

*(Focus: 4<sup>TH</sup> – 8<sup>TH</sup> or 7<sup>TH</sup> – 12<sup>TH</sup> Grade UTeach Certification)*

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*This program leads to a profession which requires an occupational license as defined under Texas Occupations Code 58.001 This requires that all applicants seeking to become licensed must undergo a criminal background check prior to licensure. Students in this program should check with the College of Education and P-16 Integration on the requirements for a criminal background check prior to student teaching.*

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*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 Disciplinary Literacy in Content Area Classrooms

**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 Disciplinary Literacy in Content Area Classrooms

**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