Program Coordinator: W. Linderman

The mathematics curriculum presents basic concepts and methods of mathematics; develops student ability to think critically, analytically, and logically; and applies these ideas to other disciplines. This major provides mathematical background for graduate study in a mathematical discipline; for a career in an area using mathematics such as engineering, economics, statistics, or actuarial science; and for secondary school mathematics teacher certification. Students who major in mathematics complete a core of mathematics and supporting courses that include Calculus II, Discrete Mathematics, Linear Algebra, Abstract Algebra, and Analysis.

Computer resources are available through campus computer labs. Students enrolled in academic programs that require advanced computing will be expected to purchase the appropriate hardware and software. Furthermore, King has a site license for the computer algebra system Mathematica; thus the student will have much practice at implementing nontrivial examples of a great variety of algorithms studied in their coursework.

Core Curriculum Requirements
Mathematics majors should fulfill specified categories of the King Core Curriculum by taking the courses indicated below. See the “The Core Curriculum” section of the catalog for additional details.

**Quantitative Literacy**
MATH 2350
Calculus I ..................................................................................... 4 s.h.

**Mathematics Major Requirements**
MATH 2360
Calculus II ..................................................................................... 4 s.h.
MATH 2370
Vector Calculus ........................................................................... 4 s.h.
MATH 2410
Discrete Mathematics ................................................................ 4 s.h.
MATH 2450
Linear Algebra ............................................................................. 4 s.h.
MATH 2480 ................................................................................... 2 s.h.
History of Mathematics
MATH 3510
Abstract Algebra .......................................................................... 4 s.h.
MATH 3520
Further Studies in Abstract Algebra ............................................... 2 s.h.
MATH 3610
Analysis ...................................................................................... 4 s.h.
MATH 3620
Further Studies in Analysis ......................................................... 2 s.h.
Math or Natural Science Electives at or above 2100 level .............. 6 s.h.
MATH 4930
Mathematics Capstone (optional)
MATH 4990
Comprehensive Assessment .......................................................... 0 s.h.

Summary of Total Credits
Core Curriculum ............................................................................ 42 s.h.
Major Requirements ..................................................................... 36 s.h.
Electives/Minor/Second Major: .................................................. 46 s.h.
Minimum to Earn Bachelor of Science ............................... 124 s.h.

Teacher Education - MATHEMATICS
Tennessee teaching licensure (Grades 6-12) is available with modifications to the Mathematics major and the King Core, and successful completion of the Secondary Education minor. Licensed teachers in secondary education are in great demand in all fifty states, and the areas of science, mathematics, English as a second language, and foreign languages are considered a critical need areas in K-12 public education by all states.

Declaration of the minor and early and frequent advisement is essential to timely completion of degree and licensure requirements. Students seeking teacher licensure will be assigned a secondary education advisor in the Department of Teacher Education, in addition to their major advisor. See the “Admission to the Teacher Education Program” section of this catalog or contact the Certification Advisor in the School of Education for eligibility criteria, admissions procedures, and timeliness.

Core Curriculum Requirements
Mathematics majors seeking teaching licensure should fulfill specified categories of the King Core Curriculum by taking the courses indicated below. See the “The Core Curriculum” section of the catalog for additional details.

Quantitative Literacy
MATH 2350
Calculus I .................................................................................. 4 s.h.

Literature
Choose from the following courses (pair with history) .............. 4 s.h.
ENGL 2171
Western Literature I (4 s.h.)
ENGL 2172
Western Literature II (4 s.h.)
History
Choose from the following courses (pair with literature) ............ 4 s.h.
HIST 2171
Western Civilization in Global Context I (4 s.h.)
HIST 2172
Western Civilization in Global Context II (4 s.h.)

Human Culture
In addition to satisfying the language requirement:
PSCI 2120
Cultural Diversity in America .............................................. 4 s.h.

BS in Mathematics Major Requirements for Teaching Licensure
MATH 2100
Programming with Graphics, Symbols, and Text ................. 2 s.h.
MATH 2360
Calculus II ............................................................... 4 s.h.
MATH 2410
Discrete Mathematics ...................................................... 4 s.h.
MATH 2450
Linear Algebra ............................................................. 4 s.h.
MATH 3120
Number Theory ............................................................ 2 s.h.
MATH 3150
Mathematical Statistics ................................................... 4 s.h.
MATH 3250
Geometry ................................................................. 4 s.h.

Choose from the following courses ........................................ 4 s.h.
MATH 2370
Vector Calculus (4 s.h.)
MATH 3430
Differential Equations (4 s.h.)
MATH 3470
Applied Mathematics (4 s.h.)
MATH 3510
Abstract Algebra (4 s.h.)
MATH 3610
Analysis (4 s.h.)

Math or Natural Science Elective at or above 2100 level .......... 4 s.h.

Secondary Education Minor
EDUC 2030
Introduction to Teaching, Grades K-12 ......................... 2 s.h.
EDUC 2031
Introduction to Teaching Practicum, Grades PreK-12 .......... 1 s.h.
EDUC 2100
Survey of Exceptional Children ........................................... 4 s.h.
EDUC 2370  
Reflective Teaching K-12 ............................................................ 3 s.h.
EDUC 2900  
Foundations of Education ............................................................ 3 s.h.
EDUC 2950  
Technology for Teachers ............................................................. 2 s.h.
EDUC 3390*  
Secondary Curriculum and Methods ............................................ 3 s.h.
EDUC 3590*  
Content Area Reading ................................................................. 3 s.h.
EDUC 3600*  
Assessment and Evaluation ........................................................ 3 s.h.
EDUC 4490*  
Student Teaching, Grades 6-10 ............................................... 5 s.h.
EDUC 4500*  
Student Teaching, Grades 9-12 ............................................... 5 s.h.
EDUC 4950*  
Capstone Seminar, Grades K-12 ............................................. 2 s.h.
PSCI 2120  
Cultural Diversity in America .................................................... 4 s.h.
PSYC 3320  
Adolescent Development ........................................................... 4 s.h.

*Requires admittance to the Teacher Education Program

Summary of Total Credits
Core Curriculum ............................................................................ 42 s.h.
Major Requirements ..................................................................... 32 s.h.
Secondary Education Minor ...................................................... 44 s.h.
Electives ..................................................................................... 6 s.h.
Minimum to Complete Licensure Program ................................ 124 s.h.