MATHEMATICS-EDUCATION 5-9 (STARTING IN MTH 124)

BACHELOR OF ARTS OR BACHELOR OF SCIENCE

THIS IS A **GENERAL** CURRICULUM GUIDE AND IS NOT APPLICABLE TO EVERY STUDENT. IT IS IMPORTANT TO MEET WITH YOUR ADVISOR.

Both your cumulative and major GPAs must be at least 2.7 to be registered for the Teacher Apprenticeship courses and corresponding field placement.

Year One

[1]**MTH 124 Precalculus: Functions and Models** GE Math
  Prereq: MTH 110, or math placement
	5	[1]**MTH 201** Calculus I GE Math
		  Prereq: MTH 122 & 123, or MTH 124, or math placement
			4

EDF 115 Intro to Education: An Exploration of Schooling in America. GE Social/Behavioral	3	[1]**MTH 204** Linear Algebra I
		  Prereq: MTH 122 & 123, or MTH 124, or math placement
		  Prerequisites: Gen Ed Foundations – Writing and MTH 201
			3

[2]**WRT 150** Gen Ed	4	**PSY 331** Adolescent Development Prerequisite: PSY 101	3
PSY 101 Introductory Psychology GE Social/Behavioral	3	Gen Ed GE Physical/Life Science with Lab	4
Optional Elective	1	Optional Elective	1
Total	**16**	**Total**	**16**

Year Two

MTH 202 Calculus II Prerequisite: MTH 201	4	**MTH 323** Prob. & Stats for Elementary Teachers Prerequisite: MTH 226 or (MTH 210 and EDF 115)	3

[3]**MTH 210 SWS** Communicating in Mathematics
  Prerequisites: Gen Ed Foundations – Writing and MTH 201
	4	**MTH 315** Discrete Mathematics
		  Prerequisite: MTH 210
			3

Gen Ed GE Life Science	3	**EDR 225** Intro to Teaching Multilingual Learners GE Cultures-GP	3
Gen Ed Arts	3	[4]**Math theme elective**	3
Optional elective	1	**MTH 331** Euclidean Geometry Prerequisites: MTH 210 and either MTH 204 or MTH 322	3
Total	**15**	**Total**	**15**

Year Three

MTH 324 Algebraic Reasoning in Grades 3-9
  Prerequisites: MTH 326 or (MTH 210 and one of MTH 229, 322, or 323)
	3	**MTH 329** Teaching Middle Grades Math
		  Prerequisites: **C or better** in MTH 210 and MTH 324
			3

[4]**Math theme elective**	3	[4]**Math theme elective**	3
[3]**EDF 260 SWS** Educational Research & Assessment: Foundations of Practice SWS	3	**EDF 315** Diverse Perspectives on Education GE US Diversity	3
Gen Ed GE Philosophy and Literature	3	Gen Ed GE Historical Analysis	3
MTH 322: Geometry for Elementary Teachers	3	**MTH 495** The Nature of Modern Mathematics (Capstone) Prerequisites: MTH 204, 210, and at least four other 300-400 level	3
Optional Elective	1	**OR** MTH 496 Senior Thesis (Capstone) Prerequisites: 27 cr. in major, major GPA 3.0+, & permission of instructor Optional Elective	1
Total	**16**	**Total**	**16**

Year Four - Teacher Preparation Professional Program

[5]**Apprenticeship**		**Internship**	
EDI 333 Secondary Teacher Apprenticeship and Sem: (5-9)	4	**EDI 431/433/434** Secondary Teacher Internship	7

EDI 332 Secondary Apprenticeship Content Area Sem. (5-9)
  Corequisite: EDI 331, 333, 334, or 335
	2	**EDI 432** Secondary Internship Disciplinary Content Area Sem.
		  Corequisite: EDI 431, 433, 434, or 435
			2

[3]**EDR 321 SWS** Content Area Literacy
  Corequisite: EDI 331, 333, 334, or 335
	3	**EDF 495** Reflective Inquiry and Practice
		  Corequisite: EDI 430, 431, 433, 434, or 435
			3

EDS 319 Universal Design for Learning GE Issues Prerequisite: Junior standing	3		
EDT 477 Secondary Teaching with Technology GE Issues	3		
Total	**15**	**Total**	**12**

* The block tuition rate is 12-15 credits. You will pay additional tuition for any credits over 15.

[1] **Students must fulfill MTH 110, MTH 122, and MTH 123 or MTH 124 or waive the requirement through math placement. These courses do not count towards the completion of the Mathematics major**

[2] Students who self-place into WRT 120 should take this course in the fall and then WRT 130 in the winter of their first year. Students who self-place into WRT 150 can take in either semester during their first year. A grade of C or better is required in WRT 130 or 150 in order to satisfy the WRT requirement at GVSU.

[3] Students must complete a total of two courses with an SWS attribute. One SWS should be outside of the major.

[4] Mathematics Education-5-9 students must pick a math elective theme containing three courses. See below for options.

[5] Apprenticeship applications are due the previous semester. See: https://www.gvsu.edu/education/undergraduate/apply-for-field-placement-4.htm

Mathematics students can pursue a Bachelor of Arts or Bachelor of Science degree. Students who wish to obtain a BA must fulfill 3rd semester proficiency in a foreign language (201 level). The BS requirements are incorporated into the major requirements and include MTH 201, MTH 204, and MTH 210. To earn a degree from GVSU, all students must complete the following: 120 total credits, all major/minor requirements, all general education requirements, at least 58 credits from a 4-year institution, and the last 30 credits of the degree completed through GVSU.

Declaring the Mathematics and Secondary Education Major

1. Log into myBanner from the GVSU homepage
2. Once logged in select "Student", "Student Records", and then, "Change Major"
3. Click on the "Change Major 1/Program" box
4. Click on the down arrow in the box next to "New Major 1/Program," from here scroll down and choose "Mathematics Teaching-BA Education 5-9" **OR** "Mathematics Teaching-BS Education 5-9" depending on your degree
5. Click "Submit." The system will automatically declare your 2nd major in "Secondary Education"

General Education Categories fulfilled by the Mathematics - Education Majors for 5-9:	
Social and Behavioral Sciences: **PSY 101, EDF 115**	Issues: **EDS 379, EDT 477**
Mathematical Sciences: **MTH 201**	Cultures-U.S. Diversity: **EDF 315**
Cultures-Global Perspectives: **EDR 225**	

Second Major in Secondary Education (42 credits)	
A 2.7 cumulative GPA in the Secondary Education Major Courses is required	
⎯ **EDF 115** Introduction to Education (3) ⎯ **EDR 225** Intro to Teaching Multilingual Learners (3) ⎯ **EDF 315** Diverse Perspectives on Education (3) ⎯ **EDF 260** Educational Research and Assessment (3)*	⎯ **PSY 331** Adolescent Development (3) Prerequisite: PSY 101 *Must earn a B- or better*

Apprenticeship (15 credits)	Internship (12 credits)
⎯ **EDI 333** Secondary Teacher Apprenticeship (4)* ⎯ **EDI 332** Secondary Teacher Apprenticeship Content Area Sem. (2) ⎯ **EDR 321** Content Area Literacy (3)* ⎯ **EDT 477** Teaching with Technology (3)* ⎯ **EDS 319** Universal Design for Learning: Secondary (3)*	⎯ **EDI 433** Secondary Teacher Internship (7)* ⎯ **EDI 432** Secondary Internship Content Area Seminar (2) ⎯ **EDF 495** Reflective Inquiry and Practice (3)* *Must earn a B- or better*

Application requirements for Teacher Apprenticeship and Teaching Internship experiences can be found at https://www.gvsu.edu/education/undergraduate/apply-for-field-placement-4.htm If you have any questions about the clinical experience applications, please contact the Office of Certification and Accreditation at (616) 331-6650 or email oca@gvsu.edu

Math Elective Themes (Choose one of the following)		
Applied Theme	**Calculus Theme**	**Math Education Theme**

Take both of these:
   MTH 205 Linear Algebra II
   MTH 360 Operations Research
 	
 Then choose *one* course from this list:
   MTH 229 Teaching High School Mathematics
   MTH 296 Introduction to Mathematical Research
   MTH 304 Analysis of Differential Equations*
   MTH 350 Modern Algebra I
   MTH 402 Complex Analysis*
   MTH 406 Linear Algebra III
   MTH 408 Real Analysis I*
   MTH 431 Non-Euclidean Geometry
   MTH 450 Modern Algebra I*
   MTH 495 Nature of Modern Math^
   MTH 496 Senior Thesis^
	Choose one:
	   MTH 203 Calculus III *or* **MTH 304** Analysis of Differential Equations*
	
	 Then take a total of *two* more classes:
	
	 Choose *at most one* course from this list:
	   MTH 205 Linear Algebra II
	   MTH 229 Teaching High School Mathematics
	   MTH 296 Introduction to Mathematical Research
	   MTH 304 Analysis of Differential Equations
	
	 Choose *one or two* courses from this list:
	   MTH 350 Modern Algebra I
	   MTH 402 Complex Analysis*
	   MTH 406 Linear Algebra III*
	   MTH 408 Real Analysis I
	   MTH 431 Non-Euclidean Geometry
	   MTH 450 Modern Algebra I*
	   MTH 495 Nature of Modern Math^
	   MTH 496 Senior Thesis^
		Take this:
		   MTH 226 Math for PK-6: Whole Numbers and Operations
		
		 Then choose *one* course from this list:
		   MTH 229 Teaching High School Mathematics
		   MTH 326 Math for PK-6: Fractions, Decimals, and Proportional Reasoning
		
		 And choose *one course* from this list:
		   MTH 350 Modern Algebra I
		   MTH 402 Complex Analysis*
		   MTH 406 Linear Algebra III*
		   MTH 408 Real Analysis I*
		   MTH 431 Non-Euclidean Geometry
		   MTH 450 Modern Algebra I*
		   MTH 495 Nature of Modern Math^
		   MTH 496 Senior Thesis^

* This course has additional prerequisites ^ May only count if not taken as capstone		
May be used with Unit Head Permission: MTH 380, 386, 387, 399, and 480		