

DEPARTMENT OF MATHEMATICS

COLLEGE OF ARTS AND SCIENCES

Faculty

Bryan Dawson (1998). Professor of Mathematics and Department Chair. B.S. and M.S., Pittsburg State University; Ph.D., University of North Texas.

Richard Dehn (1969). Associate Professor of Mathematics. B.S., University of Memphis; M.A.T., Purdue University; M.S., University of Arkansas, Additional study, University of Wisconsin, University of Arkansas, University of Missouri-Rolla.

Chris Hail (1995). Professor of Mathematics. B.S., Campbellsville College; M.A., Morehead State University; Ed.D., University of Kentucky.

Dwayne Jennings (1981). Associate Professor of Mathematics and Computer Science. B.S., Union University; M.S. (Mathematics) and M.S. (Computer Science), University of Memphis.

Matt Lunsford (1993). Professor of Mathematics. B.G.S., Louisiana Tech University; M.S., University of Nebraska; Ph.D., Tulane University.

George Moss (2009). Associate Professor of Mathematics and Assistant Dean of the College of Arts and Sciences. B.S., Auburn University; Ph.D., Virginia Polytechnic Institute and State University.

Troy Riggs (1993, 2000). Professor of Mathematics. B.S., University of South Dakota; M.A., and Ph.D., University of Nebraska-Lincoln.

Staff

Christine Rowland (2006). Academic Secretary—Engineering, Physics, Math, and Computer Science.

Mission Statement

Union's mathematics program seeks to further students in their quest for increased understanding of Creation and the created order and to equip students to serve God, church and society through excellence in thinking and the use of mathematics. We do this through a curriculum that develops the student's ability to think logically, analytically, and abstractly; to pursue a body of knowledge whose basis is independent of both empirical observation and culture; and to learn humility and a sense of wonder at the complexity, beauty, and applicability of mathematics.

Student Awards

A **Departmental Award** is given to the senior who places first in the Major Field Test for Mathematics as partial fulfillment of MAT 498.

The **Wolfram Research Inc. Award** is awarded to a freshman calculus student chosen by the Department of Mathematics based upon demonstrated outstanding achievement, enthusiasm, ingenuity, and creativity in mathematics.

Curriculum

The department offers a major in mathematics and

- A. MAT 207, 208, 211, 212, 213, 315 and 498 are required.
- B. Select one: MAT 411, MAT 415.
- C. Select 9 hours from junior or senior MAT courses.
- D. Independent Study (MAT 495) or Departmental Special Study (MAT 395) may be used for 3 of the 9 hours required in C.
- E. Prerequisites: PHY 231, and CSC 115 or 255.

II. Major in Mathematics with Discipline-Specific Honors—36 hours

- A. MAT 207, 208, 211, 212, 213, 315*—21 hours
- B. MAT 411* and MAT 415*—6 hours
- C. Upper Level MAT *Elective hours—6 hours
- D. Three 300 or 400 level MAT courses from * above taken under honors-contract, as approved by the department, to include 411 or 415 with at least two completed prior to the semester in which the honors project is completed—9 hours
- E. Independent Study (MAT 495) or Departmental Special Study (MAT 395) may be used for 3 of the 6 hours required in C.
- F. Attend at least 4 honors colloquia during each of the junior and senior years, as approved by the Director of the Honors Community.
- G. MAT 498—3 hours to include the honors project.
- H. Admissions Standards met and Progression Standards continue to be met throughout the program.
- I. Prerequisites: PHY 231, and CSC 115 or 255.

III. Teacher Licensure in Mathematics (Grades 7-12)

- A. Major requirements as shown above to include MAT 413.
- B. Professional Education: EDU 150, 250, 326, 422, 433; PSY 213, 318; SE 225.
- C. Completion of applicable portions of the Praxis II.
- D. For additional information, see the Assistant Dean for Teacher Education and Accreditation.

IV. Minor in Mathematics—21 hours

- A. MAT 211 and 212
- B. Select one: MAT 205, 207, 208, 213; CSC 115, 255
- C. 6 hours of upper-level MAT courses.
- D. The remaining must be 205 or higher.

V. Minor in Mathematics with an Emphasis in Statistics—20 or 21 hours

A. MAT 211 and 212, 208, 305, and 405

B. One of: MAT 213, 314, 315; CSC 115 or 255.

VI. Minor in Actuarial Science as earned with a Math Major—19 hours

A. Prerequisites (applicable to major): MAT 211, 212, 213, 305, 315, 401, 402.

B. ACC 211, 212; ECO 211, 212; FIN 320.

C. ECO 411 or 412.

D. MAT 400.

Assessment of Majors

All senior mathematics majors must take the Major

416. Abstract Algebra II (3) As Needed

Prerequisites: MAT 315 and 415

A continuation of MAT 415. Topics include polynomial rings, ideals, quotient rings, extension fields, and finite fields. Additional advanced algebra topics at the discretion of the instructor.

498. Mathematics Seminar (2 or 3) F

Prerequisite: 20 hours of MAT course work and Senior standing.

This course provides an appropriate setting for reviewing major topics in the mathematics curriculum and administering the Major Field Test, discussing how worldviews might contribute to our understanding of the Christian faith and