSICS I and GENERAL TECHNICAL PHYSICS II	
Language, Philosophy, and Culture [1]		3
XXXX 2314 Intermediate Language II		
Creative Arts [1]		3
U.S. History (choose any two)		6
HIST 1301	HISTORY OF THE UNITED STATES TO 1865	
HIST 1302	HISTORY OF THE UNITED STATES, 1865 TO PRESENT	
HIST 1331	TECHNOLOGY AND SCIENCE IN AMERICAN SOCIETY, I	
HIST 1332	TECHNOLOGY AND SCIENCE IN AMERICAN SOCIETY, II	

Government/Political Science		6
POLS 2311	GOVERNMENT OF THE UNITED STATES	
POLS 2312	STATE AND LOCAL GOVERNMENT	
Social and Behavioral Sciences [1]		3
Foundational Component Area [1]		3
Modern and Classical Languages		11
XXXX 1441 Beginning Language I		
XXXX 1442 Beginning Language II		
XXXX 2313 Intermediate Language I		
Additional Science requirements: select 6-8 hours from General Core Life and Physical Science list not previously utalized above. [1]		6-8
Select one of the following in computer programming:		3-4
CSE 1310	INTRODUCTION TO COMPUTERS & PROGRAMMING	
DATA 3401	PYTHON FOR DATA SCIENCE 1	
MAE 2360	NUMERICAL ANALYSIS & PROGRAMMING	
MATH 2326	CALCULUS III	3
MATH 3300	INTRODUCTION TO PROOFS (satisfies Oral Communication Competency)	3
MATH 3316	STATISTICAL INFERENCE	3
MATH 3318	DIFFERENTIAL EQUATIONS	3
MATH 3321	ABSTRACT ALGEBRA I	3
MATH 3330	INTRODUCTION TO LINEAR ALGEBRA AND VECTOR SPACES	3
MATH 3335	ANALYSIS I	3
MATH 3345	NUMERICAL ANALYSIS AND COMPUTER APPLICATIONS	3
Additional advanced hours in mathematics [2]		9
Select any two of the following: (Must be from seperate groups)		6
Group 1		
MATH 4321	ABSTRACT ALGEBRA II	
Group 2		
MATH 4334	ADVANCED MULTIVARIABLE CALCULUS	
MATH 4335	ANALYSIS II	
Group 3		
MATH 4311	STOCHASTIC MODELS AND SIMULATION	
MATH 4312	ACTUARIAL RISK ANALYSIS	
MATH 4313	MATHEMATICAL STATISTICS	
MATH 4314	ADVANCED DISCRETE MATHEMATICS	
MATH 4324	INTRODUCTION TO PARTIAL DIFFERENTIAL EQUATIONS	
MATH 4330	ADVANCED LINEAR ALGEBRA	
MATH 4345	NUMERICAL ANALYSIS & COMPUTER APPLICATIONS II	
Minor		18
The minor may be from any college [3]		
Total Hours		**122-127**

1 See general core requirements (http://catalog.uta.edu/archives/2024-2025/academicregulations/degreerequirements/generalcorerequirements/).

2 Additional advanced hours (MATH 3301 or above, except for capstone mathematics courses specifically for prospective middle or secondary grades mathematics teachers).

3 The student should consult the appropriate section in this catalog for the exact requirements for a minor in a given department or contact that department's undergraduate advisor.

Capstone mathematics courses specifically for prospective middle grade mathematics teachers do not count toward a degree in mathematics. Capstone mathematics courses for secondary mathematics teachers will count only for those working on the BS in Mathematics with Secondary Teaching Pathway.

SUGGESTED COURSE SEQUENCE

First Year

First Semester	Hours	Second Semester	Hours
MATH 1426	4	MATH 2425	4
Life and Physical Science (Additional Science Requirements)	3-4	MATH 3316	3
ENGL 1301	3	Life and Physical Science (Additional Science Requirement)	3-4
Creative Arts	3	Commmunication	3
UNIV 1131 (or UNIV 1101)	1	Computer Programming Elective	3-4
	14-15		**16-18**

Second Year

First Semester	Hours	Second Semester	Hours
MATH 2326	3	MATH 3318	3
MATH 3300	3	MATH 3321	3
MATH 3330	3	MATH 33XX (Math Elective)	3
XXXX 1441 Beginning Language I	4	XXXX 1442 Beginning Language II	4
Minor	3	Minor	3
	16		**16**

Third Year

First Semester	Hours	Second Semester	Hours
MATH 3345	3	MATH 33XX (Math Elective)	3
MATH 3335	3	XXXX 2314 Intermediate Language II	3
XXXX 2313 Intermediate Language I	3	Social and Behavioral Science	3
Select one of the following:	3	Select one of the following:	3
HIST 1301, HIST 1302, HIST 1331 or HIST 1332		HIST 1301, HIST 1302, HIST 1331 or HIST 1332	
Minor	3	Minor	3
	15		**15**

Fourth Year

First Semester	Hours	Second Semester	Hours
MATH 33XX (Math Elective)		Mathematics Sequence (Select two and must be from seperate Groups)	6
Component Area	3	Group 1	
Select one of the following:	3	MATH 4321	
POLS 2311 or POLS 2312		Group 2	
Life and Physical Science (Sequence)	3-4	MATH 4334	
Minor	6	MATH 4335	
		Group 3	
		MATH 4311	
		MATH 4312	
		MATH 4313	
		MATH 4314	
		MATH 4324	
		MATH 4330	
		MATH 4345	
		Select one of the following:	3
		POLS 2311 or POLS 2312	
		Life and Physical Science (Sequence)	3-4
		Minor	3
	15-16		**15-16**

Total Hours: 122-127

Requirements for a Bachelor of Science Degree in Mathematics (Actuarial Science Option)

One of the following is required:		1
UNIV 1131	STUDENT SUCCESS	
UNIV 1101	CAREER PREPARATION AND STUDENT SUCCESS	
ENGL 1301	RHETORIC AND COMPOSITION I	3
Communication [1]		3
Mathematics		8
MATH 1426	CALCULUS I	
MATH 2425	CALCULUS II	
Select one of the following Life and Physical Science sequences:		6-8
BIOL 1441 & BIOL 1442	BIOLOGY I FOR SCIENCE MAJORS: CELL AND MOLECULAR BIOLOGY and BIOLOGY II FOR SCIENCE MAJORS: ECOLOGY AND EVOLUTION	
CHEM 1441 & CHEM 1442	GENERAL CHEMISTRY I and GENERAL CHEMISTRY II	
GEOL 1301 & GEOL 1302	EARTH SYSTEMS and EARTH HISTORY	
PHYS 1443 & PHYS 1444	GENERAL TECHNICAL PHYSICS I and GENERAL TECHNICAL PHYSICS II	
Language, Philosophy, and Culture [1]		3
Creative Arts [1]		3
U.S. History (choose any two)		6
HIST 1301	HISTORY OF THE UNITED STATES TO 1865	
HIST 1302	HISTORY OF THE UNITED STATES, 1865 TO PRESENT	
HIST 1331	TECHNOLOGY AND SCIENCE IN AMERICAN SOCIETY, I	
HIST 1332	TECHNOLOGY AND SCIENCE IN AMERICAN SOCIETY, II	
Government/Political Science		6
POLS 2311	GOVERNMENT OF THE UNITED STATES	
POLS 2312	STATE AND LOCAL GOVERNMENT	
Social and Behavioral Science		3
ECON 2305	PRINCIPLES OF MACROECONOMICS	
Foundational Component Area [1]		3
Additional Science requiremens: select 6-8 hours from General Core Life and Physical Science list not previously utilized above. [1]		6-8
Select one of the following in computer programming:		3-4
CSE 1310	INTRODUCTION TO COMPUTERS & PROGRAMMING	
DATA 3401	PYTHON FOR DATA SCIENCE 1	
MAE 2360	NUMERICAL ANALYSIS & PROGRAMMING	
MATH 2326	CALCULUS III	3
MATH 3300	INTRODUCTION TO PROOFS (satisfies Oral Communication Competency)	3
MATH 3302	MULTIVARIATE STATISTICAL METHODS	3
MATH 3313	INTRODUCTION TO PROBABILITY	3
MATH 3316	STATISTICAL INFERENCE	3
MATH 3318	DIFFERENTIAL EQUATIONS	3
MATH 3321	ABSTRACT ALGEBRA I	3
MATH 3330	INTRODUCTION TO LINEAR ALGEBRA AND VECTOR SPACES	3
MATH 3335	ANALYSIS I	3
MATH 3345	NUMERICAL ANALYSIS AND COMPUTER APPLICATIONS	3
Select one of the following:		3
MATH 4311	STOCHASTIC MODELS AND SIMULATION	
MATH 4312	ACTUARIAL RISK ANALYSIS	
MATH 4313	MATHEMATICAL STATISTICS	3
Additional advanced hours in mathematics [2]		6

Select one of the following:		3
MATH 4321	ABSTRACT ALGEBRA II	
MATH 4334	ADVANCED MULTIVARIABLE CALCULUS	
MATH 4335	ANALYSIS II	
ECON 2306	PRINCIPLES OF MICROECONOMICS	3
ACCT 2301	PRINCIPLES OF ACCOUNTING I	3
ACCT 2302	PRINCIPLES OF ACCOUNTING II	3
Select four of the following:		12
FINA 3313	BUSINESS FINANCE	
FINA 3315	INVESTMENTS	
FINA 3317	FINANCIAL INSTITUTIONS AND MARKETS	
FINA 33XX		
FINA 4318	PORTFOLIO MANAGEMENT AND SECURITY ANALYSIS	
FINA 4319	FINANCIAL DERIVATIVES	
Total Hours		**120-125**

1 See general core requirements (http://catalog.uta.edu/archives/2024-2025/academicregulations/degreerequirements/generalcorerequirements/).

2 Additional advanced hours (MATH 3301 or above, except for capstone mathematics courses specifically for prospective middle grades or secondary grades mathematics teachers).

Capstone mathematics courses specifically for prospective middle grade mathematics teachers do not count toward a degree in mathematics. Capstone mathematics courses for secondary mathematics teachers will count only for those working on the BS in Mathematics with Secondary Teaching Pathway.

For more information about VEE Certification and the Associateship Course Catalog, click on he following link. https://www.uta.edu/academics/schools-colleges/science/departments/mathematics/degree-programs/undergraduate/actuarial-science (https://nam12.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.uta.edu%2Facademics%2Fschools-colleges%2Fscience%2Fdepartments%2Fmathematics%2Fdegree-programs%2Fundergraduate%2Factuarial-science&data=05%7C01%7Cphilip.bukowski%40uta.edu%7Cc42903b0de75461c178c08dbdc92b8de%7C5cdc5b43d7be4caa8173729e3b0a62d9%7C0%7C0%7C638346294945885553%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=Lty53rJW4YyZV6whxBT7n2n3SvoY6ARdiYqazbGM9qg%3D&reserved=0)

First Year

First Semester	**Hours**	**Second Semester**	**Hours**
MATH 1426	4	MATH 2425	4
Life and Physical Science (Additional Science Requirement)	3-4	MATH 3316	3
ENGL 1301	3	Life and Physical Science (Additional Science Requirement)	3-4
Creative Arts	3	Communication	3
UNIV 1131 (or UNIV 1101)	1	Computer Programming Elective	3-4
	14-15		**16-18**

Second Year

First Semester	**Hours**	**Second Semester**	**Hours**
MATH 2326	3	MATH 3318	3
MATH 3300	3	MATH 3321	3
MATH 3330	3	Language, Philosophy, and Culture	3
ECON 2305	3	ECON 2306	3
ACCT 2301	3	ACCT 2302	3
	15		**15**

Third Year

First Semester	**Hours**	**Second Semester**	**Hours**
MATH 3345	3	MATH 3302	3
MATH 3313	3	Select one of the following:	3
MATH 3335	3	MATH 4311	
Select one of the following:	3	MATH 4312	
FINA 3313, FINA 3315, FINA 3317, FINA 4318, FINA 4319 or FINA 33XX		MATH 4313	3

Select one of the following:	3	Select one of the following:	3
HIST 1301, HIST 1302, HIST 1331 or HIST 1332		FINA 3313, FINA 3315, FINA 3317, FINA 4318, FINA 4319 or FINA 33XX	
		Select one of the following:	3
		HIST 1301, HIST 1302, HIST 1331 or HIST 1332	
	15		**15**

Fourth Year

First Semester	**Hours**	**Second Semester**	**Hours**
MATH 33XX	3	Select one of the following:	3
Component Area	3	MATH 4321	
Select one of the following:	3	MATH 4334	
FINA 3313, FINA 3315, FINA 3317, FINA 4318, FINA 4319 or FINA 33XX		MATH 4335	
Select one of the following:	3	MATH 33XX	3
POLS 2311 or POLS 2312		Select one of the following:	3
Life and Physicsl Science (Sequence)	3-4	FINA 3313, FINA 3315, FINA 3317, FINA 4318, FINA 4319 or FINA 33XX	
		Select one of the following:	3
		POLS 2311 or POLS 2312	
		Life and Physicsl Science (Sequence)	3-4
	15-16		**15-16**

Total Hours: 120-125

Requirements for a Bachelor of Science Degree in Mathematics (Statistics Option)

One of the following is required:		1
UNIV 1131	STUDENT SUCCESS	
UNIV 1101	CAREER PREPARATION AND STUDENT SUCCESS	
ENGL 1301	RHETORIC AND COMPOSITION I	3
Communication [1]		3
Mathematics		8
MATH 1426	CALCULUS I	
MATH 2425	CALCULUS II	
Select one of the following Life and Physical Science sequences:		6-8
BIOL 1441 & BIOL 1442	BIOLOGY I FOR SCIENCE MAJORS: CELL AND MOLECULAR BIOLOGY and BIOLOGY II FOR SCIENCE MAJORS: ECOLOGY AND EVOLUTION	
CHEM 1441 & CHEM 1442	GENERAL CHEMISTRY I and GENERAL CHEMISTRY II	
GEOL 1301 & GEOL 1302	EARTH SYSTEMS and EARTH HISTORY	
PHYS 1443 & PHYS 1444	GENERAL TECHNICAL PHYSICS I and GENERAL TECHNICAL PHYSICS II	
Language, Philosophy, and Culture [1]		3
Creative Arts [1]		3
U.S. History (choose any two)		6
HIST 1301	HISTORY OF THE UNITED STATES TO 1865	
HIST 1302	HISTORY OF THE UNITED STATES, 1865 TO PRESENT	
HIST 1331	TECHNOLOGY AND SCIENCE IN AMERICAN SOCIETY, I	
HIST 1332	TECHNOLOGY AND SCIENCE IN AMERICAN SOCIETY, II	
Government/Political Science		6
POLS 2311	GOVERNMENT OF THE UNITED STATES	
POLS 2312	STATE AND LOCAL GOVERNMENT	
Social and Behavioral Sciences [1]		3
Foundational Component Area [1]		3

Additional Science requirement: select 6-8 hours from General Core Life and Physical Science list not previously utilized above. [1]		6-8
Select one of the following in computer programming:		3-4
CSE 1310	INTRODUCTION TO COMPUTERS & PROGRAMMING	
DATA 3401	PYTHON FOR DATA SCIENCE 1	
MAE 2360	NUMERICAL ANALYSIS & PROGRAMMING	
MATH 2326	CALCULUS III	3
MATH 3300	INTRODUCTION TO PROOFS (satisfies Oral Communication Competency)	3
MATH 3302	MULTIVARIATE STATISTICAL METHODS	3
MATH 3313	INTRODUCTION TO PROBABILITY	3
MATH 3316	STATISTICAL INFERENCE	3
MATH 3318	DIFFERENTIAL EQUATIONS	3
MATH 3321	ABSTRACT ALGEBRA I	3
MATH 3330	INTRODUCTION TO LINEAR ALGEBRA AND VECTOR SPACES	3
MATH 3335	ANALYSIS I	3
MATH 3345	NUMERICAL ANALYSIS AND COMPUTER APPLICATIONS	3
MATH 4311	STOCHASTIC MODELS AND SIMULATION	3
MATH 4313	MATHEMATICAL STATISTICS	3
BSTAT 3321	INTERMEDIATE STATISTICS FOR BUSINESS ANALYTICS	3
BSTAT 3322	ADVANCED STATISTICS FOR BUSINESS ANALYTICS	3
Additional advanced hours [2]		21
Select one of the following:		3
MATH 4321	ABSTRACT ALGEBRA II	
MATH 4335	ANALYSIS II	
MATH 4334	ADVANCED MULTIVARIABLE CALCULUS	
Total Hours		**120-125**

1 See general core requirements (http://catalog.uta.edu/archives/2024-2025/academicregulations/degreerequirements/generalcorerequirements/).

2 Additional advanced hours (MATH 3301 or above, except for capstone mathematics courses specifically for prospective middle or secondary grades mathematics teachers).

Capstone mathematics courses specifically for prospective middle grade mathematics teachers do not count toward a degree in mathematics. Capstone mathematics courses for secondary mathematics teachers will count only for those working on the BS in Mathematics with Secondary Teaching Pathway.

SUGGESTED COURSE SEQUENCE

First Year

First Semester	Hours	Second Semester	Hours
MATH 1426	4	MATH 2425	4
Life and Physical Science (Additional Science Requirement)	3-4	MATH 3316	3
ENGL 1301	3	Life and Physical Science (Additional Science Requirement)	3-4
Creative Arts	3	Communication	3
UNIV 1131	1	Computer Programming Elective	3-4
	14-15		**16-18**

Second Year

First Semester	Hours	Second Semester	Hours
MATH 2326	3	MATH 3318	3
MATH 3300	3	MATH 3321	3
MATH 3330	3	MATH 33XX (Math Elective)	3
MATH 33XX (Math Elective)	3	MATH 33XX (Math Elective)	3
Language, Philosophy and Culture	3	Social and Behavioral Science	3
	15		**15**

Third Year

First Semester	Hours	Second Semester	Hours
MATH 3345	3	MATH 3302	3
MATH 3313	3	MATH 4311	3
MATH 3335	3	MATH 4313	3
MATH 33XX (Math Elective)	3	MATH 33XX (Math Elective)	3
Select one of the following:	3	Select one of the following:	3
HIST 1301, HIST 1302, HIST 1331 or HIST 1332		HIST 1301, HIST 1302, HIST 1331 or HIST 1332	
	15		**15**

Fourth Year

First Semester	Hours	Second Semester	Hours
MATH 33XX (Math Elective)	3	Mathematics Sequence (Select one of the following:	3
Component Area	3	MATH 4321	
BSTAT 3321	3	MATH 4334	
Select one of the following:	3	MATH 4335	
POLS 2311 or POLS 2312		MATH 33XX (Math Elective)	3
Life and Physical Science (Sequence)	3-4	BSTAT 3322	3
		Select one of the following:	3
		POLS 2311 or POLS 2312	
		Life and Physical Science (Sequence)	3-4
	15-16		**15-16**

Total Hours: 120-125

Requirements for a Bachelor of Science Degree in Mathematics (Applied Mathematics Option)

This degree option is for students seeking immediate employment after graduation. Additional course work may be required for admission to graduate school.

One of the following is required:		1
UNIV 1131	STUDENT SUCCESS	
UNIV 1101	CAREER PREPARATION AND STUDENT SUCCESS	
ENGL 1301	RHETORIC AND COMPOSITION I	3
Communication [1]		3
Mathematics		8
MATH 1426	CALCULUS I	
MATH 2425	CALCULUS II	
Select one of the following Life and Physical Science sequences:		6-8
BIOL 1441 & BIOL 1442	BIOLOGY I FOR SCIENCE MAJORS: CELL AND MOLECULAR BIOLOGY and BIOLOGY II FOR SCIENCE MAJORS: ECOLOGY AND EVOLUTION	
CHEM 1441 & CHEM 1442	GENERAL CHEMISTRY I and GENERAL CHEMISTRY II	
GEOL 1301 & GEOL 1302	EARTH SYSTEMS and EARTH HISTORY	
PHYS 1443 & PHYS 1444	GENERAL TECHNICAL PHYSICS I and GENERAL TECHNICAL PHYSICS II	
Language, Philosophy, and Culture [1]		3
Creative Arts [1]		3
U.S. History (choose any two)		6
HIST 1301	HISTORY OF THE UNITED STATES TO 1865	
HIST 1302	HISTORY OF THE UNITED STATES, 1865 TO PRESENT	
HIST 1331	TECHNOLOGY AND SCIENCE IN AMERICAN SOCIETY, I	
HIST 1332	TECHNOLOGY AND SCIENCE IN AMERICAN SOCIETY, II	
Government/Political Science		6
POLS 2312	STATE AND LOCAL GOVERNMENT	

POLS 2311	GOVERNMENT OF THE UNITED STATES	
Social and Behavioral Sciences [1]		3
Foundational Component Area [1]		3
Additional Science requirements: select 6-8 hours from General Core Life and Physical Science list not previously utilized above. [1]		6-8
Select one of the following in computer programming:		3-4
CSE 1310	INTRODUCTION TO COMPUTERS & PROGRAMMING	
DATA 3401	PYTHON FOR DATA SCIENCE 1	
MAE 2360	NUMERICAL ANALYSIS & PROGRAMMING	
MATH 2326	CALCULUS III	3
MATH 3300	INTRODUCTION TO PROOFS (satisfies Oral Communication Competency)	3
MATH 3313	INTRODUCTION TO PROBABILITY	3
MATH 3316	STATISTICAL INFERENCE	3
MATH 3318	DIFFERENTIAL EQUATIONS	3
MATH 3321	ABSTRACT ALGEBRA I	3
MATH 3330	INTRODUCTION TO LINEAR ALGEBRA AND VECTOR SPACES	3
MATH 3335	ANALYSIS I	3
MATH 3345	NUMERICAL ANALYSIS AND COMPUTER APPLICATIONS	3
MATH 4311	STOCHASTIC MODELS AND SIMULATION	3
MATH 4322	INTRODUCTION TO COMPLEX VARIABLES	3
MATH 4324	INTRODUCTION TO PARTIAL DIFFERENTIAL EQUATIONS	3
Additional advanced hours in mathematics [2]		21
IE 3315	OPERATIONS RESEARCH I	3
IE 4315	OPERATIONS RESEARCH II	3
Select one of the following:		3
MATH 4321	ABSTRACT ALGEBRA II	
MATH 4335	ANALYSIS II	
MATH 4334	ADVANCED MULTIVARIABLE CALCULUS	
Total Hours		**120-125**

1 See general core requirements (http://catalog.uta.edu/archives/2024-2025/academicregulations/degreerequirements/generalcorerequirements/).

2 Additional advanced mathematics hours (MATH 3301 or above, except for capstone mathematics courses specifically for prospective middle grades or secondary grades mathematics teachers).

Capstone mathematics courses specifically for prospective middle grade mathematics teachers do not count toward a degree in mathematics. Capstone mathematics courses for secondary mathematics teachers will count only for those working on the BS in Mathematics with Secondary Teaching Pathway.

SUGGESTED COURSE SEQUENCE

First Year

First Semester	Hours	Second Semester	Hours
MATH 1426	4	MATH 2425	4
Life and Physical Science (Additional Science Requirement)	3-4	MATH 3316	3
ENGL 1301	3	Life and Physical Science (Additional Science Requirement)	3-4
Creative Arts	3	Communication	3
UNIV 1131 (UNIV 1101)	1	Computer Programming Elective	3-4
	14-15		**16-18**

Second Year

First Semester	Hours	Second Semester	Hours
MATH 2326	3	MATH 3318	3
MATH 3300	3	MATH 3321	3
MATH 3330	3	MATH 33XX (Math Elective)	3
MATH 33XX (Math Elective)	3	MATH 33XX (Math Elective)	3

Language & Philosophy		3	Social and Behavioral Science		3
		15			**15**
Third Year					
First Semester	**Hours**		**Second Semester**	**Hours**	
MATH 3345		3	MATH 4311		3
MATH 3313		3	MATH 4324		3
MATH 4322		3	MATH 33XX (Math Elective)		3
MATH 3335		3	IE 3315		3
Select one of the following:		3	Select on of the following:		3
HIST 1301, HIST 1302, HIST 1331 or HIST 1332			HIST 1301, HIST 1302, HIST 1331 or HIST 1332		
		15			**15**
Fourth Year					
First Semester	**Hours**		**Second Semester**	**Hours**	
IE 4315		3	Select one of the following:		3
MATH 33XX (Math Elective)		3	MATH 4321		
Component Area		3	MATH 4334		
Select one of the following:		3	MATH 4335		
POLS 2311 or POLS 2312			MATH 33XX (Math Elective)		3
Life and Physical Science (Sequence)		3-4	MATH 33XX (Math Elective)		3
			Select one of the following:		3
			POLS 2311 or POLS 2312		
			Life and Physical Science (Sequesnc)		3-4
		15-16			**15-16**

Total Hours: 120-125

Requirements for a Bachelor of Science Degree in Mathematics (Pure Mathematics Option)

One of the following is required:		1
UNIV 1131	STUDENT SUCCESS	
UNIV 1101	CAREER PREPARATION AND STUDENT SUCCESS	
ENGL 1301	RHETORIC AND COMPOSITION I	3
Communication [1]		3
Mathematics		8
MATH 1426	CALCULUS I	
MATH 2425	CALCULUS II	
Select one of the following Life and Physical Science sequences:		6-8
BIOL 1441 & BIOL 1442	BIOLOGY I FOR SCIENCE MAJORS: CELL AND MOLECULAR BIOLOGY and BIOLOGY II FOR SCIENCE MAJORS: ECOLOGY AND EVOLUTION	
CHEM 1441 & CHEM 1442	GENERAL CHEMISTRY I and GENERAL CHEMISTRY II	
GEOL 1301 & GEOL 1302	EARTH SYSTEMS and EARTH HISTORY	
PHYS 1443 & PHYS 1444	GENERAL TECHNICAL PHYSICS I and GENERAL TECHNICAL PHYSICS II	
Language, Philosophy, and Culture [1]		3
Creative Arts [1]		3
U.S. History (choose any two)		6
HIST 1301	HISTORY OF THE UNITED STATES TO 1865	
HIST 1302	HISTORY OF THE UNITED STATES, 1865 TO PRESENT	
HIST 1331	TECHNOLOGY AND SCIENCE IN AMERICAN SOCIETY, I	
HIST 1332	TECHNOLOGY AND SCIENCE IN AMERICAN SOCIETY, II	
Government/Political Science		6
POLS 2311	GOVERNMENT OF THE UNITED STATES	

POLS 2312	STATE AND LOCAL GOVERNMENT	
Social and Behavioral Sciences [1]		3
Foundational Component Area [1]		3
Additional Science requirements: select 6-8 hours from General Core Life and Physical Science list not previously utilized above. [1]		6-8
Select one of the following in computer programming:		3-4
CSE 1310	INTRODUCTION TO COMPUTERS & PROGRAMMING	
DATA 3401	PYTHON FOR DATA SCIENCE 1	
MAE 2360	NUMERICAL ANALYSIS & PROGRAMMING	
MATH 2326	CALCULUS III	3
MATH 3300	INTRODUCTION TO PROOFS (satisfies Oral Communication Competency)	3
MATH 3316	STATISTICAL INFERENCE	3
MATH 3318	DIFFERENTIAL EQUATIONS	3
MATH 3321	ABSTRACT ALGEBRA I	3
MATH 3330	INTRODUCTION TO LINEAR ALGEBRA AND VECTOR SPACES	3
MATH 3335	ANALYSIS I	3
MATH 3345	NUMERICAL ANALYSIS AND COMPUTER APPLICATIONS	3
MATH 4321	ABSTRACT ALGEBRA II	3
MATH 4322	INTRODUCTION TO COMPLEX VARIABLES	3
MATH 4335	ANALYSIS II	3
Additional advanced hours in mathematics [2]		33
Total Hours		**120-125**

1 See general core requirements (http://catalog.uta.edu/archives/2024-2025/academicregulations/degreerequirements/generalcorerequirements/).

2 Additional advanced mathematics hours (MATH 3301 or above, except for capstone mathematics courses specifically for prospective middle grades or secondary grades mathematics teachers).

Capstone mathematics courses specifically for prospective middle grade mathematics teachers do not count toward a degree in mathematics. Capstone mathematics courses for secondary mathematics teachers will count only for those working on the BS in Mathematics with Secondary Teaching Pathway.

First Year

First Semester	Hours	Second Semester	Hours
MATH 1426	4	MATH 2425	4
Life and Physical Science (Additional Science Requirement)	3-4	MATH 3316	3
ENGL 1301	3	Life and Physical Science (Additional Science Requirement)	3-4
Creative Arts	3	Communication	3
UNIV 1131 (UNIV 1101)	1	Computer Programming Elective	3-4
	14-15		**16-18**

Second Year

First Semester	Hours	Second Semester	Hours
MATH 2326	3	MATH 3318	3
MATH 3300	3	MATH 3321	3
MATH 3330	3	MATH 33XX	3
MATH 33XX	3	MATH 33XX	3
Language, Philosophy, and Culture	3	Social and Behavioral Science	3
	15		**15**

Third Year

First Semester	Hours	Second Semester	Hours
MATH 3345	3	MATH 4321	3
MATH 4322	3	MATH 4335	3
MATH 3335	3	MATH 33XX	3
MATH 33XX	3	MATH 33XX	3
Select one of the following:	3	Select one of the following:	3

HIST 1301, HIST 1302, HIST 1331 or HIST 1332		HIST 1301, HIST 1302, HIST 1331 or HIST 1332	
	15		**15**
Fourth Year			
First Semester	**Hours**	**Second Semester**	**Hours**
MATH 33XX	3	MATH 33XX	3
MATH 33XX	3	MATH 33XX	3
Component Area	3	MATH 33XX	3
Select on of the following:	3	Select on of the following:	3
POLS 2311 or POLS 2312		POLS 2311 or POLS 2312	
Life and Physical Science (Sequence)	3-4	Life and Physical Science (Sequence)	3-4
	15-16		**15-16**

Total Hours: 120-125

Bachelor of Science in Mathematics with Secondary Teaching Pathway

UNIV 1131	STUDENT SUCCESS	1
Social and Behavioral Sciences [1]		3
Creative Arts [1]		3
Foundational Component Area [1]		3
Program Requirements		
ENGL 1301	RHETORIC AND COMPOSITION I	3
ENGL 1302	RHETORIC AND COMPOSITION II	3
PHIL 2314	PERSPECTIVES ON SCIENCE AND MATHEMATICS	3
POLS 2311	GOVERNMENT OF THE UNITED STATES	3
POLS 2312	STATE AND LOCAL GOVERNMENT	3
HIST 1301	HISTORY OF THE UNITED STATES TO 1865	3
HIST 1302	HISTORY OF THE UNITED STATES, 1865 TO PRESENT	3
Select one of the following sequences in life and physical science: [3]		6-8
PHYS 1443 & PHYS 1444	GENERAL TECHNICAL PHYSICS I and GENERAL TECHNICAL PHYSICS II	
CHEM 1441 & CHEM 1442	GENERAL CHEMISTRY I and GENERAL CHEMISTRY II	
BIOL 1441 & BIOL 1442	BIOLOGY I FOR SCIENCE MAJORS: CELL AND MOLECULAR BIOLOGY and BIOLOGY II FOR SCIENCE MAJORS: ECOLOGY AND EVOLUTION	
GEOL 1301 & GEOL 1302	EARTH SYSTEMS and EARTH HISTORY	
Additional science hours taken from the above science courses or that use required as prerequisite		3
Select one of the following in computer programming:		3-4
DATA 3401	PYTHON FOR DATA SCIENCE 1	
CSE 1310	INTRODUCTION TO COMPUTERS & PROGRAMMING	
CSE 1320	INTERMEDIATE PROGRAMMING	
CSE 1325	OBJECT-ORIENTED PROGRAMMING	
MAE 2360	NUMERICAL ANALYSIS & PROGRAMMING	
MATH 1426	CALCULUS I	4
MATH 2425	CALCULUS II	4
MATH 2326	CALCULUS III	3
MATH 2330	FUNCTIONS AND MODELING	3
MATH 3300	INTRODUCTION TO PROOFS (satisfies Oral Communication Competency)	3
MATH 3301	FOUNDATIONS OF GEOMETRY	3
MATH 3307	ELEMENTARY NUMBER THEORY	3
MATH 3314	DISCRETE MATHEMATICS	3
MATH 3316	STATISTICAL INFERENCE	3
MATH 3321	ABSTRACT ALGEBRA I	3

MATH 3330	INTRODUCTION TO LINEAR ALGEBRA AND VECTOR SPACES	3
MATH 3335	ANALYSIS I	3
Select one of the following:		3
MATH 4321	ABSTRACT ALGEBRA II	
MATH 4335	ANALYSIS II	
MATH 4334	ADVANCED MULTIVARIABLE CALCULUS	
Additional advanced hours in mathematics which must include a second sequence [2]		6
Select one of the following options:		6-8
2 courses in Modern and Classical Languages (Levels I and II or higher) in one language OR		
2 courses closely related to the major area		
Education Requirements [3]		
SCIE 1201	STEP 1: INQUIRY APPROACHES TO TEACHING	2
SCIE 1202	STEP 2: INQUIRY-BASED LESSON DESIGN	2
SCIE 4331	KNOWING AND LEARNING IN STEM	3
SCIE 4332	CLASSROOM INTERACTIONS	3
SCIE 4333	MULTIPLE TEACHING PRACTICES	3
Choose one of:		3
BIOL 4343	RESEARCH METHODS - UTEACH	
CHEM 4343	RESEARCH METHODS - UTEACH	
GEOL 4343	RESEARCH METHODS - UTEACH	
PHYS 4343	RESEARCH METHODS - UTEACH	
SCIE 4607	CAPSTONE TEACHING EXPERIENCE FOR STEM SECONDARY GRADES	6
SCIE 4107	CAPSTONE TEACHING EXPERIENCE SEMINAR	1
Total Hours		**119-124**

1 See general core requirements (http://catalog.uta.edu/archives/2024-2025/academicregulations/degreerequirements/generalcorerequirements/).

2 Six additional advanced hours (MATH 3302 or above, except MATH 4350 and MATH 4351 CALCULUS FOR MID-LEVEL MATHEMATICS TEACHERS), including either a second sequence or a capstone course specifically for prospective secondary mathematics teachers.

3 Certification requirements are subject to change; consult with an advisor in UTeach Arlington to verify current requirements.

Requirements for a Bachelor of Science Degree in Mathematics (Data Science Option)

One of the following is required:		1
UNIV 1131	STUDENT SUCCESS	
UNIV 1101	CAREER PREPARATION AND STUDENT SUCCESS	
ENGL 1301	RHETORIC AND COMPOSITION I	3
Communication [1]		3
Mathematics		8
MATH 1426	CALCULUS I	
MATH 2425	CALCULUS II	
Select one of the following Life and Physical Science sequences:		6-8
BIOL 1441 & BIOL 1442	BIOLOGY I FOR SCIENCE MAJORS: CELL AND MOLECULAR BIOLOGY and BIOLOGY II FOR SCIENCE MAJORS: ECOLOGY AND EVOLUTION	
CHEM 1441 & CHEM 1442	GENERAL CHEMISTRY I and GENERAL CHEMISTRY II	
GEOL 1301 & GEOL 1302	EARTH SYSTEMS and EARTH HISTORY	
PHYS 1443 & PHYS 1444	GENERAL TECHNICAL PHYSICS I and GENERAL TECHNICAL PHYSICS II	
Language, Philosophy, and Culture [1]		3
Creative Arts [1]		3
U.S. History (choose any two)		6
HIST 1301	HISTORY OF THE UNITED STATES TO 1865	
HIST 1302	HISTORY OF THE UNITED STATES, 1865 TO PRESENT	

HIST 1331	TECHNOLOGY AND SCIENCE IN AMERICAN SOCIETY, I	
HIST 1332	TECHNOLOGY AND SCIENCE IN AMERICAN SOCIETY, II	
Government/Political Science		6
POLS 2311	GOVERNMENT OF THE UNITED STATES	
POLS 2312	STATE AND LOCAL GOVERNMENT	
Social and Behavioral Sciences [1]		3
Foundational Component Area [1]		3
Additional Science requirement: select 6-8 hours from General Core Life and Physical Science list not previously utilized above. [1]		6-8
MATH 2326	CALCULUS III	3
MATH 3300	INTRODUCTION TO PROOFS (satisfies Oral Communication Competency)	3
MATH 3302	MULTIVARIATE STATISTICAL METHODS	3
MATH 3313	INTRODUCTION TO PROBABILITY	3
MATH 3314	DISCRETE MATHEMATICS	3
MATH 3316	STATISTICAL INFERENCE	3
MATH 3318	DIFFERENTIAL EQUATIONS	3
MATH 3321	ABSTRACT ALGEBRA I	3
MATH 3330	INTRODUCTION TO LINEAR ALGEBRA AND VECTOR SPACES	3
MATH 3335	ANALYSIS I	3
MATH 3345	NUMERICAL ANALYSIS AND COMPUTER APPLICATIONS	3
MATH 4311	STOCHASTIC MODELS AND SIMULATION	3
Select one of the following:		3
MATH 4313	MATHEMATICAL STATISTICS	
MATH 4314	ADVANCED DISCRETE MATHEMATICS	
MATH 4381	MATHEMATICS RESEARCH	
Additional advanced hours in mathematics [2]		3
Select one of the following:		3
MATH 4321	ABSTRACT ALGEBRA II	
MATH 4330	ADVANCED LINEAR ALGEBRA	
MATH 4334	ADVANCED MULTIVARIABLE CALCULUS	
MATH 4335	ANALYSIS II	
DATA 3401	PYTHON FOR DATA SCIENCE 1	4
DATA 3402	PYTHON FOR DATA SCIENCE 2	4
DATA 3421	DATA MINING, MANAGEMENT, AND CURATION	4
DATA 3441	STATISTICAL METHODS FOR DATA SCIENCE 1	4
DATA 3442	STATISTICAL METHODS FOR DATA SCIENCE 2	4
DATA 3461	MACHINE LEARNING	4
Total Hours		**120-124**

1 See general core requirements (http://catalog.uta.edu/archives/2024-2025/academicregulations/degreerequirements/generalcorerequirements/).

2 Additional advanced hours (MATH 3301 or above, except for capstone mathematics courses specifically for prospective middle grades or secondary grades mathematics teachers).

SUGGESTED COURSE SEQUENCE

First Year

First Semester	Hours	Second Semester	Hours
MATH 1426	4	MATH 2425	4
Life and Physical Science (Additional Science Requirement)	3-4	MATH 3316	3
ENGL 1301	3	Life and Physical Science (Additional Science Requirement)	3-4
Creative Arts	3	DATA 3401	4
UNIV 1131 (or UNIV 1101)	1		
	14-15		**14-15**

Second Year

First Semester	Hours	Second Semester	Hours
MATH 2326	3	MATH 3318	3
MATH 3300	3	MATH 3321	3
MATH 3330	3	DATA 3421	4
DATA 3402	4	Language, Philosophy, and Culture	3
		Communication	3
	13		**16**

Third Year

First Semester	Hours	Second Semester	Hours
MATH 3345	3	MATH 3302	3
MATH 3313	3	MATH 4311	3
MATH 3335	3	Select one of the following:	3
MATH 3314	3	MATH 4313	3
DATA 3441	4	MATH 4314	3
		MATH 4381	3
		DATA 3442	4
		Social and Behavioral Science	3
	16		**25**

Fourth Year

First Semester	Hours	Second Semester	Hours
DATA 3461	4	Select one of the following:	3
Component Area	3	MATH 4321	
Select one of the following:	3	MATH 4330	
HIST 1301, HIST 1302, HIST 1331 or HIST 1332		MATH 4334	
Select on of the following:	3	MATH 4335	
POLS 2311 or POLS 2312		MATH 33XX (Math Elective)	
Life and Physical Science (Sequence)	3-4	Select one of the following:	3
		HIST 1301, HIST 1302, HIST 1331 or HIST 1332	
		Select on of the following:	3
		POLS 2311 or POLS 2312	
		Life and Physical Science (Sequence)	
	16-17		**9**

Total Hours: 123-126

Requirements for Accelerated BS/MS Degrees: Bachelor of Science in Mathematics and Master of Science in Mathematics

UNIV 1131	STUDENT SUCCESS	1
Communication [1]		6
Language, Philosophy, and Culture [1]		3
Social and Behavioral Sciences [1]		3
Creative Arts [1]		3
Foundational Component Area [1]		3
POLS 2311	GOVERNMENT OF THE UNITED STATES	3
POLS 2312	STATE AND LOCAL GOVERNMENT	3
HIST 1301	HISTORY OF THE UNITED STATES TO 1865	3
HIST 1302	HISTORY OF THE UNITED STATES, 1865 TO PRESENT	3
BIOL 1441	BIOLOGY I FOR SCIENCE MAJORS: CELL AND MOLECULAR BIOLOGY	4
CHEM 1441	GENERAL CHEMISTRY I	4
PHYS 1443 & PHYS 1444	GENERAL TECHNICAL PHYSICS I and GENERAL TECHNICAL PHYSICS II	8
CSE 1310	INTRODUCTION TO COMPUTERS & PROGRAMMING	3
Major		

MATH 1426	CALCULUS I	4
MATH 2425	CALCULUS II	4
MATH 2326	CALCULUS III	3
MATH 3300	INTRODUCTION TO PROOFS (satisfies Oral Communication Competency)	3
MATH 3313	INTRODUCTION TO PROBABILITY	3
MATH 3316	STATISTICAL INFERENCE	3
MATH 3318	DIFFERENTIAL EQUATIONS	3
MATH 3321	ABSTRACT ALGEBRA I	3
MATH 3330	INTRODUCTION TO LINEAR ALGEBRA AND VECTOR SPACES	3
MATH 3335	ANALYSIS I	3
MATH 3345	NUMERICAL ANALYSIS AND COMPUTER APPLICATIONS	3
MATH 4313	MATHEMATICAL STATISTICS	3
MATH 4335	ANALYSIS II	3
Select one of the following options:		6-8
2 courses in Modern and Classical Languages (Levels I and II or higher) in one language OR		
2 courses closely related to the major area		
Additional advanced hours in mathematics		6
Graduate course work		
MATH 5305	STATISTICAL METHODS	3
MATH 5307	MATHEMATICAL ANALYSIS I	3
MATH 5317	REAL ANALYSIS	3
MATH 5333	LINEAR ALGEBRA AND MATRICES	3
MATH 5338	NUMERICAL ANALYSIS I	3
MATH 5339	NUMERICAL ANALYSIS II	3
MATH 5391	SPECIAL TOPICS IN MATHEMATICS	3
MATH 5395	SPECIAL PROJECT	3
MATH 6310	FOUNDATION OF DATA SCIENCES	3
MATH 6311	OPTIMIZATION ON BIG DATA	3
Additional graduate hours in mathematics		3

SUGGESTED COURSE SEQUENCE

First Year

First Semester	Hours	Second Semester	Hours
MATH 1426	4	MATH 2425	4
ENGL 1301	3	ENGL 1302	3
HIST 1301	3	CSE 1310	3
UNIV 1131	1	Creative Arts Elective	3
CHEM 1441	4	BIOL 1441	4
	15		**17**

Second Year

First Semester	Hours	Second Semester	Hours
MATH 2326	3	PHYS 1444	4
PHYS 1443	4	MATH 3318	3
MATH 3330	3	MATH 3300	3
Social & Behavioral Science	3	MATH 3316	3
Language & Philosophy	3	Modern Language	4
	16		**17**

Third Year

First Semester	Hours	Second Semester	Hours
MATH 3313	3	HIST 1302	3
MATH 3345	3	MATH 4335	3
MATH 3335	3	MATH 3321	3
MATH 3316	3	MATH 4313	3
Modern Language	4		
	16		**12**

Fourth Year

First Semester	Hours	Second Semester	Hours
MATH 5333	3	MATH 5300	3
MATH 5307	3	POLS 2312	3
POLS 2311	3	MATH 5317	3
MATH 3345	3	Undergraduate upper division hours in mathematics	6
Elective undergrad course	3		
	15		**15**

Fifth Year

First Semester	Hours	Second Semester	Hours
MATH 5305	3	MATH 5395	3
MATH 5338	3	MATH 6311	3
MATH 6310	3	MATH 5339	3
MATH 5391	3	Graduate mathematics hours	3
	12		**12**

Total Hours: 147

Requirements for Accelerated BS/MS Degrees: Bachelor of Science in Mathematics and Master of Science in Biomedical Engineering

UNIV 1131	STUDENT SUCCESS	1
Communication [1]		6
Language, Philosophy, and Culture [1]		3
Social and Behavioral Sciences [1]		3
Creative Arts [1]		3
Foundational Component Area [1]		3
POLS 2311	GOVERNMENT OF THE UNITED STATES	3
POLS 2312	STATE AND LOCAL GOVERNMENT	3
HIST 1301	HISTORY OF THE UNITED STATES TO 1865	3
HIST 1302	HISTORY OF THE UNITED STATES, 1865 TO PRESENT	3
BIOL 1441 & BIOL 1442	BIOLOGY I FOR SCIENCE MAJORS: CELL AND MOLECULAR BIOLOGY and BIOLOGY II FOR SCIENCE MAJORS: ECOLOGY AND EVOLUTION	8
PHYS 1443 & PHYS 1444	GENERAL TECHNICAL PHYSICS I and GENERAL TECHNICAL PHYSICS II	8
CSE 1310	INTRODUCTION TO COMPUTERS & PROGRAMMING	3
Major		
MATH 1426	CALCULUS I	4
MATH 2425	CALCULUS II	4
MATH 2326	CALCULUS III	3
MATH 3300	INTRODUCTION TO PROOFS (satisfies Oral Communication Competency)	3
MATH 3313	INTRODUCTION TO PROBABILITY	3
MATH 3316	STATISTICAL INFERENCE	3
MATH 3318	DIFFERENTIAL EQUATIONS	3
MATH 3321	ABSTRACT ALGEBRA I	3
MATH 3330	INTRODUCTION TO LINEAR ALGEBRA AND VECTOR SPACES	3
MATH 3335	ANALYSIS I	3
MATH 3345	NUMERICAL ANALYSIS AND COMPUTER APPLICATIONS	3
MATH 4313	MATHEMATICAL STATISTICS	3
Select one of the following to complete one sequence:		3
MATH 4321	ABSTRACT ALGEBRA II	
MATH 4334	ADVANCED MULTIVARIABLE CALCULUS	
MATH 4335	ANALYSIS II	
Select one of the following options:		6-8
2 courses in Modern and Classical Languages (Levels I and II or higher) in one language OR		
2 courses closely related to the major area		

Additional advanced hours in mathematics		6
BE 3317	LINEAR SYSTEMS IN BIOENGINEERING	3
BE 3320	MEASUREMENT LABORATORY	3
Complete requirement for Master of Science in Biomedical Engineering (please see Biomedical Engineering in the Engineering section of graduate catalog)		
Up to three graduate courses in Biomedical Engineering chosen from the following list will be allowed for undergraduate credit in Fast Track Program:		
BE 5309	HUMAN PHYSIOLOGY IN BIOENGINEERING	
BE 5325	FLUORESCENCE MICROSCOPY	
BE 5326	TISSUE ULTRASOUND OPTICAL IMAGING	
BE 5337	TRANSPORT PHENOMENA IN BIOMEDICAL ENGINEERING	
BE 5343	IMAGE PROCESSING WITH MATLAB: APPLICATIONS IN MEDICINE AND BIOLOGY	
BE 5344	BIOINSTRUMENTATION I	
BE 5346	MEDICAL IMAGING	
BE 5352	DIGITAL PROCESSING OF BIOLOGICAL SIGNALS	
BE 5364	TISSUE ENGINEERING LECTURE	
BE 5365	TISSUE ENGINEERING LAB	
BE 5366	PROCESS CONTROL IN BIOTECHNOLOGY	
BE 5372	DRUG DELIVERY	
BE 5373	FORMULATION AND CHARACTERIZATION OF DRUG DELIVERY SYSTEMS	
BE 5382	LABORATORY PRINCIPLES	
BE 5388	MEDICAL PRODUCT DESIGN AND DEVELOPMENT	

1 See general core requirements (http://catalog.uta.edu/archives/2024-2025/academicregulations/degreerequirements/generalcorerequirements/).

2 Six additional advanced hours (MATH 3301 or above, except for capstone mathematics courses specifically for prospective middle grades or secondary grades mathematics teachers). The need for a second sequence is fulfilled by Math 3313/4313.

Capstone mathematics courses specifically for prospective middle grade mathematics teachers do not count toward a degree in mathematics. Capstone mathematics courses for secondary mathematics teachers will count only for those working on the BS in Mathematics with Secondary Teaching Pathway.

SUGGESTED COURSE SEQUENCE

First Year

First Semester	Hours	Second Semester	Hours
ENGL 1301	3	MATH 1426	4
HIST 1301	3	Modern Language Level 1	3
UNIV 1131	1	CHEM 1441	4
CSE 1310	3	ENGL 1302	3
BIOL 1441	4	Social & Behavioral	3
	14		**17**

Second Year

First Semester	Hours	Second Semester	Hours
MATH 2425	4	MATH 2326	3
PHYS 1443	4	MATH 3300	3
MATH 3330	3	MATH 3318	3
Modern Language Level II	3	PHYS 1444	4
Creative Arts	3	BE 3380	3
	17		**16**

Third Year

First Semester	Hours	Second Semester	Hours
MATH 3313	3	HIST 1302	3
MATH 3316	3	MATH 3321	3
MATH 3335	3	MATH 4313	3
MATH 3345	3	MATH 4335	3
BE 3317	3	BE 3320	3
	15		**15**

Fourth Year			
First Semester	**Hours**	**Second Semester**	**Hours**
BE 4337	3	Choose one BE graduate course	3
POLS 2311	3	POLS 2312	3
Choose 2 BE graduate courses	6	Two statistics undergraduate courses	6
Language, Philosophy, & Culture	3	BE 4382	3
	15		**15**
Fifth Year			
First Semester	**Hours**	**Second Semester**	**Hours**
Choose 2 Statistics graduate level courses	6	Choose 4 BE graduate level courses	12
Choose 1 BE graduate level course	3		
	9		**12**

Total Hours: 145

Minor

Students in non-engineering majors may minor in mathematics by taking 18 hours of mathematics courses with an average GPA in mathematics courses of 2.0, and with at least nine hours of 3000/4000 level courses. The courses that may be counted toward a math minor are MATH 1426 and above, except for capstone mathematics courses specifically for prospective middle or secondary grades mathematics teachers. Nine hours of the minor must be taken in residence. Engineering majors seeking a math minor should refer to the College of Engineering section of this catalog for the requirements for the engineering math minor.

College of Engineering students may minor in mathematics by taking 18 hours of mathematics courses with an average GPA in mathematics courses of 2.0, and with at least nine hours of 3000/4000 level courses. Nine hours of the minor must be taken in residence. The courses that may be counted toward a math minor are MATH 1426 and above, with exceptions listed below for certain majors:

- MATH 3313 is prohibited for BSCPE and BSIE majors
- MATH 3318 and MATH 3319 is prohibited for BSME and BSAE majors
- Only one of MATH 3319 or 3330 may be counted toward the minor
- Only one of MATH 3318 or 3319 may be counted toward the minor