

Welcome to the

Mathematics Education Major

in the College of Physical and Mathematical Sciences

College Advisement Center

Website: <https://science.byu.edu/advisement>

Email: science.math.advisement@byu.edu

Phone: 801-422-2674

Office: N-181 ESC

Mathematics Education Department

Website: mathed.byu.edu

Phone: 801-422-1735

Office: 167 TMCB

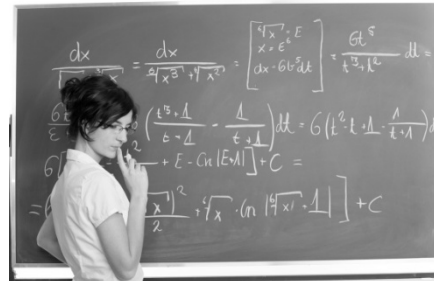
Email: office@mathed.byu.edu

Faculty Advisor – Amy Tanner

Email: atanner@mathed.byu.edu

Phone: 801-422-3640

Office: 187 TMCB



Education Advisement Center

Website: education.byu.edu/advisement

Email: eac.frontdesk@byu.edu

Phone: 801-422-3426

Office: 350 MCKB

Educator: Apply to the program at educator.byu.edu. If you have any technical issues, contact the EPP Help Center at 801-422-1190, <https://epp.byu.edu/>. You should plan to have the application completely done by the time you finish the MTHED 276 class.

STEM Alliance--Connect with STEM employers, mentors, and clubs: <https://stem.byu.edu/>

Club – Mathematics Education Association (MEA)

Advisor: Steven Jones

Email: sjones@mathed.byu.edu

Phone: 801-422-7287

Office: 171B TMCB

Learning outcomes can be found here: <https://learningoutcomes.byu.edu/Courses/program-courses/694620/Mathematics+Education+BS+/1327>

Things to Know

Resources for Graduation Planning

- Flow Charts and Major Academic Plans (MAPs) can be found here: <https://science.byu.edu/advisement/explore-majors-and-minors>.
- Academic advisors in N-181 ESC will help you understand course sequencing and help you plan classes to efficiently fill requirements. They can also help you with study skills and initial career exploration as well as connecting you with correct resources.
- Plan and register from your plan on MyMAP. Your academic advisor can help you understand how to best utilize this resource.
- Evaluate your current program. Periodically major programs are updated. An academic advisor would be happy to review the differences between the programs with you to help you determine what would be best for you.
- Consider meeting with a faculty advisor in your department. Contact info is found on the first page of this packet.

Tutoring Resources and Research

- Volunteer peer tutors are available through Y Serve if you need help with a class. Also, if you excel in a subject, consider serving your fellow students by becoming a tutor. Find out more here: <https://tutoring.byu.edu/>.
- Many departments provide TA Tutorial Labs and research opportunities. Check your department for details:
 - Chemistry and Biochemistry: C-100 BNSN, 801-422-3667, <https://www.chem.byu.edu/>
 - Computer Science: 3361 TMCB, 801-422-3027, csoffice@cs.byu.edu
 - Geological Sciences: S-389 ESC, 801-422-3918, geology@byu.edu
 - Mathematics: 275 TMCB, 801-422-2061, office@mathematics.byu.edu
 - Mathematics Education: 167 TMCB, 801-422-1735, office@mathed.byu.edu
 - Physics and Astronomy: N-283 ESC, 801-422-4361, physics_office@byu.edu
 - Statistics: 2152 WVB, 801-422-4505, statsec@stat.byu.edu

Prepare Early for a Career

- Check out Careers & Experiential Learning in 1134 WSC and at <https://ucs.byu.edu/>.
- Consider doing an internship.
 - Attend the STEM and Career Fairs held in fall and winter semesters.
 - Talk to your department about internship opportunities.
 - Use LinkedIn and Handshake (see flyer in this packet) to connect with alumni and apply for jobs/internships. BYU Connect is another great resource for networking (connect.byu.edu).
 - Talk with the college Career Director who can help you search for internships as well as assist you with many other career related strategies (see first page of this packet).
- Consider taking StDev 317 (Career Strategies) your junior year.
- Consider taking either Chem 502, CS 502, Geol 502, Math 502, PHSCS 502, or STAT 502 (1-credit Job Search Class). Class is held for 1 hour each week.



BS in Mathematics Education (694620) MAP Sheet

Physical and Mathematical Sciences, Mathematics Education

For students entering the degree program during the 2023-2024 curricular year.

This major is designed to prepare students to teach mathematics 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/ess/licensing.html> or contact the Education Advisement Center, 350 MCKB, (801) 422-3426.

University Core and Graduation Requirements				Suggested Sequence of Courses			
University Core Requirements:				FRESHMAN YEAR			
Requirements	#Classes	Hours	Classes	1st Semester		JUNIOR YEAR	
Religion Cornerstones				5th Semester			
Teachings and Doctrine of The Book of Mormon	1	2.0	REL A 275	First-year Writing	3.0	MTHED 277	3.0
Jesus Christ and the Everlasting Gospel	1	2.0	REL A 250	MATH 112	4.0	MTHED 278	3.0
Foundations of the Restoration	1	2.0	REL C 225	Religion Cornerstone course	2.0	MTHED 362	3.0
The Eternal Family	1	2.0	REL C 200	Biological Science	3.0	SC ED 353	3.0
The Individual and Society				Letters	3.0	Advanced Written & Oral Communication	3.0
American Heritage	1-2	3-6.0	from approved list	Total Hours	15.0	Religion elective	2.0
Global and Cultural Awareness	1	2.0	SC ED 353*	2nd Semester		Total Hours	17.0
Skills				American Heritage	3.0	6th Semester	
First Year Writing	1	3.0	from approved list	MATH 113	4.0	CPSE 402	2.0
Advanced Written and Oral Communications	1	3.0	from approved list	MATH 290	3.0	MATH 341	3.0
Quantitative Reasoning	1	4.0	MATH 112* or 113*	Religion Cornerstone course	2.0	MTHED 301	3.0
Languages of Learning (Math or Language)	1	4.0	MATH 112* or 113*	Social Science	3.0	MTHED 308	3.0
Arts, Letters, and Sciences				Total Hours	15.0	Civilization 2	3.0
Civilization 1	1	3.0	from approved list	SOPHOMORE YEAR		Religion Elective	2.0
Civilization 2	1	3.0	from approved list	3rd Semester		Total Hours	16.0
Arts	1	3.0	from approved list	MATH 213	2.0	SENIOR YEAR	
Letters	1	3.0	from approved list	MATH 215	1.0	7th Semester	
Biological Science	1	3-4.0	from approved list	MTHED 177	3.0	MATH 334	3.0
Physical Science	1	3.0	from approved list	STAT 121	3.0	MTHED 300	3.0
Social Science	1	3.0	from approved list	Civilization 1	3.0	MTHED 377	3.0
Core Enrichment: Electives				Religion Cornerstone course	2.0	MTHED 378	1.0
Religion Electives	3-4	6.0	from approved list	Arts	3.0	SC ED 375	3.0
Open Electives	Variable	Variable	personal choice	Total Hours	17.0	Religion Elective	2.0
*THESE CLASSES CAN FILL BOTH UNIVERSITY CORE AND PROGRAM REQUIREMENTS (11 hours overlap)				4th Semester		Total Hours	15.0
Graduation Requirements:				MATH 314	3.0	8th Semester	
Minimum residence hours required		30.0		MATH Elective	3.0	MTHED 476 or MTHED 496	12.0
Minimum hours needed to graduate		120.0		MTHED 276	4.0	Total Hours	12.0
				Religion Cornerstone course	2.0		
				Physical Science	3.0		
				Total Hours	15.0		
				Note: Students are encouraged to complete an average of 15 credit hours each semester or 30 credit hours each year, which could include spring and/or summer terms. Taking fewer credits substantially increases the cost and the number of semesters to graduate.			
				Note 2: The sequence of courses suggested may not fit the circumstances of every student. Students should contact their college advisement center for help in outlining an efficient schedule.			

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/Disablt in ScEd 2.0

SC ED 353 - Multi Cult Ed for Sc Ed 3.0

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 highquality 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 inservice 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

Physical and Mathematical Sciences College Advisement Center

Brigham Young University

N-181 ESC

Provo, UT 84602

Telephone: (801) 422-2674

BYU Mathematics Education

Requirements / Prerequisites 2023-2024 Academic Year

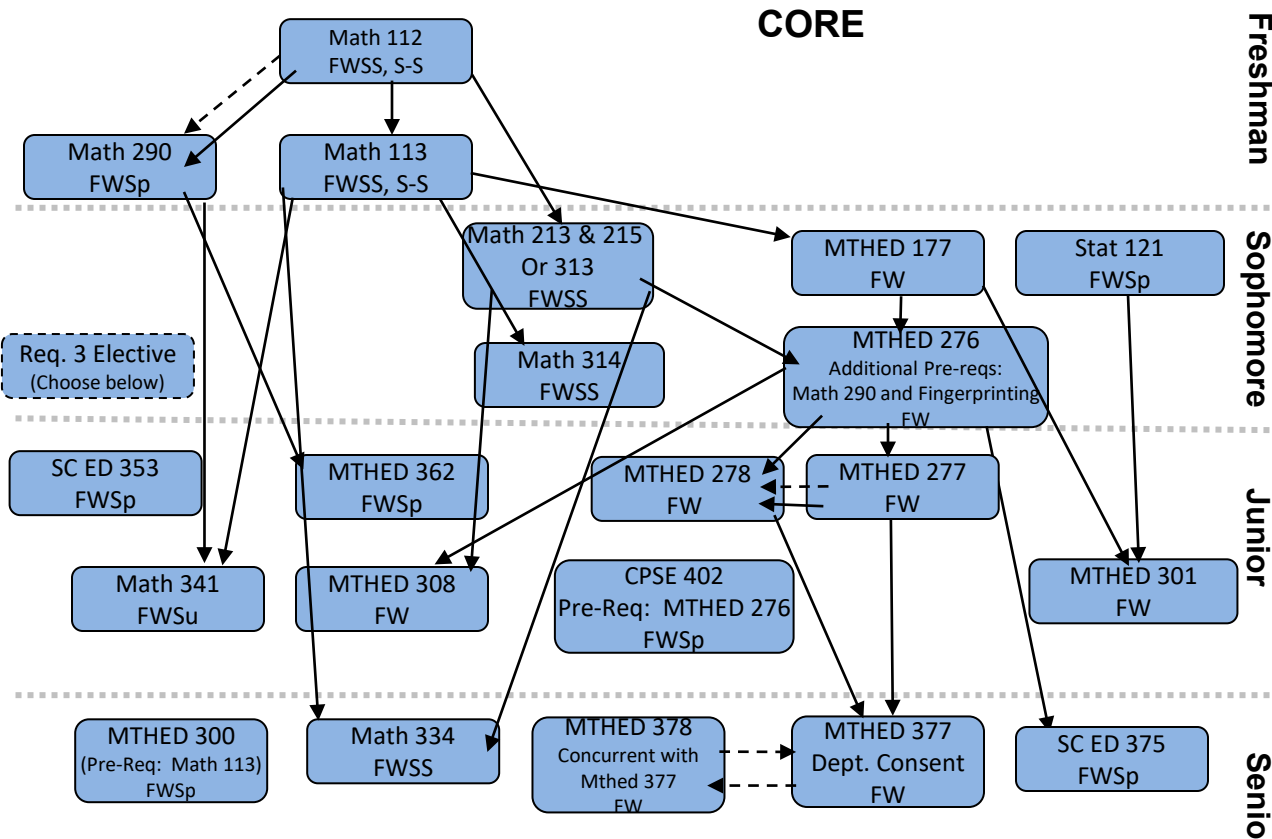
Major (78 Hours)

- Admission into the Math Education major or minor requires the following: **1)** 2.7 minimum high school/college GPA (be in the average of 3.0 for cohort), **2)** fingerprint background check, **3)** a cohort average ACT score of 21.25 (17 minimum) in English, average cohort score of 21.25 (17 minimum) in math, and an average cohort writing score of 6.60 (5 minimum) **or** a SAT average cohort verbal score of 543.33, average cohort math score of 532.5, and an average cohort essay score of 5.30. Anyone who has not taken the writing portion will need to take the Praxis Core Writing test and receive a 165.
- Grades below C in professional education courses or content courses will not be accepted in the teaching major or teaching minor. Maintain minimum 2.7 (3.0 for cohort) GPA to qualify for student teaching.
- Complete Core Requirements: MTHED 177, MTHED 276, MTHED 277, MTHED 278, MTHED 308, MTHED 377, MTHED 378. Note: FBI Fingerprinting and background clearance must be completed prior to enrollment in MTHED 276.
- Complete the following: Math 112, Math 113, Math 213, Math 215, Math 290, Math 314, Math 334, Math 341, MTH-MTHED 300, MTHED 301, MTH-MTHED 362, Stat 121.
- Requirement 3: Complete one of the following: CS 110, CS 111, CS 180, Math 350, Math 371, Math 380, Math 485, Math 487, PHSCS 310, PHSCS 311, Stat 201, Stat 230.
- Complete the following Professional Education Component: CPSE 402, SC ED 353, SC ED 375.
- Complete 12 hours of one of the following: MTHED 476, MTHED 496.

Minor (37 Hours)

Admission requirements for the Math Education major are the same as for the major.

- Grades below C in professional education courses or content courses will not be accepted in the teaching major or teaching minor. Teacher candidates must have a 2.7 total GPA to qualify for student teaching.
- Complete the following courses: Math 112, Math 113, Math 213, Math 215, MTHED 177, MTHED 277, MTHED 278, MTHED 301, MTHED 308, MTHED 377, MTHED 378, and Stat 121.
- Complete MTHED 477R



Note: You will need a permission-to-add code to take MTHED 278 concurrently with MTHED 277 which is preferred. (Email Kathy Lee at kathylee@mathed.byu.edu).

Student Teaching or Internship
Take MTHED 476 (FW) or MTHED 496 (F)
(Pre-Req: Completion of all Coursework or Dept. approval)

CS 110 FWSp	Math 350 Pre-Reqs: Math 213 & 290 Contact Dept.	Math 485 Pre-Reqs: Math 213 F	PHSCS 311 Pre-Reqs: PHSCS 106 Or 220 E
CS 111 Pre-req: CS 110 or equivalent FWSu	Math 371 Pre-Reqs: Math 290 & 213 FWSp	Math 487 Pre-Reqs: Math 371 W	Stat 201 Pre-Reqs: Math 112 FWSp
CS 180 Pre-req: CS 110 or equivalent FW	Math 380 Pre-Reqs: Math 215, CS 180 & Stat 121 (or 201) Contact Dept.	PHSCS 310 Pre-Reqs: PHSCS 105 or 121 W	Stat 230 Pre-Reqs: Stat 121 or 201 FWSp

Key

Core class

Student Teaching/ or internship

Prerequisite

Concurrent

Guide only—please consult MyMAP for full requirements.

Please note: When Taught is subject to change.

Updated 11/15/2023

handshake

BYU's own job board. Employers who want to hire BYU graduates or offer internships to current students post job openings to this website and students apply. Just like LinkedIn, employers can view student profiles and students can network as they apply for jobs and internships

Login to handshake.byu.edu >>> BYU Net ID

**you do not need to create an account, just sign in with you BYU information*



HOW TO MAKE THE MOST OUT OF HANDSHAKE:

1. COMPLETE YOUR PROFILE

- Upload your resume and it will auto-fill in your profile
- Completed profiles tailor your Handshake experience
- Information from your transcript is already uploaded
- Fill in the Summary/Bio section
- Fill in your past jobs and experiences, including all the bullet points you use on your resume
- Add a professional headshot and background photo

Remember: every word in your profile will be searchable by students and employers

4. EXPLORE FELLOW STUDENTS

- "Students" tab
- Search for fellow BYU students to view their profiles and job positions (Facebook stalking... "networking")

5. ATTEND EVENTS

- The "Events" tab will be your key to attending info sessions, interviews, and Career Fairs
- The "Calendar" tab under "Events" will show you what events are coming soon
- Make sure to save events you are interested in or RSVP so you do not forget to attend
- Spread the word to your friends on social media

6. DOWNLOAD HANDSHAKE APP

- Search: "Handshake" not "Handshake Career Services"
- Input your BYU e-mail address: netID@byu.edu (it will forward emails to the e-mail you have on file with BYU)
- Handshake will send you a link via e-mail to enable your account in the app
- Navigate the app to perform all the functions of the website that have been previously mentioned

7. VISIT THE CAREER STUDIO

- Freshen up your resume, cover letter, or LinkedIn
- Receive networking help
- Practice interviewing with a mock interview
- Meet with a full-time Career Counselor in your field

8. GET A JOB, RING THE BELL

- Once you're hired, stop by the Career Studio to ring our Victory Bell and get a picture for the Victory Board



employers are
5X MORE LIKELY
to view a profile that has
at least one job/skill/organization

2. APPLY FOR JOBS

- Search for job titles, employers, or skills
- Apply for interesting jobs that meet your skill set

3. RESEARCH COMPANIES

- Under the "Jobs" Tab there is an "Employers" Tab
- Search for keywords or locations to find companies that are the right fit for you
- Plan to attend their info sessions on BYU Campus, connect with them at Career Fairs, or set up informational interviews to learn more

Remember: when looking at companies or jobs, Handshake will tell you what other BYU students have worked there. Use this resource to network and discover more information!

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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.

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