



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	4
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	3		Elective *			3
					Core Curriculum		Choose Wellness (WE)	3
Apply for Juncture 1** TOTAL					Take Praxis II (REQUIRED) TOTAL			
14					16			
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			
12					120			
***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](#)