

# Secondary Mathematics Endorsement Specifications

## Competencies & Requirements

### Purpose

The Secondary Mathematics endorsement can be attached to an Educator License with a Secondary area of concentration. Candidates who currently hold a Utah Educator License and meet the requirements of the Secondary Mathematics endorsement are approved to teach:

- All secondary mathematics courses within the licensed grade levels\*

*\*Qualifications for teaching Concurrent Enrollment coursework require approval by an LEA's partner Institution of Higher Education as defined by Utah Code [53E-10-302 \(7\)](#)*

### Endorsement Requirements:

The Middle School Mathematics endorsement has the following 2 competency areas:

#### Area 1: Mathematics Content Knowledge

Requirements can be fulfilled for Area 1 by one of the following options:

- Earning a bachelor's degree in mathematics or a related field  
OR
- Passing the GRE Mathematics Subject Exam  
OR
- Completing specific university/college courses

#### Area 2: Disposition, Skills, and Pedagogy

Requirements can be fulfilled for Area 2 by one of the following options:

- Earning a bachelor's degree in mathematics education  
OR
- Earning a National Board Certification in Adolescence and Young Adulthood in Mathematics  
OR
- Earning a Presidential Award for Excellence in Mathematics and Science Teaching  
OR
- Completing specific university/college courses  
OR
- Completing specific Microcredential Stacks

Beyond these options for Areas 1 and 2, competency can be demonstrated through other experiences such as teaching a course, holding certification in a related area, or having work experience directly related to the requirement. Please contact Mike Spencer at [mike.spencer@schools.utah.gov](mailto:mike.spencer@schools.utah.gov) before submitting an endorsement application if you can demonstrate competency in one or more of these alternative methods.

An applicant may qualify for a **Professional Endorsement** when they have demonstrated competency in all requirements for both Area 1 and Area 2.

An applicant can qualify for an **Associate Endorsement** if the applicant has:

- Demonstrated competency in at least one of the two areas

OR

- Completed at least 9 credit hours of coursework towards the endorsement (or other competency area equivalent).

If taking Utah-Based University Courses approved by USBE:

- For individual coursework, applicants must earn a C or higher in each course taken.
- Unless specifically indicated, all courses require a minimum of Calculus I as a prerequisite.
- AP Coursework is accepted.
- Mathematics (or related) degrees must include 24 semester hours of mathematics and include Algebra, Geometry, and Statistics coursework.
- If you would like to learn more about a specific mathematics program or approved courses, please visit the following websites for Utah Institutions of Higher Education:

[Brigham Young University](#)

[Snow College](#)

[Southern Utah University](#)

[University of Utah](#)

[Utah State University](#)

[UMEP](#) (Utah Mathematics Endorsement Project at USU)

[Utah Tech University](#)

[Utah Valley University](#)

[Weber State University](#)

[Westminster College](#)

# Secondary Mathematics Endorsement Requirement Options

## Requirement Area 1: Secondary Mathematics Content Knowledge

### [Mathematics Content Knowledge Competencies](#)

#### College Major

- Major in Mathematics or related field

#### Content Exam

- [GRE Math Subject Exam](#)
  - Utah Passing Score 515

#### University Courses

Approved Utah Institutions of Higher Education courses and their corresponding course numbers listed by required course:

#### College Algebra

*\*Calculus prerequisite does not apply.*

- Brigham Young University - College Algebra - Math 110
- Snow College - College Algebra - Math 1050
- Southern Utah University - College Algebra - Math 1050
- UMEP - Contact the program director.
- University of Utah - College Algebra - Math 1050
- Utah State University - College Algebra - Math 1050 OR Math 1051
- Utah Tech University - College Algebra/Pre-Calculus - Math 1050
- Utah Valley University - College Algebra - Math 1050 OR Math 1055
- Weber State University - College Algebra - Math 1050
- Westminster College - College Algebra - Math 101

#### Trigonometry

*\*Calculus prerequisite does not apply.*

- Brigham Young University - Trigonometry - Math 111
- Snow College - Trigonometry - Math 1060
- Southern Utah University - Trigonometry - Math 1060
- UMEP - Contact the program director.

- University of Utah - Trigonometry - Math 1060
- Utah State University - Trigonometry - Math 1060
- Utah Tech University - Trigonometry - Math 1060
- Utah Valley University - Trigonometry - Math 1060
- Weber State University - Trigonometry - Math 1060
- Westminster College - College Algebra - Math 142

## Calculus I

- Brigham Young University - Calculus I - Math 112
- Snow College - Calculus I - Math 1210
- Southern Utah University - Calculus I - Math 1210
- UMEP - Calculus I - Math 4910-A
- University of Utah - Calculus I - Math 1210
- Utah State University - Calculus I - Math 1210
- Utah Tech University - Calculus I - Math 1210
- Utah Valley University - Calculus I - Math 1210
- Weber State University - Calculus I - Math 1210
- Westminster College - Calculus I - Math 201

## Calculus II

- Brigham Young University - Calculus II - Math 113
- Snow College - Calculus II - Math 1220
- Southern Utah University - Calculus II - Math 1220
- UMEP - Calculus I - Math 4910-B
- University of Utah - Calculus II - Math 1220
- Utah State University - Calculus II - Math 1220
- Utah Tech University - Calculus II - Math 1220
- Utah Valley University - Calculus II - Math 1220
- Weber State University - Calculus II - Math 1220
- Westminster College - Calculus I - Math 202

## Multivariable Calculus

- Brigham Young University - Calculus of Several Variables - Math 314
- Snow College - Calculus III - Math 2210
- Southern Utah University - Calculus III - Math 2210
- UMEP - Multivariable Calculus - Math 4910-C
- University of Utah - Calculus III - Math 2210
- Utah State University - Multivariable Calculus - Math 2210

- Utah Tech University - Multivariable Calculus - Math 2210
- Utah Valley University - Calculus III - Math 2210
- Weber State University - Calculus III - Math 2210
- Westminster College - Multivariate Calculus - Math 203

## Linear Algebra

- Brigham Young University - Computational Linear Algebra - Math 215
- Snow College - Linear Algebra - Math 2270
- Southern Utah University - Linear Algebra - Math 2270
- UMEP - Linear Algebra - Math 4910-LD
- University of Utah - Linear Algebra - Math 2270
- Utah State University - Linear Algebra OR Linear Algebra and Differential Equations - Math 2270 OR Math 2250
- Utah Tech University - Linear Algebra - Math 2270
- Utah Valley University - Linear Algebra - Math 2270
- Weber State University - Linear Algebra - Math 2270
- Westminster College - Linear Algebra - WCSAM 203

## Probability & Statistics

\*Must have a Calculus prerequisite, introductory courses not allowed.

- Brigham Young University - Principles of Statistics - Stat 121
- Snow College - Statistics for Scientists & Engineers - Math 3040
- Southern Utah University - Probability & Statistics - Math 3700
- UMEP - Probability & Statistics - Stat 3000
- University of Utah - Applied Statistics I OR Introduction to Probability - Math 3070 OR Math 5010
- Utah State University - Statistics for Scientists - Stat 3000
- Utah Tech University - Probability & Statistics - Math 3400
- Utah Valley University - Probability & Statistics for Engineering and the Sciences - Stat 3040
- Weber State University - Probability & Statistics I - Math 3410
- Westminster College - Probability & Statistics - Math 310

## Introduction to Analysis OR Advanced Calculus

- Brigham Young University - Theory of Analysis I - Math 341
- Snow College - Contact the program director.
- Southern Utah University - Introduction to Analysis - Math 4400
- UMEP - Introduction to Analysis - Math 4200

- University of Utah - Foundations of Analysis OR Foundations of Analysis II - Math 3210 OR Math 3220
- Utah State University - Foundations of Analysis OR Introduction to Analysis I - Math 4200 OR Math 5210
- Utah Tech University - Introduction to Analysis I - Math 3200
- Utah Valley University - Foundations of Analysis - Math 3200
- Weber State University - Introductory Real Analysis I - Math 4210
- Westminster College - Complex Analysis - Math 323

## Euclidean/Non-Euclidean Geometry

### OR Geometry for Secondary Mathematics Teaching

- Brigham Young University - Survey of Geometry OR Euclidean Geometry: Content, Learning, and Teaching - MathEd 362 OR MathEd 562
- Snow College - Contact the program director.
- Southern Utah University - Modern Geometries OR Mathematics for Secondary Education II - Math 3130 OR Math 3020
- UMEP - Geometry for Secondary Mathematics Teaching - Math 5010 OR Math 3110
- University of Utah - Foundations of Geometry OR Geometry for Secondary Mathematics Teachers - Math 3100 OR Math 3420
- Utah State University - Modern Geometry - Math 3110
- Utah Tech University - Euclidean/Non-Euclidean Geometry OR Geometry and Statistics for Secondary Mathematics Teaching - Math 3100 OR Math 3020
- Utah Valley University - Geometry for Secondary Mathematics Teaching - Math 4030
- Weber State University - Foundations of Euclidean & Non-Euclidean Geometry
  - OR Geometry from a Teaching Perspective
  - OR Geometry for Elementary Teachers
    - Math 3120 OR Math 2010 OR Math 3070
- Westminster College - Foundations of Geometry - Math 314

## Differential Equations OR Applied Mathematics/Modeling

- Brigham Young University - Ordinary Differential Equations - Math 334
- Snow College - Differential Equations - Math 2280
- Southern Utah University - Differential Equations - Math 2280
- UMEP - Differential Equations - Math 4910-LD
- University of Utah - Introduction to Differential Equations OR Mathematical Modeling - Math 2280 OR Math 5740

- Utah State University - Ordinary Differential Equations OR Linear Algebra and Differential Equations - Math 2280 OR Math 2250
- Utah Tech University - Ordinary Differential Equations - Math 2280
- Utah Valley University - Ordinary Differential Equations - Math 2280
- Weber State University - Ordinary Differential Equations OR Introduction to Mathematical Modeling - Math 2280 OR Math 3550
- Westminster College - Differential Equations - Math 363 Requirement

## Area 2: Secondary Mathematics Dispositions, Skills, and Pedagogy

[Pedagogy, Skills, and Dispositions Competencies](#)

### College Major

University degree in Mathematics Education.

### Certificate or Experiences

[National Board Certification: Mathematics \(Adolescence and Young Adulthood\)](#)  
(AYA NBCT Math)

[Presidential Award for Excellence in Mathematics and Science Teaching](#)  
(PAEMST) Awardee or Finalist

### Microcredentials

[Algebra for Secondary Mathematics Teaching](#)

Microcredential Courses:

- Building Procedural Fluency from Conceptual Understanding
- Eliciting and Using Evidence of Student Thinking
- Establishing Goals to Focus Learning
- Facilitating Meaningful Mathematical Discourse
- Implementing Tasks that Promote Reasoning and Problem Solving
- Posing Purposeful Questions, Supporting Productive Struggle in Learning Mathematics
- Using and Connecting Mathematical Representations

[Geometry for Secondary Mathematics Teaching](#)

Microcredential Courses:

- Content Standards
- Connection to Other Standards
- History

- Misconceptions
- Pedagogy
- Technology

### [Statistics and Probability for Secondary Mathematics Teaching](#)

Microcredential Courses:

- Assessment
- Conceptual Underpinnings
- Statistical Habits of Mind
- Misconceptions
- Statistical Literacy
- Technology

### [Secondary Mathematics Methods](#)

Microcredential Courses:

- Mathematical Modeling
- Pedagogy
- Reflective Assessment
- Standards
- Standards Progression
- (Mathematical Educational) Technology

## University Courses

Approved Utah Institutions of Higher Education courses and their corresponding course numbers:

### [Algebra for Secondary Mathematics Teaching](#)

- Brigham Young University - Contact the program director.
- Snow College - Contact the program director.
- Southern Utah University - Math for Secondary Education I - Math 3010
- UMEP - Algebra for Secondary Mathematics Teaching - Math 3010
- University of Utah - Algebra for Secondary Mathematics Teaching - Math 3430
- Utah State University - Pedagogical Foundations of Algebra - Math 3010
- Utah Tech University - Algebra for Secondary Mathematics Teaching - Math 3010
- Utah Valley University - Algebra for Secondary Mathematics Teaching - Math 3030 OR Math 290R
- Weber State University - Algebra from a Teaching Perspective - Mthe 4110
- Westminster College - Contact the program director.



## Geometry for Secondary Mathematics Teaching

- Brigham Young University - Survey of Geometry or Euclidean Geometry: Content, Learning, and Teaching - MthEd 362 OR MthEd 562
- Snow College - Contact the program director.
- Southern Utah University - Math for Secondary Education II - Math 3020
- UMEP - Geometry for Secondary Mathematics Teaching - Math 5010 OR Math 3110
- University of Utah - Geometry for Secondary Mathematics Teaching - Math 3420
- Utah State University - Geometry for Secondary Mathematics Teaching - Math 4030 OR Math 290R
- Utah Tech University - Geometry and Statistics for Secondary Mathematics Teaching - Math 3020
- Utah Valley University - Geometry for Secondary Mathematics Teaching - Math 4030 OR Math 290R
- Weber State University - Geometry from a Teaching Perspective - Mthe 2120 OR Mthe 3070
- Westminster College - Contact the program director.

## Statistics for Secondary Mathematics Teaching

- Brigham Young University - Teaching Statistics and Probability - MthEd 301
- Snow College - Contact the program director.
- Southern Utah University - Contact the program director.
- UMEP - Statistics for Secondary Mathematics Teaching - STAT 4010
- University of Utah - Statistics for Secondary Mathematics Teaching - Math 3410
- Utah State University - Statistics and Probability for Secondary Mathematics Teaching - Stat 4010
- Utah Tech University - Contact the program director.
- Utah Valley University - Statistics & Probability for Secondary Mathematics Teaching - Math 4040 OR Math 290R
- Weber State University - Probability and Statistics from a Teaching Perspective - Mthe 3060
- Westminster College - Contact the program director.

## Methods of Teaching Secondary Mathematics

\*Applicants may demonstrate competency for this requirement with 3 or more years of experience teaching Secondary Mathematics.

- Complete the [Verification of Educator Experience Form](#) as evidence of demonstrating competency for this requirement.

## University Courses

- Brigham Young University
  - Mathematics Teaching in the Public Schools - MthEd 377
  - AND Practicum in Mathematics Education - MthEd 378
- Snow College - Contact the program director.
- Southern Utah University - Methods of Teaching Secondary Mathematics - Math 4900
- UMEP - Methods of Teaching Secondary Mathematics - Math 4500
- University of Utah - Methods of Teaching Secondary Mathematics - Math 4090
- Utah State University - Methods for Teaching Secondary Mathematics - Teal 4630 OR Teal 6630 OR Math 4500 OR Math 6500
- Utah Tech University - Methods Teach Secondary Mathematics - Math 4500
- Utah Valley University - Methods of Secondary School Mathematics Teaching - Math 3010 OR Math 290R
- Weber State University - Methods and Technology for Teaching Secondary Mathematics - Mthe 3010
- Westminster College - Methods of Teaching Secondary School Math - Educ 387

For questions, please contact Mike Spencer, the Secondary Mathematics Specialist at [mike.spencer@schools.utah.gov](mailto:mike.spencer@schools.utah.gov).