

CHECK SHEET FOR THE B.S. DEGREE IN MATHEMATICS (AY 2023 - 24)
DEPARTMENT OF MATHEMATICS
University of Central Arkansas

APPLIED MATHEMATICS TRACK (42 HRS)

Core Courses (21 Hours)

COURSE NO.	COURSE	CREDIT HRS	PREREQUISITE	SEMESTER OFFERED
MATH 1496	Calculus I	4	C or better in MATH 1390 and MATH 1392; or C or better in MATH 1580; or equivalent.	Fall, Spring
MATH 1497	Calculus II	4	C or better in MATH 1496	Fall, Spring
MATH 2341	Mathematical Computation	3	MATH 1497 or concurrent enrollment in MATH 1497	Fall
MATH 2471	Calculus III	4	C or better in MATH 1497	Fall, Spring
MATH 3311	Statistical Methods	3	MATH 2341, or MATH 1496 & CSCI 1470, or consent of instructor	Fall, Spring
MATH 3320	Linear Algebra [Upper Core : I]	3	MATH 1497 or 2330	Fall, Spring

Required Courses (15 Hours)

MATH 2335	Transition to Advanced Math	3	MATH 1497	Spring
MATH 3331	Ordinary Differential Equations I [Upper Core : C]	3	MATH 1497	Spring
MATH 4306	Modeling and Simulation [Upper Core : Z]	3	Math 2341, Math 3320, Math 3331 and Math 4371	Spring
MATH 4371	Intro to Probability Theory [Upper Core : R]	3	MATH 1497	Fall
MATH 4315 or MATH 4340 or MATH 4373	Partial Differential Equations Numerical Methods Regression Analysis	3	MATH 2471, MATH 3331 and MATH 2441 MATH 3320 and MATH 2441 (C or better in both) MATH 3311 (C grade or higher) or consent of instructor	Fall Fall Fall

Choose 2 Electives (6 Hours)

MATH 3360	Introduction to Rings and Fields	3	MATH 2335	Fall
MATH 3362	Introduction to Group Theory	3	MATH 3320	Spring
MATH 3381	Data Cleaning & Visualization	3	MATH 3311 or consent of instructor	Fall
MATH 3391	Non-Parametric Statistics	3	MATH 3311 or consent of instructor	Fall
MATH 3392	Multivariate Analysis	3	MATH 3311 and MATH 3320 or consent of instructor	Fall
MATH 4315	Partial Differential Equations	3	MATH 2471, MATH 3331 and MATH 2441	Fall
MATH 4316	Fundamentals of Applied Math for Fluid and Granular Materials	3	MATH 4315	On Demand
MATH 4330	Mathematical Modeling in Biology	3	MATH 3331 and MATH 2441 (C or better in both)	On Demand
MATH 4340	Numerical Methods	3	MATH 3320 and MATH 2441 (C or better in both)	Fall
MATH 4362	Advanced Calculus I [Upper Core : Z]	3	MATH 2471	Alternating Spring
MATH 4363	Advanced Calculus II	3	MATH 4362	On Demand
MATH 4372	Introduction to Statistical Inference	3	MATH 2341 and MATH 4371	Spring
MATH 4373	Regression Analysis	3	MATH 3311 (C grade or higher) or consent of instructor	Fall
MATH 4374	Intro to Stochastic Processes	3	MATH 4371	Fall
MATH 4385	Complex Analysis	3	MATH 2471	On Demand
MATH 4391	Machine Learning	3	MATH 4373 or consent of instructor	Spring
MATH 4392	Time Series and Forecasting	3	MATH 4373 or consent of instructor	Spring

ANCILLARY REQUIREMENTS (6-8 HOURS)

OTHER REQUIREMENTS

PHYS 1410 and 1420 OR PHYS 1441 and 1442 OR CHEM 1450 and CHEM 1451 OR ECON 2320 and ECON 2321 OR CSCI 1470 and CSCI 1480	<ul style="list-style-type: none"> • MINOR REQUIRED • Must complete 120 semester hours including 38 hours of General Education. • GPA of 2.00 or better in each of the major and minor fields • Must have 40 hours of upper level (3000 or 4000) courses. • At least 15 hours of the major must be earned in residence.
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