

# MATHEMATICS FOR SECONDARY TEACHING MAJOR

Updated February 2020

The major in Mathematics for Secondary teaching (State Code: EX) consists of a minimum of 34 credits.

Teacher candidates for certification in Math at the Secondary level must pass the Michigan Test for Teacher Certification (MTTC) in Math (Test #022). MTTC content exams should not be taken until 90% of course work in the subject area has been completed. A study guide is available at the MTTC website: ([http://www.mttc.nesinc.com/PDFs/MI\\_field022\\_SG.pdf](http://www.mttc.nesinc.com/PDFs/MI_field022_SG.pdf)).

The courses below meet State standards and have been selected so that teacher candidates will be well prepared for the test. Knowledge must be demonstrated in the following categories in order to successfully pass the MTTC subject area exam:

Subarea	Approximate % of Questions on Test
1. Mathematical Processes & Number Concepts	22%
2. Patterns, Algebraic Relations & Functions	28%
3. Measurement and Geometry	22%
4. Data Analysis, Statistics, Probability, Discrete Math	28%

The following chart is intended to provide you a guide for scheduling your semesters and for keeping track of your grade point average.

**PLEASE REFER TO YOUR DEGREE EVALUATION IN KNOWHOPE PLUS IN ADDITION TO THIS DOCUMENT TO DETERMINE FULFILLMENT OF COURSE REQUIREMENTS**

## CALCULUS I FOUNDATION COURSES (4 credits)

SUBJECT/COURSE	TITLE	SEM. OFFERED	CR. HRS.	SEM. TAKEN	SUBSTITUTION
MATH 126 OR MATH 131	Calculus with Review II	Spring	4		
	Calculus I	Both	4		
Prerequisite for MATH 126: MATH 125 with C- or better. (Math 125 counts as 4 credits toward graduation, but not toward the program.)					
Students may earn credit for Calculus I by taking the CLEP exam.					

## 100-200 LEVEL COURSES (12 credits)

SUBJECT/COURSE	TITLE	SEM. OFFERED	CR. HRS.	SEM. TAKEN	SUBSTITUTION
MATH 132	Calculus II	Both	4		
Prerequisite for MATH 132: MATH 126 or MATH 131 with C- or better, or AP or CLEP credit for Math 131.					
MATH 231	Multivariable Mathematics I	Both	4		
Prerequisite for MATH 231: MATH 132 with C- or better.					
MATH 232	Multivariable Mathematics II	Both	4		
Prerequisite for MATH 232: MATH 231 with C- or better.					

**UPPER LEVEL REQUIRED COURSES** (12 credits)

SUBJECT/ COURSE	TITLE	SEM. OFFERED	CR. HRS.	SEM. TAKEN	SUBSTITUTION
MATH 280	Bridge to Higher Mathematics	Both	3		
Prerequisite for MATH 280: Math 132					
MATH 311 & MATH 312	Statistical Methods Applied Statistical Models	Spring Spring	2 2		
Prerequisite for MATH 311/312: Math 132 or High School Statistics					
MATH 321	History of Math	Fall	2		
Prerequisite for MATH 321: Math 132					
MATH 351	College Geometry	Fall	3		
Prerequisite for MATH 351: MATH 280					

**300 LEVEL COURSES** (6 credits)

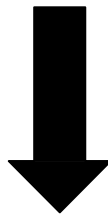
SUBJECT/ COURSE	TITLE	SEM. OFFERED	CR. HRS.	SEM. TAKEN	SUBSTITUTION
MATH 331	Real Analysis I	Fall	3		
Prerequisite for MATH 331: MATH 232 and MATH 280					
MATH 341	Algebraic Structures I	Fall	3		
Prerequisite for MATH 341: MATH 232 and MATH 280					

**A METHODS COURSE - REQUIRED** (4 credits) All Secondary Education students are required to take a methods course in their major area. This does not count for the mathematics major requirements, but rather for the Certification sequence.

SUBJECT/ COURSE	TITLE	SEM. OFFERED	CR. HRS.	SEM. TAKEN	SUBSTITUTION
EDUC 323	Teaching Mathematics in the Secondary School	Fall	3		
EDUC 324	Teaching Mathematics in the Secondary School Field Placement	Fall	1		

This **MUST** be completed **prior** to the student teaching semester!

**“SAMPLE” 4-YEAR PLAN  
ON THE FOLLOWING PAGE BELOW**



**\*SAMPLE\***  
**Math Major and 20 Credit Minor**  
**FOR SECONDARY CERTIFICATION**  
 4 year plan

- Note:
- In order to student teach a minimum G.P.A. of 2.75 is required in your major, minor, education classes, and overall.
  - Students earning a Secondary Major must complete field placements in middle and high school, and in both major and minor areas of study.
  - Students earning a Secondary Major must complete field placements in racially/ethnically and socio-economically diverse classrooms.

Revised: November 2021

	Fall			Spring			Summer		
	CLASS	CR	ATTRIBUTES	CLASS	CR	ATTRIBUTE S	CLASS	CR	ATTRIBUTES
<b>FRESHMAN</b>	MATH 131	4	M	MATH 132	4	M	ARTS I	4	GE
	KIN 140	2	GE	ENGL 113	4	GE			
	Language II	4	GE	CH I	4	GE			
	FYS	2	GE	EDUC 200/201	4	ED/GLD			
	REL II	4	GE						
	Total	16		Total	16				
<b>SOPHMORE</b>	EDUC 225/226	4	ED	MATH 280	3	M	CH II	4	GE
	Minor	4	m	MATH 232	4	M			
	MATH 231	4	M	Minor	4	m			
	EDUC 270	4	ED	EDUC 275/276	3	ED			
	REL I	2	GE	ARTS II	2	GE			
	Total	18		Total	16				
<b>JUNIOR</b>	Minor	4	m	GEMS w/Lab	4	GE			
	MATH 321	2	M	Minor	4	m			
	MATH 341	3	M	MATH 311	2	M			
	Social Science	2	GE	MATH 312	2	M			
	EDUC 287	2	ED	Minor					
	EDUC 285/286	4	ED	methods	4	ED			
Total	17		Total	16					
<b>SENIOR</b>	EDUC 360/361	3	ED	EDUC 480	10	ED			
	MATH 331	3	M	EDUC 455	1	ED			
	MATH 351	3	M	EDUC 500	1	ED			
	MATH 323/324	4	M/ED	IDS 452	4	GE			
	Minor	4	m						
	Total	17		Total	16				

**Note:** G.L.I. (global learning international) possibilities – check Degree Works, FYS, ENGL 113, IDS 171, Rel2 and select History and Literature courses

**Key:**

- GE – General Education
- M – Math Major → Check catalog for semester offerings
- m – 20 credit minor
- ED – Education
- GLI – Global Learning International
- GLD – Global Learning Domestic

- Please see an education faculty member for personal advising. This sample is simply *one* way to plan your schedule, and your selection of a minor might allow for additional double counting.
- Please consult the Hope College Catalogue for semesters when courses are offered, as these may vary.