

# Mathematics Education (BS): Mathematics Specialization (13MTHEDBS-13MTHEDMS)

Critical Path Courses – Identify using the code (CP) which courses are considered critical path courses which represent specific major requirements that are predictive of student success in a given program/plan. Place the (CP) next to the credit hours for the course.

## Freshman Year

FALL SEMESTER	CREDIT	SPRING SEMESTER	CREDIT
MA 141 Calculus I <sup>A,5</sup>	4	MA 241 Calculus II <sup>A,5</sup>	4
Science <sup>2,B,4</sup>	4	Science <sup>2,B,4</sup>	4
ENG 101 Academic Writing & Research <sup>H</sup>	4	ST 311 Introduction to Statistics <sup>5</sup>	3
E 115 Intro to Computing Environments <sup>1</sup>	1	GEP Humanities Req. <sup>C,I,J</sup>	3
ED 100 Intro to Education <sup>7</sup>	2	HES_***Health & Exercise Studies Course <sup>E</sup>	1
	15		15

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## Sophomore Year

FALL SEMESTER	CREDIT	SPRING SEMESTER	CREDIT
MA 242 Calculus III <sup>5</sup>	4	MA 225 Foundations of Advanced Math <sup>5</sup>	3
Intro to Programming <sup>3,5</sup>	3	ST 312 Introduction to Statistics II <sup>5</sup>	3
MA 351 Intro to Discrete Mathematical Models <sup>5,8</sup>	3	ST 307 Statistical Programming <sup>5</sup>	1
EMS 204 Intro to Mathematics Education <sup>7</sup>	2	ECI 305 Education and Equity <sup>7,G</sup>	3
ED 204 Intro to 21 <sup>st</sup> Century Teaching <sup>7</sup>	2	COM 112 Interpersonal Communication <sup>D</sup>	3
GEP Interdiscip. Persp. <sup>G,I,J</sup>	2-3	Science <sup>2,B,4</sup>	3
	16-17		16

## Junior Year

FALL SEMESTER	CREDIT	SPRING SEMESTER	CREDIT
MA 405 Linear Algebra and Matrices <sup>5</sup>	3	EMS 472 Teaching Math Topics in High School <sup>7</sup>	3
MA 403 Intro to Modern Algebra <sup>5</sup>	3	EMS 480 Teaching Math with Technology <sup>7</sup>	3
ELP 344 School and Society <sup>7</sup>	3	Mathematics Elective <sup>5,6</sup>	3
EDP 304 Educational Psychology <sup>D,7</sup>	3	ECI 416 Teaching Exceptional Students <sup>7</sup>	3
ED 311 Classroom Assessment Principles & Practices <sup>7</sup>	2	GEP Add. Breadth Req: HUM/SS/VPA <sup>F,I,J</sup>	3
ED 312 Classroom Assess. Principles & Practices: Prof. Learning Lab <sup>7</sup>	1		
HES_***Health & Exercise Studies Course <sup>E</sup>	1		
	16		15

## Senior Year

FALL SEMESTER	CREDIT	SPRING SEMESTER	CREDIT
Mathematics Elective <sup>5,6</sup>	3	EMS 471 Student Teaching <sup>10</sup>	10
MA 408 Foundations of Euclidean Geometry <sup>5</sup>	3	EMS 495 Seminar <sup>7</sup>	2
EMS 490 School Math from an Adv. Perspective <sup>7</sup>	3		
EMS 470 Methods & Materials for Teaching Math <sup>7</sup>	3		
GEP Humanities Req. <sup>c,lj</sup>	3		
	15		12

Minimum Credit Hours Required for Graduation: 120

### Major/Program Footnotes

1. COS 100 may substitute for E 115
2. To satisfy the science requirement a sequence of two lab-based science courses (CH 101/CH 102 and CH 201/CH 202, or BIO 181 and BIO 183, or PY 205 and PY 208, or PY 201 and PY 202, or PY 211 and PY 212) must be taken. The third science may be selected from the GEP list of approved science courses.
3. Introduction to programming course must be selected from MA 116, CSC 110, CSC 112, CSC 114, or CSC 116.
4. At most one grade below a C- is permitted in the courses satisfying the science

requirement.

5. At most one grade below a C is permitted in the mathematics, statistics, and computer science courses.
6. Math electives must be chosen from the following, if appropriate co/prerequisites have been met: MA 105 or MA 114; 325, 335, 341, 402, 410, 416, 421, 425, 427, 430, 432, 433, 437, LOG 435.
7. A grade below a B- is not permitted in EMS 204. A grade below a C is not permitted in all other EMS, EDP, ECI, ELP, and ED courses.
8. MA 341 may be taken in place of MA 351.

#### **\*General Education Program (GEP) requirements and GEP Footnotes**

To complete the requirements for graduation and the General Education Program, the following category credit hours and co-requisites must be satisfied. University approved GEP course lists for each of the following categories can be found at <http://oucc.dasa.ncsu.edu/general-education-program/>.

##### **A. Mathematical Sciences** (6 credit hours – one course with MA or ST prefix)

*Choose from the University approved GEP Mathematical Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: MA 141, MA 241*

##### **B. Natural Sciences** (7 credit hours – include one laboratory course or course with a lab)

*Choose from the University approved GEP Natural Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: CH 101/102 and CH 201/202; or BIO 181/183; or PY 201/202 or PY 205/208 or PY 211/212*

##### **C. Humanities** (6 credit hours selected from two different disciplines/course prefixes)

*Choose from the University approved GEP Humanities course list.*

##### **D. Social Sciences** (6 credit hours selected from two different disciplines/course prefixes)

*Choose from the University approved GEP Social Sciences course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement: ED 304, COM 112*

**E. Health & Exercise Studies** (2 credit hours – at least one 100-level Health & Exercise Studies Course)

*Choose from the University approved GEP Health & Exercise Studies course list.*

**F. Additional Breadth** – (3 credit hours to be selected from the following checked University approved GEP course lists)

**X** Humanities/Social Sciences/Visual and Performing Arts or **X** Mathematical Sciences/Natural Sciences/Engineering

**G. Interdisciplinary Perspectives** (5-6 credit hours)

*Choose from the University approved GEP Interdisciplinary Perspectives course list or the following course(s) if completed as part of the Major requirements may fulfill part or all of this requirement:*

**H. Introduction to Writing** (4 credit hours satisfied by completing ENG 101 with a C- or better)

The following **Co-Requisites** must be satisfied to complete the General Education Program requirements

**I. U.S. Diversity** (USD)

*Choose from the University approved GEP U.S. Diversity course list or choose a course identified on the approved GEP course lists as meeting the U.S. Diversity (USD) co-requisite.*

**J. Global Knowledge** (GK)

*Choose from the University approved GEP Global Knowledge course list or choose a course identified on the approved GEP course lists as meeting the Global Knowledge (GK) co-requisite.*

**K. Foreign Language proficiency** – Proficiency at the FL\_102 level is required for graduation.