

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).

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 | SEMESTER OFFERED | CREDIT HOURS | SEMESTER | GRADE |
|--|-------------------------|------------------|--------------|----------|-------|
| 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 | SEMESTER OFFERED | CREDIT HOURS | SEMESTER | GRADE |
|---|------------------------------|------------------|--------------|----------|-------|
| 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 | SEMESTER OFFERED | CREDIT HOURS | SEMESTER | GRADE |
|---|---|---------------------|-----------------|----------|-------|
| 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 | SEMESTER OFFERED | CREDIT HOURS | SEMESTER | GRADE |
|--|------------------------|---------------------|-----------------|----------|-------|
| 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 | SEMESTER OFFERED | CREDIT HOURS | SEMESTER | GRADE |
|--------------------|--|---------------------|-----------------|----------|-------|
| 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.

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| | Fall | | | Spring | | | Summer | | |
|-----------------|-----------------------|--------------|------------|------------|----------|------------|--------|----|------------|
| | CLASS | CR | ATTRIBUTES | CLASS | CR | ATTRIBUTES | CLASS | CR | ATTRIBUTES |
| FRESHMAN | IDS 200 or AES 210 | 4 | GE/GLD | MATH 132 | 4 | M | ARTS I | 4 | GE |
| | MATH 131 | 4 | M | ENGL 113 | 4 | GE | | | |
| | KIN 140 | 2 | GE | CH I | 4 | GE | | | |
| | Language II | 4 | GE | EDUC | 4 | ED | | | |
| | FYS | 2 | GE | 220/221 | | | | | |
| | Total | 16 | | Total | 16 | | | | |
| | SOPHMORE | EDUC 225/226 | 4 | ED | MATH 280 | 3 | | | |
| Minor | | 4 | m | MATH 232 | 4 | M | | | |
| MATH 231 | | 4 | M | Minor | 4 | m | | | |
| EDUC 270 | | 2 | ED | EDUC | 3 | ED | | | |
| REL I | | 2 | GE | 275/276 | | | | | |
| Total | | 16 | | ARTS II | 2 | GE | Total | 8 | |
| JUNIOR | 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 | 4 | ED | | | |
| | EDUC 285/286 | 4 | ED | methods | | | | | |
| | Total | 17 | | Total | 16 | | | | |
| SENIOR | 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 | 16 | | | | |
| | Total | 17 | | | | | | | |

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.