

(Focus: 4TH – 8TH or 7TH – 12TH Grade UTeach Certification)

Mathematics is both an exact science and a highly creative endeavor; a field of study that develops problem-solving skills and a passion for inquiry. Mathematics majors are surprisingly attractive to many professional branches in our society, particularly intelligence, technology, finance, security, engineering and physics. Mathematics Majors with Teacher Certification are attractive to the growing demand for teachers in high schools, middle schools and elementary schools. A BS in Mathematics will prepare the graduate for a competitive position in society and provide the necessary preparation graduate for an exciting and rewarding teaching position and for graduate studies.

A – GENERAL EDUCATION CORE – 42 HOURS

Students must fulfill the General Education Core requirements. The courses listed below satisfy both degree requirements and General Education core requirements.

Required

020 - Mathematics – 3 hours

MATH 2413 Calculus I (or MATH 2487 Honors) three-hour lecture

Recommended

030 - Life and Physical Sciences – 6 hours

PHYS 2425 Physics for Scientist and Engineers I three-hour lecture

PHYS 2426 Physics for Scientist and Engineers II three-hour lecture

080 - Social and Behavioral Sciences – 3 hours

Choose from:

ECON 1301 Introduction to Economics

ECON 2301 Principles of Macroeconomics

090 - Integrative and Experiential Learning – 5 hours

PHYS 2425 Physics for Scientists and Engineers I one-hour lab

PHYS 2426 Physics for Scientists and Engineers II one-hour lab

CSCI 1380 Computer Science I

B – MAJOR REQUIREMENTS – 78 HOURS MINIMUM (51 advanced minimum)

1 – Mathematics Core – 33 hours (21 advanced)

MATH 2413 Calculus I (or MATH 2487 Honors) one-hour lecture

MATH 2414 Calculus II (or MATH 2488 Honors)

MATH 2415 Calculus III

MATH 2318 Linear Algebra

STAT 3337 Probability and Statistics

MATH 3341 Differential Equations

MATH 3350 Introduction to Mathematical Proof

MATH 3352 Modern Geometry I

MATH 3363 Modern Algebra I

MATH 3372 Real Analysis I

MATH 4390 Mathematics Project

2 – Concentrations – 46 hours minimum (40 advanced minimum)

a – Secondary School – 46 hours (44 advanced)

i – Secondary Mathematics Core – 25 hours (25 advanced)

MATE 3317 Perspectives in Mathematics and Science

MATE 3321 Functions and Modeling

MATE 3322 Secondary Mathematics in a Technological Environment

MATE 4329 Research Methods in Secondary Mathematics

MATE 4423 Advanced Studies in Secondary Mathematics

MATH 3326 History of Mathematics

MATH 3361 Applied Discrete Mathematics

MATH 3365 Number Theory

ii – UTeach Certification – 21 hours (19 advanced)

Area of Certification: Mathematics (7-12)

UTCH 1101 Inquiry Approaches to Teaching

UTCH 1102 Inquiry-Based Lesson Design
UTCH 3301 Knowing and Learning in Mathematics and Science
UTCH 3302 Classroom Interactions
UTCH 3303 Project-Based Instruction
UTCH 4601 Apprentice Teaching
UTCH 4101 Apprentice Teaching Seminar
READ 4305 Content Area Literacy

b – Middle School – 48 hours (40 advanced)

i – Middle School Mathematics Core – 27 hours (21 advanced)

MATH 1350 Fundamentals of Mathematics I
MATH 1351 Fundamentals of Mathematics II
MATE 3301 Fundamentals of Middle School Mathematics
MATE 3302 Fundamentals of Measurement and Geometry I
MATE 3303 Fundamentals of Measurement and Geometry II
MATE 3304 Fundamentals of Algebraic Structures
MATE 3317 Perspectives in Mathematics and Science
MATE 3321 Functions and Modeling
MATE 4319 Research Methods in Middle School Mathematics

ii – UTeach Certification – 21 hours (19 advanced)

Area of Certification: Mathematics (4-8)

UTCH 1101 Inquiry Approaches to Teaching
UTCH 1102 Inquiry-Based Lesson Design
UTCH 3301 Knowing and Learning in Mathematics and Science
UTCH 3302 Classroom Interactions
UTCH 3303 Project-Based Instruction
UTCH 4601 Apprentice Teaching
UTCH 4101 Apprentice Teaching Seminar
READ 4305 Content Area Literacy

TOTAL CREDIT HOURS FOR GRADUATION (MINIMUM) – 121 HOURS

TOTAL ADVANCED HOURS (MINIMUM) – 61 HOURS

ADMISSION, PROGRESSION, AND GRADUATION REQUIREMENTS, if applicable:

Progression requirements

1. Admission to the College of Education and P16 Integration is required for participation in Apprentice Teaching and Seminar (UTCH 4101, 4601). Students unable to be admitted to UTCH 4601 and UTCH 4101 will be required to substitute advanced hours (6 hours for Secondary School concentration; 4 hours for Middle School concentration), as recommended by advisor.

Graduation requirements

1. The student must complete all these major course requirements and all MATH and MATE courses with grades of 'C' or better and have with a GPA for the major of 2.5 or better
2. In addition to the graduation requirements listed in the UTRGV 2017-2019 Undergraduate Catalog, demonstration of proficiency in a language other than English is required at the undergraduate level equivalent to a minimum of six credit hours. Proficiency can be demonstrated by a college credit exam, a placement test approved through the UTRGV Department of Writing and Language Studies, and/or up to six credit hours of college-level language coursework.