BS in Mathematics Education (694620) MAP Sheet

Physcial and Mathematical Sciences, Mathematics

For students entering the degree program during the 2024-2025 curricular year

This major is designed to prepare students to teach in public schools. In order to graduate with this major, students are required to complete Utah State Office of Education licensing requirements. To view these requirements go to http://education.byu.edu/licensing.html or contact the Education Advisement Center, 175 MCKB, (801) 422-3426

University Core and Graduation Requirements				Suggested Sequence of Courses			
University Core Requirements:				**FRESHMAN YEAR**		**JUNIOR YEAR**	
				1st Semester		5th Semester	
Requirements	**# Classes**	**Hours**	**Classes**	First Year Writing	3.00	MTHED 277	3.00
Religion Cornerstones				MATH 112	4.00	MTHED 278	3.00
Teachings and Doctrines of the Book of Mormon	1	2.00	REL A 275	UNIV 101	2.00	MTHED 362	3.00
Jesus Chirst and the Everlasting Gospel	1	2.00	REL A 250	Religion Cornerstone Class	2.00	Adv Written and Oral Communication	3.00
Foundations of the Restoration	1	2.00	REL C 225	GE Arts, Letters, Sciences	3.00	GE Religion	2.00
The Eternal Family	1	2.00	REL C 200	**Total Hours:**	**14.00**	SC ED 353	3.00
						Total Hours:	**17.00**
BYU Foundations for Student Success				2nd Semester			
Foundations for Student Success	1	2.00	UNIV 101	American Heritage	3.00	6th Semester	
				MATH 113	4.00	CPSE 402	2.00
The Individual and Society				MATH 290	3.00	MATH 341	3.00
American Heritage	1 to 2	3.00-6.00	from approved list	Religion Cornerstone Class	2.00	MTHED 301	3.00
Global and Cultural Awareness	1	3.00	SC ED 353*	GE Arts, Letters, Sciences	3.00	MTHED 308	3.00
				Total Hours:	**15.00**	GE Arts, Letters, Sciences	3.00
Skills						GE Religion	2.00
First Year Writing	1	3.00	from approved list	**SOPHMORE YEAR**		**Total Hours:**	**16.00**
Advanced Written and Oral Communications	1	3.00	from approved list	3rd Semester			
Quantitative Reasoning	1	4.00	MATH 112*	MATH 213	2.00	**SENIOR YEAR**	
Languages of Learning (Math of Language)	1	4.00	MATH 112*	MATH 215	1.00	7th Semester	
				MTHED 177	3.00	MATH 334	3.00
Arts, Letters and Sciences (Complete 6 of 7)				STAT 121	3.00	MTHED 300	3.00
Civilization 1	1	3.00	from approved list	GE Arts, Letters, Sciences	3.00	MTHED 377	3.00
Civilization 2	1	3.00	from approved list	Religion Cornerstone Class	2.00	MTHED 378	1.00
Arts	1	3.00	from approved list	GE Arts, Letters, Sciences	3.00	SC ED 375	3.00
Letters	1	3.00	from approved list	**Total Hours:**	**17.00**	GE Religion	2.00
Biological Science	1	3.00-4.00	from approved list			**Total Hours:**	**15.00**
Physical Science	2	3.00	from approved list	4th Semester			
Social Science	1	3.00	from approved list	MATH 314	3.00		
				MATH Elective	3.00	8th Semester	
Core Enrichment: Electives				MTHED 276	4.00	MTHED 476 or MTHED 496	12.00
Religion Electives	3 to 4	6.00	from approved list	Religion Cornerstone Class	2.00	**Total Hours:**	**12.00**
Open Electives	Variable	Variable	personal choice	GE Arts, Letters, Sciences	3.00		
				Total Hours:	**15.00**		
Graduation Requirements:							
Minimum residence hours requried		30.00					
Minimum hours needed to graduate		120.00					

*These classes fill both university core and program requirements

Program Requirements

Licensure: This program meets the educational requirements designed to lead to an occupationally required professional license or certificate in the state of Utah. Students pursuing occupations requiring a license or certificate in a state other than Utah should contact the appropriate BYU academic advisement center as well as the licensing agency in the state where they intend to work to seek information and guidance regarding licensure and certification requirements.

This major is designed to prepare students to teach in public schools. In order to graduate with this major, students are required to complete Utah State Office of Education licensing requirements. To view these requirements go to https://www.schools.utah.gov/curr/licensing or contact the Education Advisement Center, 350 MCKB, 801-422-3426.

For students accepted into the major after December 16, 2019, grades below C in any required coursework in a teaching major or teaching minor will not be accepted. Teacher candidates must maintain a cumulative GPA of 2.7 or higher once admitted into the program and to qualify for student teaching. For additional details on admission and retention requirements for teaching majors and teaching minors, see Educator Preparation Program Requirements in the Undergraduate Catalog.

Requirement 1 —Complete 7 Courses
Core requirements. Note 1: Prerequisites for all mathematics education courses will be strictly adhered to. Note 2: FBI fingerprint and background clearance must be completed prior to enrollment in MthEd 276.

MTHED 177 - Critical Review of School Math 3.0
MTHED 276 - Exploration of Math Teaching 4.0
MTHED 277 - Task Design for Learning 3.0
MTHED 278 - Assessment of Learning 3.0
MTHED 308 - Teaching with Tech 3.0
MTHED 377 - Math Tchng in Public Schools 3.0
MTHED 378 - Practicum in Math Education 1.0
Requirement 2 —Complete 12 Courses
MATH 112 - Calculus 1 4.0
MATH 113 - Calculus 2 4.0
MATH 213 - Elementary Linear Algebra 2.0
MATH 215 - Computational Linear Algebra 1.0
MATH 290 - Fundamentals of Mathematics 3.0
MATH 314 - Calculus of Several Variables 3.0
MATH 334 - Ordinary Differential Equation 3.0
MATH 341 - Theory of Analysis 1 3.0
MTHED 300 - History & Philosophy of Math 3.0
MTHED 301 - Teaching Stats & Probability 3.0
MTHED 362 - Survey of Geometry 3.0
STAT 121 - Principles of Statistics 3.0
Requirement 3 —Complete 1 of 12 Courses
C S 110 - How to Program 3.0
C S 111 - Intro to Computer Science 3.0
C S 180 - Intro to Data Science 3.0
MATH 350 - Combinatorics & Graph Theory 3.0
MATH 371 - Abstract Algebra 1 3.0
MATH 380 - Mathematics of Data Science 3.0
MATH 485 - Mathematical Cryptography 3.0
MATH 487 - Number Theory 3.0
PHSCS 310 - Physics By Inquiry: Mechanics 3.0
PHSCS 311 - Physics By Inquiry: Electricity 3.0
STAT 201 - Stat for Engineers & Scientist 3.0
STAT 230 - Statistical Modeling 1 3.0
A teaching minor is not needed for licensure. However, students interested in teaching an academic subject in addition to mathematics should consider pursuing a teaching minor in that discipline.
Requirement 4 —Complete 2 Requirements
Professional Education Component:
Licensure requirements: Contact the Education Advisement Center, 350

MCKB, 801-422-3426, to schedule the final interview to clear your application for the secondary teaching license. You should be registered for your last semester at BYU prior to the scheduled appointment.
Requirement 4.1 —Complete 3 Courses
CPSE 402 - Educ Stdnts w/Disablts in ScEd 2.0
SC ED 353 - Multicultural Educ 2.0
SC ED 375 - Ad Dev & Class Mgmt 3.0
Requirement 4.2 —Complete 12 hours
MTHED 476 - Student Teaching in Math - *You may take up to 12.0 credit hours* 12.0
MTHED 496 - Academic Internship - Math - *You may take up to 12.0 credit hours* 12.0
Student teachers/interns must complete all required EPP assessments and paperwork in the Educator system.

THE DISCIPLINE:

Mathematics is the discipline through which we make sense of the order, patterns, and quantitative situations we perceive in the world around us. The foundational skills of this discipline–the abilities to formulate, focus and solve problems; to articulate, test and justify conjectures; to communicate one's reasoning about quantities and the relationships between them; and to see connections between different mathematical ideas and real-world contexts–are highly valued in society and are characteristics of any educated person.

Mathematics is not only a body of knowledge but also a process of analysis, reasoning, comparison, deduction, generalization, and problem solving.

Mathematics educators depend heavily upon their own understanding of mathematics in order to identify and articulate the mathematical ideas they want students to learn, to assess which concepts their students already possess that might serve as a foundation for learning, and to develop activities that help students develop rich understandings. They also use their understanding of the nature of the discipline to structure a culture of inquiry, reasoning, and problem solving in their classrooms.

Courses in the undergraduate program are designed to help prospective teachers plan, manage, and implement classroom activities that facilitate students' learning of mathematics.

Specific program goals include (1) mastery of the foundational skills of mathematics, (2) deep reflection on mathematics learning at all levels, through observation of and participation in high-quality classroom practice, (3) increased autonomy and confidence as an investigator, active learner, and productive thinker, and (4) extended field experience, informed by the best current understanding.

Program faculty include educational and mathematical researchers, specialists in both preservice and in-service teacher education, and school practitioners, spanning a broad range of interest and experience.

CAREER OPPORTUNITIES:

Within Education: Majors in mathematics education prepare for careers in molding and shaping the future minds of the world. Majors prepare for jobs high in demand teaching mathematics at the middle and high school levels. The skills learned in math education set students apart in STEM fields, and the teaching skills gained will allow them to facilitate meaningful Mathematics learning. Outside the physical classroom, math education graduates can develop curriculum or educational software, and work in organizations that provide tutoring, online education, or distance learning. Graduates are well positioned to pursue advanced degrees in order to facilitate professional development at the district and state administration levels or to qualify to teach higher education.

Outside of Education: Majors in mathematics education graduate with a broad background in advanced mathematics and mastery of essential communication skills. Graduates who choose to forego the traditional teaching route have found rewarding careers in business, computer programming, information technology, operations research, cryptography, finance and more. Not only are mathematics education graduates prepared to solve problems in these fields using their mathematical background, but the teaching experiences prepare them to be highly effective in communicating solutions to others.

MAP DISCLAIMER

While every reasonable effort is made to ensure accuracy, there are some student populations that could have exceptions to listed requirements. Please refer to the university catalog and your college advisement center/department for complete guidelines.

DEPARTMENT INFORMATION

FACULTY ADVISOR:

Amy Tanner
187 TMCB
Brigham Young University, Provo, UT 84602
Telephone: (801) 422-3640

ADVISEMENT CENTER INFORMATION

Computational, Mathematical, & Physical Sciences College Advisement Center
Brigham Young University
N-181 ESC
Provo, UT 84602
Telephone: (801) 422-2674