

# Department of Mathematics, Chemistry and Physics

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Full Graduate Faculty: Carlisle, Combs, Lockwood-Cooke, Olsen, Ratheal, Seth, Walls, Woodyard.

Associate Graduate Faculty: Fisher.

The Department of Mathematics, Chemistry and Physics combines the areas of mathematics, chemistry and physics. At the graduate level, the department offers master's degrees in mathematics, mathematics education and chemistry.

Chemistry and physics faculty are very active in research which includes graduate and undergraduate participation. Equipment includes spectrometers, access to the main-frame computer, personal computers, data-acquisition systems and wind turbines. The chemistry staff regularly receives research grants from such agencies as The Welch Foundation and University Research Enhancement Funds. The Alternative Energy Institute is known internationally for its research in wind energy and wind turbines. These research grants allow the faculty to involve students in a very productive research environment.

Primary teaching and research interests of the mathematics faculty are pure and applied mathematics, including algebra, analysis, differential equations and statistics. Accordingly, the master's degree in mathematics is uniquely broad based and strongly oriented toward applications. The master of science degree in mathematics or chemistry is designed to ensure basic knowledge and the capacity for sustained scholarly study. Both a 30-hour thesis option and a 36-hour non-thesis option are available. Six semester hours of real analysis or algebraic systems is required for the mathematics degree. The remainder of course work is selected from differential equations, complex analysis, mathematical statistics, numerical analysis and algebraic systems. The chemistry degree offers inorganic, organic, physical chemistry and biochemistry, as areas of specialization. Graduate students in chemistry are encouraged to become active research participants with the faculty.

Students are also involved in a variety of departmental activities, including seminars and colloquia. The small size of the program contributes to an atmosphere of informality and accessibility.

Each year, the department has a number of openings for teaching and research assistants.

Discipline	Course Prefix
Chemistry .....	CHEM
Mathematics and Physical Science .....	MPS
Mathematics .....	MATH
Physics .....	PHYS

NOTE: See the "Academic Courses and Abbreviations" and "Course Descriptions" sections of this catalog for a complete list of courses offered by the University.

## Master of Science (M.S.) Degree

### Major in Chemistry (Major Code: 5104)

#### Study Area Options

Areas of specialization include inorganic, organic, physical chemistry and biochemistry.

#### General Requirements

##### Non-Thesis Option

CHEM 6110 and at least four courses from CHEM 6094, 6312, 6320, 6340 and 6350.

##### Thesis Option

Specific requirements include CHEM 6301, 6302, 6110 and three courses from CHEM 6312, 6320, 6340 and 6350.

#### Biochemistry Track Requirements

##### Non-Thesis Option

CHEM 6094, 6110, 6312, 6340, 6341, 6342, 6375. With graduate adviser approval, remaining 17 hours may be chosen from another field of study related to chemistry.

##### Thesis Option

Specific requirements include CHEM 6110, 6301, 6302, 6312, 6340, 6341, 6342 and 6375. With graduate adviser approval, remaining 10 hours may be chosen from another field of study related to chemistry.

# Department of Mathematics, Chemistry and Physics

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## Major in Mathematics (Major Code: 5115)

### General Requirements

#### Master of Science Degree

An undergraduate degree in mathematics equivalent to the bachelor's degree requirements in mathematics at WTAMU is required.

- Non-Thesis Option: At least 30 hours must be chosen from 6000-level math courses, and of these 30 hours at least six hours must be chosen from one of the sequences MATH 6310, 6311 or 6350, 6351. With graduate adviser approval, the remaining six hours may be chosen from another field of study related to mathematics.
- Thesis Option: At least 18 hours must be chosen from 6000-level math courses and of these 18 hours at least six hours must be chosen from one of the sequences MATH 6310, 6311 or 6350, 6351. With graduate adviser approval, the remaining six hours may be chosen from another field of study related to mathematics.

#### Master of Education Degree

- 12 semester hours of 6000-level mathematics.
- Six semester hours advanced mathematics\*.
- Six semester hours advanced mathematics (in education G&I).
- EDPD 6303, 6305, 6304 and EPSY 6310 or EDPD 6329.

\*Students preparing for high school teaching should take MATH 5360, 5391. Students preparing for community college teaching should take six hours of 6000-level mathematics.