



**SHEPHERD**  
UNIVERSITY

# **MATHEMATICS EDUCATION SPECIALIZATION HANDBOOK**

**FOR SPECIALIZATIONS LEADING TO  
WEST VIRGINIA CERTIFICATION  
Teaching Field Grades 5-Adult & Teaching Endorsement Grades 5-9**

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**The Six Principles for School Mathematics describe the mathematical understanding, knowledge, and skills that students should acquire from Prekindergarten through Grade 12 ([National Council of Teachers of Mathematics \[NCTM\]](#)) and include the following:**

- **Equity.** Excellence in mathematics education requires equity—high expectations and strong support for all students.
- **Curriculum.** A curriculum is more than a collection of activities: it must be coherent, focused on important mathematics, and well-articulated across the grades.
- **Teaching.** Effective mathematics teaching requires understanding what students know and need to learn and then challenging and supporting them to learn it well.
- **Learning.** Students must learn mathematics with understanding, actively building new knowledge from experience and prior knowledge.
- **Assessment.** Assessment should support the learning of important mathematics and furnish useful information to both teachers and students.
- **Technology.** Technology is essential in teaching and learning mathematics; it influences the mathematics that is taught and enhances students' learning.

**At Shepherd University, the Program Goals for candidates within the Mathematics Program also include the following:**

- To develop the mathematics skills needed to teach among the major mathematical domains: Number; Algebra and Functions; Statistics and probability; Geometry, Trigonometry, and Measurement; Calculus; and Discrete Mathematics;
- To develop and train students in mathematical processes of problem solving; reason and communicate mathematically; and engage in mathematical modeling;
- To train students to plan rigorous and engaging mathematics instruction supporting students' equitable access and culturally responsible opportunities for learning;
- To develop and train effective and equitable teaching practices to support rigorous mathematical learning for a full range of cognitive abilities of diverse populations of students;
- To foster research-based assessments and use evidence of students' learning to improve instruction and subsequent student learning;
- To foster networking and professional growth opportunities to support teacher candidate learning, and to create more equitable mathematics learning environments;
- To engage teacher candidates in a planned sequence of field experiences and clinical practice in diverse settings under the supervision of experienced and highly qualified mathematics teachers.

**For policies and procedures related to all teacher candidates within the EPP at Shepherd, review the [EPP Student Handbook](#) and/or the [Practicum Manual](#) and/or [School of Education website](#). For more specific information regarding your program and its requirements, contact your advisor/specialization coordinator.**

# Mathematics Grades 5-12 (YRL Residency)

## Four-Year Course Progression – Fall 2026 Catalog

FALL					SPRING			
Sub./Course No.	Tier	First Year Title	Credit		Sub./Course No.	Tier	First Year Title	Credit
Core Curriculum	1	ENGL 101	3		Core Curriculum	1	ENGL 102	3
Core Curriculum	1	Choose History (100-level)	3		ECON 205		Prin. of Macroeconomics (SO-CK)(Req.)	3
COMM 202	2	Fundamentals of Speech (HM-GL) (Req.)	3		MATH 108*		Precalculus	4
EDUC 150**	1	Seminar in Education (FYEX)	1		MATH 155*		Discrete Structures	3
Core Curriculum	2	Choose HM with Advisor	3		MATH 314		Statistics	3
MATH 105*		College Algebra	3					
Take Praxis I CASE (See below.) **			TOTAL		* See catalog or speak to Advisor *			TOTAL
			16					16
FALL					SPRING			
Sub./Course No.	Tier	Second Year Title	Credit		Sub./Course No.	Tier	Second Year Title	Credit
EDUC 200**	2	Foundations of Education (SO-MD) (Req.)	3		EDUC 360**		Survey of Exceptional Children (SO-MD) (Req.)	3
Core Curriculum	2	Choose Art with advisor	3		MATH 208		Calculus II	4
MATH 207*		Calculus* (MA) (Req.)	4		MATH 303		Intro to Geometry	3
MATH 254		Discrete Mathematics	3		MATH 307		Linear Algebra	3
PHYS 221 and 221L		General Physics I with General Physics I Lab	4		PHYS 222 and 222L		General Physics II with General Physics II Lab	4
Take Praxis I CASE (See below.) **			TOTAL		Take Praxis I CASE (See below.) **			TOTAL
			17					17
FALL				JUNCTURE 1 / ADMISSION TO EPP REQUIRED TO PROCEED	SPRING			
Sub./Course No.	Tier	Third Year Title	Credit		Sub./Course No.	Tier	Third Year Title	Credit
MATH 309		Calculus III	4		EDUC 370		Creating Learning Environments	3
MATH 310		Differential Equations	4		EDUC 380		Innovative Technology	3
MATH 312		Introduction to Abstract Algebra	3		MATH 329 OR MATH 321		Modeling OR Probability & Statistics	3
EDUC 320**		Social / Psychological Conditions of Learning	4		Elective *			3
					Core Curriculum		Choose Wellness (WE)	3
Apply for Juncture 1**			TOTAL		Take Praxis II (REQUIRED)			TOTAL
			15					15
FALL					SPRING			
Sub./Course No.	Tier	Fourth Year Title	Credit		Sub./Course No.	Tier	Fourth Year Title	Credit
EDUC 400		Inclusion in the Regular Classroom	3		EDUC 463		Secondary Education Residency II (Grades 5-Adult) (CP)	9
EDUC 443	2	Literacy in the Content Areas	3		EDUC 461***	3	Clinical Experience Seminar (WM)	3
EDUC 420		Special Methods of Teaching Mathematics	3					
EDUC 375		Secondary Educ. Residency I	0				TOTAL	12
Elective *			3					
Apply for Juncture 2			TOTAL				DEGREE TOTAL	120
			12					
***EDUC 461 is designated as the Writing in the Major [WM] course for Education.							Math Education (Grades 5-Adult), B.A.	

### \*\*Juncture I (Admission to EPP) Requirements:

- Must have an overall GPA of 2.75 and a 2.75 Shepherd GPA (incl. Transfer Students).
- Must have a C or better in all Specialty and Professional Courses (speak with your advisor).
- \*\*Must have passed the PRAXIS I CORE/CASE or provided proof of exemption as determined/required by the State of West Virginia. *Please speak with your advisor regarding the exemptions/requirements/deadlines regarding the PRAXIS I CORE/CASE exams.*
- Contact your advisor with any questions about any additional course work or requirements that must be completed before applying for Juncture I.

### Juncture II (Admission to ST/Residency II) Requirements:

- Must have an overall GPA of 2.75 and a 2.75 Shepherd GPA (incl. Transfer Students).
- Must have a C or better in all Specialty and Professional Courses (speak with your advisor).
- Must have an overall 2.75 GPA in Specialty and Professional Courses (speak with your advisor).
- You should pass all PRAXIS II Content exams before applying to student teaching or Residency II. *Please speak with your advisor regarding the deadlines for passing the PRAXIS II Content exams.*

## Teaching Endorsement / Grades 5-9 – General Math through Algebra I

The Mathematics 5-9 program, which offers a subject specialization for certification, is intended primarily for students preparing to teach in middle schools. [This endorsement is offered only as an add-on to the K-6 elementary program or to any of the secondary programs.](#)

*Curriculum for Endorsement in Mathematics Teaching Field Grades 5-9 General Mathematics through Algebra I*

This endorsement is offered as an add-on to the K-6 elementary program or to any of the secondary programs.

**Total hours required, 20 Hours:**

# Mathematics Grades 5-9 Endorsement Four-Year Course Progression – Fall 2026 Catalog

FALL		FIRST YEAR		SPRING		FIRST YEAR	
Sub./Course No.	Tier	Title	Credit	Sub./Course No.	Tier	Title	Credit
MATH 105		College Algebra	3	MATH 108		Precalculus	4
				MATH 314		Statistics	3

ALL		SECOND YEAR		SPRING		SECOND YEAR	
Sub./Course No.	Tier	Title	Credit	Sub./Course No.	Tier	Title	Credit
MATH 155		Finite Math	3	MATH 254		Discrete Mathematics	3
MATH 207		Calculus I	4				

FALL		THIRD YEAR		SPRING		THIRD YEAR	
Sub./Course No.	Tier	Title	Credit	Sub./Course No.	Tier	Title	Credit
EDUC 420		Special Methods for Mathematics	3	MATH 303		Geometry	3
				Math Endorsement (Grades 5-9) TOTAL = 26			

**Visit the following links for detailed descriptions of these programs and course choices:**

[Mathematics Teaching Field Grades 5-Adult, B.A.](#)  
[Mathematics Teaching Field Endorsement Grades 5-9](#)