

Applied Mathematics – Teacher Certification

Department of Mathematics and Statistics

Mathematics is a universal language. It is one which scientists use to express ideas and relationships concisely. It is a tool, which they use to investigate problems. As a mathematician, you will set up and analyze models of physical situations in order to deduce new information and predict results. You will find that mathematics contributes to the growth in knowledge in most areas. Your program at Missouri S&T will emphasize breadth in mathematics and depth in an associated area of application.

The degree program requires a selection of mathematics courses aimed at developing your analytic and problem solving skills. Selected required science and engineering courses will expose you to the role of mathematics in a variety of fields.

The Department of Mathematics and Statistics provides critical support for Missouri S&T's mission as Missouri's premier technological research university. The department strives to maintain an environment that enhances the learning of mathematics and contributes to the vitality of mathematics as a living discipline through course offerings, seminars and colloquia, research, and public service.

The mathematics and statistics faculty are committed to maintaining high-quality instruction. We are heavily involved in incorporating modern technology into our curriculum. Since the beginning of Missouri S&T's assessment program, our undergraduate majors have performed quite well on national assessment examinations, with over half of our students in the top quartile. A number of our faculty and graduate teaching assistants have won outstanding teacher awards.

Departmental Contact Information:

1-573-341-4641 202 Rolla Building
<http://math.mst.edu> math@mst.edu
Department Chair: Dr. Leon Hall, lmhall@mst.edu
Freshman Advisor: Dr. Ilene Morgan, imorgan@mst.edu

Student Organizations

Mathematical Association of America Student Chapter
Kappa Mu Epsilon honorary society

Students at Missouri S&T also compete in the Missouri Collegiate Mathematics Competition as well as the William Lowell Putnam Competition.

Teacher Education Program

Missouri S&T students may earn a certificate to teach in the secondary schools of Missouri while pursuing a B.S. degree in applied mathematics. Many surrounding states have reciprocal agreements with Missouri in respect to certification requirements. In most other states, students may obtain temporary certification that allows them to teach until the requirements of that particular state have been completed.

The Missouri S&T education program promotes a balance between science and professional competence in teaching. The program may be completed in four academic years. Those students pursuing a B.S. degree in applied mathematics can take the PRAXIS Exam to qualify for other endorsement areas aside from the certification in applied mathematics (e.g. biology, physics). This provides an option that may increase professional teaching opportunities. Students may enter the chemistry teacher education program as early as their first semester. All of the coursework required for this program is available on the Missouri S&T campus; student teaching and clinical experiences are arranged with local public schools within 30 miles of the campus.

To qualify for certification, students must have a minimum ACT composite score of 22 as well as a 265 C-BASE score in each area (including the composite score), a passing PRAXIS scores and a 2.5 or greater cumulative GPA. Each student must submit a portfolio, complete a background check and fingerprinting and complete required coursework.

Scholarship Information

Freshman scholarships are automatically awarded based on high school transcripts and ACT/SAT scores. Some may require a separate application. After the first year, all students (including transfer students) are eligible for departmental scholarship support based on academic performance and financial need.

Faculty

Professors:

Leon M. Hall (Chair), Ph.D., University of Missouri - Rolla
 Martin Bohner, Ph.D., Ulm
 Wlodzimierz Charatonik, Ph.D., Warsaw
 Steve Clark, Ph.D., Tennessee
 Roman Dwilewicz, D.Sc., Warsaw
 Vy Le, Ph.D., Utah
 V.A. Samaranayake, Ph.D., Kansas State

Associate Professors:

Elvan Akin-Bohner, Ph.D., Nebraska
 David Grow, Ph.D., Nebraska
 E. Matt Insall, Ph.D., Houston
 Ilene Morgan, Ph.D., Penn State
 Robert Paige, Ph.D., Colorado State
 Robert Roe, Ph.D., Wyoming

Assistant Professors:

Akim Adekpedjou, Ph.D., South Carolina
 John Singler, Ph.D., Virginia Tech
 Xuerong (Meggie) Wen, Ph.D., Minnesota
 Xiaoming He, Ph.D. South Carolina
 Gayla Olbricht, Ph.D. Purdue
 Jingjing Wu, Ph.D., University of Alberta
 Yanzi Zhang, Ph.D., National University of Singapore

Associate Teaching Professor:

Stephanie Fitch, M.A., University of Texas-Austin
 Dee Leach, M.S., Santa Clara University

Assistant Teaching Professors:

Kimberly Kinder, M.S., Central Missouri State
 Paul Runnion, M.S., University of Missouri - Rolla

Notes

Detailed information on course equivalencies, acceptable credits for elective coursework, grade requirements and prerequisites is available from Missouri S&T's Registrar's Office at <http://registrar.mst.edu>.

Bachelor of Science

Applied Mathematics 132 credit hours

FIRST YEAR

	Credit
Math 1101-Intro to Math	1
Math 1208-Calculus w/Analytic Geometry I	5
Bio Sci 1113 & 1219-General Biology w/ Lab	5
English 1120-Exposition.....	3
Elective/History or Political Science	3
Math 1221-Calculus II w/Analytic Geometry	5
Psych 1101-General Psychology	3
Educ 1040-Perspectives in Education	2
Comp Sc 1570 or 1970 & 1980 or Comp Sc 1971 & 1981	3
	30

SECOND YEAR

Math 2222-Calculus III w/Analytic Geometry	4
Math 3108-Linear Algebra I.....	3
Speech 1185-Principles of Speech	3
Physics 1111-General Physics I.....	4
Physics 1119-General Physics Lab	1
Psych 3311-Psych/Education of Adolescents	3
Educ 1104-Teacher Field Experience	2
English 1160-Writing & Research.....	3
Math 3304-Elementary Differential Equations	3
Math 3109-Foundations of Mathematics	3
Physics 2111-General Physics II.....	4
Physics 2119-General Physics Lab.....	<u>1</u>
	34

THIRD YEAR

Math 4209-Advanced Calculus I.....	3
Math 4211-Advanced Calculus II.....	3
Math 4530-Topics in Geometry	3
Elective/Humanities or Social Science	3
Elective/Statistics	3
Econ 1100 or 1200-Micro or Macroeconomics	3
Psych 2300-Educational Psychology	3
Psych 4310-Psych of the Exceptional Child	3
Educ 1174-School Org and Admin for Elem/Sec Teachers	2
Educ 3280-Teaching Methods	6
Educ 1164-Aiding Elem, Mid & Sec Schools	<u>3</u>
	34

SUMMER SEMESTER

Educ 2216-Teaching Reading.....	<u>3</u>
	3

FOURTH YEAR

Math 4096-Problem Solving-Pure Math	1
Math 4097-Problem Solving-Applied Math	1
Math 4098-Great Theorems in Mathematics	1
Elective/Math or Stat	3
Elective/Math or Stat	3
Educ 2251-Historical Found of Amer Educ.....	3
Pol Sci 1200-American Government	3
Elective/Literature	3
Educ 4298 & 4299-Student Teaching.....	<u>13</u>
	31