



**REQUIREMENTS FOR THE B.S. DEGREE IN MATHEMATICS
DEPARTMENT OF MATHEMATICS
UNIVERSITY OF CENTRAL ARKANSAS**

APPLIED MATHEMATICS OPTION (44HRS)

COURSE NO.	COURSE	CREDIT HRS	PREREQUISITE	SEMESTER OFFERED
MATH 1591	Calculus I	5	C or better in MATH 1390 and MATH 1392; or C or better in MATH 1580; or equivalent.	Fall, Spring, & Summer
MATH 1592	Calculus II	5	C or better in MATH 1591.	Fall, Spring, & Summer
MATH 2335	Transition to Advanced Math	3	MATH 1592	Fall & Spring
MATH 2371	Calculus III	3	C or better in MATH 1592	Fall, Spring, & Summer
MATH 2441	Mathematical Computation	4	MATH 1592	Fall & Spring
MATH 3320	Linear Algebra	3	MATH 1592 or 2330	Fall, Spring, & Summer
MATH 3331	Ordinary Differential Equations	3	MATH 1592	Fall & Spring
MATH 4305	Applied Math I	3	MATH 1191, 3320, 3331	Fall
MATH 4306	Applied Math II	3	MATH 4305	Spring
MATH 4371	Introduction to Probability Theory	3	MATH 1592	Fall
MATH 4372	Introduction to Statistical Inference	3	MATH 4371	Spring
AND				
Minimum- Six hours of electives: (Must choose at least one of: MATH 4315, MATH 4340, or MATH 4373)				
MATH 3360	Abstract Algebra I	3	MATH 1592	Fall
MATH 3362	Abstract Algebra II	3	MATH 3360	Spring
MATH 4315	Partial Differential Equations	3	MATH 2371 and MATH 3331	Fall
MATH 4316	Fundamentals of Applied Math for Fluid and Granular Materials	3	MATH 4315	Spring
MATH 4330	Mathematical Modeling in Biology	3	C or better in MATH 3331	Fall
MATH 4340	Numerical Methods	3	MATH 3320; and CSCI 1470 or equivalent knowledge of computer languages	Spring
MATH 4362	Advanced Calculus I	3	MATH 2371	Fall
MATH 4363	Advanced Calculus II	3	MATH 4362	Spring
MATH 4373	Applied Statistics	3	MATH 4372	Fall
MATH 4374	Introduction to Stochastic Processes	3	MATH 4371 or Consent of instructor	Fall
MATH 4375	Introduction to Topology I	3	Consent of instructor	On Demand
MATH 4385	Complex Analysis	3	MATH 2371	On Demand

B.S. DEGREE REQUIREMENTS: At least 15 hours of the major must be earned in residence.

ANCILLARY REQUIREMENTS FOR APPLIED MATHEMATICS OPTION: One science sequence from PHYS 1441 and 1442, or PHYS 1410 and 1420, or CHEM 1450 and 1451 or ECON 2320 and ECON 2321.

OTHER REQUIREMENTS:

- 1) **MINOR REQUIRED**
- 2) 44 HOURS OF General Education, 120 semester hours with a GPA of not less than 2.00
- 3) GPA of 2.00 or better in each of the major and minor fields
- 4) 40 hours of upper division courses (3000 or 4000)

Minor requirement may be waived for BS mathematics students who complete the requirements for teacher licensure.

NOTE: Students who choose the Applied Mathematics Option and plan to attend graduate school should use elective hours to complete Advanced Calculus I and II and Abstract I and II.