## Associate of Science to Bachelor of Science in Mathematics
## with Secondary Education

Completion of the following curriculum will satisfy the requirements for the **Associate of Science** degree at Gateway Community and Technical College and leads to the **Bachelor of Science in Mathematics with Secondary Education** degree at Northern Kentucky University.

**Degree requirement for KCTCS:**
1) completion of minimum 60 credit hours, 2) minimum cumulative GPA 2.0, 3) minimum of 15 credit hours earned at the institution awarding the degree, 4) cultural studies course, and 5) demonstration of computer/digital literacy.

**Admission Requirements for a Bachelor of Arts in Secondary Education**
   (Courses in parentheses are GCTC course equivalents)
   - A minimum overall GPA of 2.75
   - A minimum grade of "B" in CMST 101 (COM 181) and ENG 102 (ENG 102)
   - A minimum grade of "C" in all other pre-admission courses and required EDU and EDS courses which include EDU 300 (EDP 202), EDU 305 (EDU 201), EDU 313 (EDU 204), and EDS 360 (EDP 203).
   - Praxis Core Academic Skills for Educators: Reading (5712) – 156 or higher, Writing (5722) – 162 or higher and Mathematics (5732) – 150 or higher
   - Pass criminal background check
   - 60 semester hours completed
   - An acceptable portfolio
   - A completed application to the Teacher Education program

Students wishing to be certified to teach mathematics at the secondary level must complete the requirements for the B.A. in Secondary Education along with the requirements for a B.S. in Mathematics.

**Degree requirements for a Bachelor of Science in Mathematics with Secondary Education:**
Students majoring in mathematics must earn a grade of *C-* or better in each course for the major. **At least 45 credit hours must be 300 level or above.** Students must meet the pre-requisites for each course. At least 20 percent of the total required hours must be taken at NKU.

# GCTC AS TO NKU BS IN MATHEMATICS WITH SECONDARY EDUCATION CHECKLIST

## Gateway Community and Technical College

| Category I: General Education Core Requirements | | | | |
|---|---|---|---|---|
| **GCTC Course** | **Course or Category** | **Credits** | **NKU Course** | ✓ |
| ENG 101 | Writing I (WC) | 3 | ENG 101 | |
| ENG 102 | Writing II (WC) | 3 | ENG 102 | |
| COM 181 | Basic Public Speaking (OC) | 3 | CMST 101 | |
| TBS XXX | Arts and Humanities (AH) Heritage | 3 | TBD XXX | |
| TBS XXX | Arts and Humanities (AH) Humanities | 3 | TBD XXX | |
| PSY 110 | General Psychology (SB) | 3 | PSY 100 | |
| TBS XXX | Social & Behavioral Sciences Course (SB) | 3 | TBD XXX | |
| TBS XXX | Natural Sciences (NS) | 3 | TBD XXX | |
| TBS XXX | Natural Sciences with Lab (SL) | 4 | TBD XXX | |
| MAT 175 | Calculus I (QR) | 5 | MAT 129 | |
| MAT 185 | Calculus II (QR) | 5 | MAT 229 | |
| **Subtotal General Education Courses** | | **38** | | |

TBS XXX means to be selected by GCTC student.
TBD XXX means to be determined by NKU based on course selected.

| Category II: AS Requirements | | | | |
|---|---|---|---|---|
| **GCTC Course** | **Course or Category** | **Credits** | **NKU Course** | ✓ |
| MAT 261 | Introduction to Number Theory | 3 | MAT 310 | |
| MAT 275 | Calculus III | 4 | MAT 329 | |
| MAT 285 | Differential Equations | 3 | MAT 325 | |
| MAT 285 | | **10** | | |

| Category III: Electives | | | | |
|---|---|---|---|---|
| **GCTC Course** | **Course or Category** | **Credits** | **NKU Course** | ✓ |
| EDU 201 | Introduction to American Education | 3 | EDU 305 | |
| EDU 204 | Technology in the Classroom | 3 | EDU 313 | |
| EDP 202 | Human Development and Learning | 3 | EDU 300 | |
| EDP 203 | Teaching Exceptional Learners in Regular Classrooms | 3 | EDS 360 | |
| **Subtotal Elective Courses** | | **12** | | |
| **Total Associate Degree Hours** | | **60** | | |

# Northern Kentucky University

| NKU Course | Course | Credits | GCTC Course | Taken at GCTC |
|---|---|---|---|---|
| **Category IV: Major Requirements for the BS in Mathematics with Secondary Education** | | | | |
| EDU 104 | Orientation: Education Profession/Program | 1 | | |
| EDU 300 | Human Growth and Development | 3 | EDP 202 | x |
| EDU 304 or EDU 530 | Reading and Writing Across the Curriculum: Middle Grades or Reading in Junior and Senior High School | 3 | | |
| EDU 305 | Introduction to Education | 2 | EDU 201 | x |
| EDU 311 | Admission Field Experience Secondary | 2 | | |
| EDU 313 | Instructional Technology | 2 | EDU 204 | x |
| EDU 316 | Racism and Sexism in Educational Institutions | 3 | | |
| EDU 319 | Classroom Climate Management Secondary | 1 | | |
| EDU 324 | Fundamentals of Secondary Education | 2 | | |
| EDU 325 | Educational Assessment Secondary | 2 | | |
| EDU 333 | Teaching Math in Secondary School | 3 | | |
| EDU 393 | Secondary Field Experience I | 2 | | |
| EDU 396 | Secondary Field Experience II | 2 | | |
| EDU 496 | Clinical Experience Secondary | 12 | | |
| EDS 324 | Instructional Planning for Inclusive Secondary Classrooms | 3 | | |
| EDS 360 | Students with Exceptionalities in School | 3 | EDP 203 | x |
| PSY 100 | Introduction to Psychology | 3 | PSY 110 | x |
| CMST 101 | Public Speaking | 3 | COM 181 | x |
| ENG 102 | Advanced College Writing | 3 | ENG 102 | x |
| MAT 129 | Calculus I | 4 | MAT 175 | x |
| MAT 229 | Calculus II | 5 | MAT 185 | x |
| MAT 329 | Calculus III | 4 | MAT 275 | x |
| MAT 194 | Mathematical Sciences Seminar | 1 | | |
| MAT 234 | Linear Algebra | 3 | | |
| STA 250 | Probability and Statistics I | 3 | | |
| MAT 489 | Comprehensive Exam | 0 | | |
| CSC 260 or CSC 270 | Object-Oriented Programming or Mathematics Software Programming | 3 | CIT 238 | |
| MAT 302 | Introduction to Higher Mathematics | 3 | | |
| MAT 345 | Introduction to Geometry | 3 | | |
| MAT 310 or MAT 410 | Elementary Theory of Numbers or Abstract Algebra | 3 | | |
| STA 341 | Statistics II | 3 | | |
| | Select one of the following sets of courses and 3 additional hours of MAT/STA credit at the 300 level or above.  If one of the courses is a duplicate from above, then an additional | 9 | | x (3 cr) |

| | MAT/STA course at the 300/400 level is required. | | | |
|---|---|---|---|---|
| MAT 310 and MAT 410 | Elementary Theory of Numbers and Abstract Algebra | | | |
| MAT 325 and MAT 375 | Differential Equations and Applied Mathematical Models | | MAT 285 equates to MAT 325 | |
| STA 340 and STA 341 | Probability II and Statistics II | | | |
| MAT/STA XXX | Two 400-level MAT/STA courses, excluding MAT 490/STA 490 and MAT 491/STA 419 | | | |
| **Total NKU Credit Hours:** | | **61** | | |
| **Total Baccalaureate Degree Credit Hours:** | | **121** | | |

Graduation from NKU requires that a student successfully complete a minimum of 120 hours in college-level coursework, 45 of which must be earned at the 300/400 level.

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