Degree Type – Bachelor of Interdisciplinary Studies (BIS)
Degree Title – Middle School Mathematics with UTeach Certification (4-8)

Mathematics Majors with Teacher Certification are attractive to the growing demand for teachers in middle schools and elementary schools. A BIS in Middle School Mathematics will prepare the graduate for an exciting and rewarding teaching position and provide the necessary preparation for graduate studies in Mathematics Education.

STUDENT LEARNING OUTCOMES:

1. **Demonstrate in-depth knowledge of Mathematics, its scope, application, history, problems, methods, and usefulness to mankind both as a science and as an intellectual discipline.**
2. **Demonstrate a sound conceptual understanding of Mathematics through the construction of mathematically rigorous and logically correct proofs.**
3. **Identify, formulate, and analyze real world problems with statistical or mathematical techniques.**
4. **Utilize technology as an effective tool in investigating, understanding, and applying mathematics.**
5. **Communicate mathematics effectively to mathematical and non-mathematical audiences in oral, written, and multi-media form.**
6. **Demonstrate pedagogical content knowledge by successfully completing all state teacher certification requirements.**

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

Mathematics – 3 hours

MATH 2412 Pre-Calculus three-hour lecture

Recommended

Social and Behavioral Sciences – 3 hours

Choose from:

ECON 1301 Introduction to Economics
ECON 2301 Principles of Macroeconomics

Life and Physical Sciences – 6 hours

PHYS 2425 Physics for Scientists and Engineers I three-hour lecture
PHYS 2426 Physics for Scientists and Engineers II three-hour lecture

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
Choose one:

CSCI/CMPE 1370 Engineering Computer Science I (or CSCI/CMPE 1378 Honors)
CSCI 1380 Computer Science I (or CSCI 1387 Honors)

B – MAJOR REQUIREMENTS – 53 HOURS (42 advanced)

1 – Mathematics Core – 38 hours (33 advanced)

MATH 2412 Pre-Calculus one-hour lecture
MATH 2413 Calculus I (or MATH 2487 Honors)

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 3305 Fundamentals of Statistics and Probability
MATE 3306 Middle School Mathematics in a Technological Environment
MATE 3307 Fundamentals of Problem Solving
MATE 3311 Fundamentals of Discrete Mathematics
MATE 3312 Fundamentals of Number Theory
MATE 3313 Fundamentals of Mathematics History
MATE 3314 Fundamentals of Mathematical Structures & Processes

2 – Interdisciplinary Component – 15 hours (9 advanced)

MATH 1350 Fundamentals of Mathematics I
MATH 1351 Fundamentals of Mathematics II
MATE 3317 Perspectives in Mathematics and Science
MATE 3321 Functions and Modeling
MATE 4319 Research Methods in Middle School Mathematics

C – 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 Mathematics and Science
UTCH 3302 Classroom Interaction
UTCH 3303 Project-Based Instruction
UTCH 4601 Apprentice Teaching
UTCH 4101 Apprentice Teaching Seminar
READ 4305 Content Area Literacy

D– SUPPORT COURSES – 4 HOURS

Choose 4 hours of Life and Physical Science beyond the core.

TOTAL CREDIT HOURS FOR GRADUATION – 120 HOURS

TOTAL ADVANCED HOURS – 61 HOURS

ADMISSION, PROGRESSION, AND GRADUATION REQUIREMENTS, if applicable:

Progression requirements

Admission to the College of Education and P-16 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 7 advanced hours, as recommended by advisor.

Graduation requirements

1. A grade of 'C' or better with a GPA of 2.75 or greater is required in all MATH and MATE.
2. In addition to the graduation requirements listed in the UTRGV 2015-2017 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.