MAJOR MAP FOR BACHELOR OF SCIENCE IN MATHEMATICS PURE CONCENTRATION (MATHBS-MATH2) 2022-23 THROUGH 2024-25 CATALOG YEARS

Name: _____ **ID Number:** _____ **Date**: _____ **Anticipated Graduation Semester:** _____

MATHBS-MATH2 Degree Snapshot

University Perspectives (0-1 hr)
_____ **UNIV 10051**, University Perspectives or exemption

State Core English Composition (0-6 hrs)
_____ **ENGL 10103**, Composition 1 or exemption
_____ **ENGL 10203**, Composition 2 or exemption

State Core US History or Government (3 hrs)
_____ **US HIST/PLSC** _____

State Core Mathematics (0 hrs)
Met with major requirements.

Natural Sciences w/ labs for MATHBS (8 hrs)
_____ **Science w/ lab** _____
_____ **Science w/ lab** _____

State Core Social Sciences (9 hrs)
_____ **Social Science** _____
_____ **Social Science** _____
_____ **Social Science** _____

State Core Fine Arts (3 hrs)
_____ **Fine Art** _____

State Core Humanities (3 hrs)
_____ **Humanities** _____

MATHBS Core (36-46 hrs)
_____ **MATH 11003,** College Algebra (or placement in to higher math)
_____ **MATH 13004,** Pre-Calculus **OR MATH 12003**, Plane Trigonometry (or placement in to higher math)
_____ **MATH 24004,** Calculus I
_____ **MATH 25004,** Calculus II
_____ **MATH 26004,** Calculus III
_____ **MATH 25804,** Elementary Differential Equations
_____ **MATH 28003/28001,** Transition to Advanced Mathematics
_____ **MATH 30903,** Abstract Linear Algebra
_____ **MATH 31103,** Introduction to Abstract Algebra I
_____ **MATH 45103,** Advanced Calculus 1
_____ **MATH 49303,** Mathematics Major Seminar
_____ **CSCE 20004,** Programming Foundations I

Pure Concentration (18 hrs)
_____ **MATH 44403,** Complex Variables
_____**MATH or STAT 30000+ (or CSCE 41303)**_____
_____**MATH or STAT 30000+**_____
Choose 3:
_____MATH 32003, Number Theory
_____MATH 41103, Introduction to Abstract Algebra II
_____MATH 45003, Differential Geometry
_____MATH 45203, Advanced Calculus II

General Electives (23-40 hrs)
How you use these hours will depend on your educational and career goals. Early in your degree you might use this section to jot down ideas for how to plan. As you get closer to graduation, you might use this section to track which classes you've taken outside the above requirements.

Last Updated: June 17, 2024

MAJOR MAP FOR BACHELOR OF SCIENCE IN MATHEMATICS PURE CONCENTRATION (MATHBS-MATH2) 2022-23 THROUGH 2024-25 CATALOG YEARS

Advising Notes

Graduation Plan

Use the following additional resources, in addition to this major map, to complete your graduation plan (Catalog, and your Degree Audit in UAconnect). Many students have more than one major, minor, or pre-professional goal that has additional required classes. This tool allows you to combine all your educational goals in to one plan.

High School credit	List all Advanced Placement, International Baccalaureate, Dual or Concurrent credit			
Year	**Fall**	**Spring**	**Summer**	**Total**
Year 1				**Total 1st year credit hours (aim for 30):**
Year 2				**Total 2nd year credit hours (aim for 60):**
Year 3				**Total 3rd year credit hours (aim for 90):**
Year 4				**Total 4th year credit hours (Must be at least 120):**

Last Updated: June 17, 2024

MAJOR MAP FOR BACHELOR OF SCIENCE IN MATHEMATICS PURE CONCENTRATION (MATHBS-MATH2) 2022-23 THROUGH 2024-25 CATALOG YEARS

Graduation Checklist (does your plan include the following):

- ☐ 2.0 minimum overall UofA GPA (Courses taken at other colleges or universities are not factored into this GPA)
- ☐ All state minimum core requirements
- ☐ All Major(s)/Minor(s) requirements
- ☐ Writing requirement complete
- ☐ At least 50% of each major/minor taken from UofA
- ☐ 24 hours of 30000+ classes exclusively from Fulbright College of Arts and Sciences classes
- ☐ 30 hours of 30000+ classes exclusively from the University of Arkansas. This can include courses taken for the 24-hour rule.
- ☐ 40 hours of upper-level classes. (30000+ or 20000+ with a pre-requisite. Can include transfer credit.) This can include courses taken for the 24-hour and 30-hour rules.
- ☐ 120 total eligible credit hours (see below for a list of ineligible classes)

Program Information:

The Applied Concentration is a program for the student who wishes to prepare for either applied work in mathematics or graduate work in some field other than mathematics or statistics.

GPA (Grade Point Average): Every student must have at least a 2.00 cumulative grade point average to be eligible to graduate from the University of Arkansas. **A 2.00 cumulative grade-point average on all work completed in the department of mathematical sciences will be required for graduation with a B.A. or B.S. degree.**

Please visit https://catalog.uark.edu/undergraduatecatalog for an extensive list of core, major, graduation, and pre-requisite requirements. To read more about individual classes, visit the courses of instruction page for course descriptions.

Last Updated: June 17, 2024

MAJOR MAP FOR BACHELOR OF SCIENCE IN MATHEMATICS PURE CONCENTRATION (MATHBS-MATH2) 2022-23 THROUGH 2024-25 CATALOG YEARS

Degree Requirement Breakdown by Category

The following information is designed to help you navigate your experience in your degree and answer common questions that may come up for each requirement.

Category	Degree Requirements	Curriculum Notes
UNIVERSITY PERSPECTIVES **0-1 hr**	• **UNIV 10051**, University Perspectives (or **UNIV 100H1**)	Or equivalent from another University of Arkansas college. (AFLS 102H3, ARSC 12001, GNEG 11101, GNEG 111H1, HIST 1003(H), HIST 10001, HIST 100H1, PLSC 10003, PLSC 100H3, BUSI/WCOB 11101, WCOB/BUSI 111H1) **Note**: students who transfer to the University of Arkansas with at least 24 credit hours will have this requirement waived.
STATE CORE COMPOSITION **0-6 hrs**	• **ENGL 10103,** Composition 1 or SAT/ACT exemption (or **ENGL 101H3)** • **ENGL 10203**, Composition 2 or SAT/ACT exemption (or **ENGL 102H3)**	See Catalog for information about placement and/or exemption.
STATE CORE US HISTORY or GOVERNMENT **3 hrs**	**Choose 1: *** • HIST 20003, History of the American People to 1877 • HIST 20103, History of the American People 1877 to Present • PLSC 20003, American National Government (or PLSC 200H3)	*Some courses may appear as options in multiple areas of the State Core. You can only count each course 1 time in the State Core and will need unique courses in each of the content areas below.
STATE CORE MATHEMATICS **3 hrs**	• Met with courses in the major	Based on ACT/SAT or other math placement scores, students may need to enroll in additional remediation related courses. See catalog or math placement website for additional information.
NATURAL SCIENCES FOR MATHBS **8 hrs**	**Choose 1 sequence of 2 classes from the same department:** **Biology:** • BIOL 10103/10101, Principles of Biology Then choose 1 from below: • BIOL 10503/10501, Principles of Zoology • BIOL 10303/10301, Plant Biology • BIOL 2003/2001, General Microbiology* **OR** **Chemistry:** • CHEM 14103/14101; University Chemistry I • CHEM 14203/14201, University Chemistry II **OR** **Geosciences:** • GEOL 11103/11101, Physical Geology • GEOL 11203/11201, Earth Science **OR** **Physics:** • PHYS 10304, University Physics I • PHYS 10404, University Physics II	Some of these classes will have pre-requisites. *If students take BIOL 2003/2001, they will also have to take an additional natural science class from the university core list.
STATE CORE SOCIAL SCIENCES **9 hrs**	**Choose 3: *** • AGEC 11003, Principles of Agriculture Microeconomics (or AGEC 110H3)	Students must take classes from at least two departments in the Social Sciences category.

Last Updated: June 17, 2024

	• AGEC 21003, Principles of Agriculture Macroeconomics (or AGEC 210H3) • ANTH 10203, Intro to Cultural Anthropology (or ANTH 102H3) • COMM 10203, Communication in a Diverse World (or ANTH 102H3) • ECON 21003, Principles of Macroeconomics (or ECON 210H3) • ECON 22003, Principles of Microeconomics (or ECON 220H3) • ECON 21403, Basic Economics: Theory and Practice (or ECON 214H3) • EDST 20003, Introduction to Educational Studies • GEOG 11103, Human Geography (or GEOG 111H3) • GEOG 21003, World Regional Geography (or GEOG 210H3) • HDFS 14003, Life Span Development (HDFS 140H3) • HDFS 24103, Family Relations (or HDFS 241H3) • HDFS 26003, Rural Families & Communities (HDFS 260H3) • HIST 11193, Institutions and Ideas of World Civilizations I (or HIST 111H3) • HIST 11293, Institutions and Ideas of World Civilizations II (or HIST 112H3) • HIST 20003, History of the American People to 1877 • HIST 20103, History of the American People 1877 to Present • HIST 20903, Animals in World History • HUMN 111H4, Honors Roots of Culture to 500 C.E. (Honors only) • HUMN 211H4, Honors Birth of Modern Culture, 1600-1900 (honors only) • INST/PLSC 28103, Intro to International Relations & Global Studies (or INST/PLSC 281H3) • JOUR 10203, Media and Society • PLSC 20003, American National Government (or PLSC 200H3) • PLSC 20103, Intro to Comparative Politics • PLSC 21003, State and Local Government • PSYC 20003, General Psychology (or PSYC 200H3) • RESM 28503, Leisure and Society (or RESM 285H3) • SOCI 10103, General Sociology (or SOCI 201H3) • SOCI 20103, Social Problems • STEM 20003, The Art of STEM Communication	*Some courses may appear as options in multiple areas of the State Core. You can only count each course 1 time in the State Core and will need unique courses in each of the content areas below.
STATE CORE FINE ARTS **3 hrs**	**Choose 1: *** • ARCH 10003, Architecture Lecture (or ARCH 100H3) • ARHS 10003, Art Lecture (or ARHS 100H3) • COMM 10003, Film Lecture (or COMM 100H3) • DANC 10003, Movement and Dance • ENGL 20103, Creative Writing 1 • HUMN 211H4, Honors Birth of Modern Culture 1600-1900 (honors only)	*Some courses may appear as options in multiple areas of the State Core. You can only count each course 1 time in the State Core and will need unique courses in each of the content areas below.

Last Updated: June 17, 2024

MAJOR MAP FOR BACHELOR OF SCIENCE IN MATHEMATICS PURE CONCENTRATION (MATHBS-MATH2) 2022-23 THROUGH 2024-25 CATALOG YEARS

	• LARC 10003, The American Landscape (or LARC 100H3) • MLIT 10003, Experiencing Music (or MLIT 100H3) • MLIT 10103, Music and Society (music majors only. Or MLIT 101H3) • MLIT 13303, Popular Music • THTR 10003, Theatre Appreciation (or THTR 100H3) • THTR 10103, Musical Theatre Appreciation (or THTR 101H3) • THTR 16803, Acting I • THTR 18803, Acting 1 for Theatre majors	
STATE CORE HUMANITIES **3 hrs**	**Choose 1: *** • AAST 20203, The African American Experience • ANTH 10303, Introduction to Archeology • ARCH 10103, Diversity and Design (or ARCH 101H3) • CLST 10003, Introduction to Classical Studies: Greece (or CLST 100H3) • CLST 10103, Introduction to Classical Studies: Rome (or CLST 101H3) • COMM 12303, Media, Community and Citizenship (or COMM 123H3) • DANC 10003, Dance Appreciation • DASC 21303, Data Privacy & Ethics • ENGL 11103, World Literature: Beginnings to 1650 CE (or ENGL 111H3) • ENGL 11203, World Literature: 1650 CE to Present (or ENGL 112H3) • ENGL 12103, Introduction to Literature (or ENGL 121H3) • ENGL 20103, Creative Writing I • GNST 20003, Introduction to Gender Studies (or GNST 200H3) • HIST 11193, Institutions and Ideas of World Civilizations I (or HIST 111H3) • HIST 11293, Institutions and Ideas of World Civilizations II (or HIST 112H3) • HIST 20003, History of the American People to 1877 • HIST 20103, History of the American People 1877 to Present • HUMN 112H4, Honors Equilibrium of Cultures 500-1600 (Honors only) • HUMN 22103, Introduction to World Religions • LALS 20103, Introduction to Latin American and Latino Studies • MRST 20103, Introduction to Medieval and Renaissance Studies • MUSY 20003, Music in World Cultures (or MUSY 200H3) • PHIL 20003, Introduction to Philosophy (or PHIL 200H3) • PHIL 21003, Introduction to Ethics • PHIL 22003, Logic • PHIL 23003, Human Nature and the Meaning of Life • PHIL 31003, Ethics and the Professions • THTR 10003, Theatre Appreciation (or THTR 100H3)	*Some courses may appear as options in multiple areas of the State Core. You can only count each course 1 time in the State Core and will need unique courses in each of the content areas below.

Last Updated: June 17, 2024

MAJOR MAP FOR BACHELOR OF SCIENCE IN MATHEMATICS PURE CONCENTRATION (MATHBS-MATH2) 2022-23 THROUGH 2024-25 CATALOG YEARS

	• THTR 10103, Musical Theatre Appreciation (or THTR 101H3) • Any Intermediate level foreign language numbered at the 20000 level	
MATHBS CORE **36-46 hrs**	• **MATH 11003,** College Algebra (may not be required based on math placement) • **MATH 13004,** Pre-Calculus **OR MATH 12003**, Plane Trigonometry (may not be required based on math placement) • **MATH 24004,** Calculus I (pre-req: MATH 13004, 12003, or math placement)* • **MATH 25004,** Calculus II (pre-req: MATH 24004) • **MATH 26004,** Calculus III (pre-req MATH 25004) • **MATH 25804,** Elementary Differential Equations (pre-req: MATH 25004) • **MATH 28003/28001,** Transition to Advanced Mathematics (co- OR pre-req: MATH 25004)** • **MATH 30903,** Abstract Linear Algebra (pre-req: MATH 2803. co- or pre-req: MATH 25004)*** • **MATH 31103,** Introduction to Abstract Algebra I (pre-req: MATH 28003 and either MATH 30903 or 30803) • **MATH 45103,** Advanced Calculus 1 (pre-req: MATH 26004, MATH 28003, and either MATH 30903 or 30803)**** • **MATH 49303,** Mathematics Major Seminar (Spring only, pre-req: senior standing and mathematics major) • **CSCE 20004,** Programming Foundations I (pre-req: MATH 24004)	The students first math course also meets university core requirements. **Students must earn a C or higher to use a class as a pre-requisite.** See catalog for additional pre-requisite information for individual classes. *MATH 24005, Calculus I with review, can also be taken here. **MATH 28003 should be taken as early as possible. While not listed in the major as a requirement, MATH 28001 is a co-requisite class that needs to be taken along with MATH 28003. **Students may not receive credit for both MATH 30903 and MATH 30803 ***Students may not receive credit for both MATH 35103 and 45103 in the major.
PURE CONCENTRATION **18 hrs**	• **MATH 44403,** Complex Variables (pre-req: MATH 28003 or 26003 and MATH 25804) • **6 hrs MATH or STAT 30000+ (or CSCE 41303*)** **Choose 3:** ○ MATH 32003, Number Theory (pre-req: MATH 24004 and either MATH 30903 or 30803) ○ MATH 41103, Introduction to Abstract Algebra II (pre-req: MATH 31103) ○ MATH 45003, Differential Geometry (pre-req: MATH 26004) ○ MATH 45203, Advanced Calculus II (pre-req: MATH 45103)	* Students who take CSCE 41303 and would like to count it for the 24 hour rule may request this using the General College Petition. Honors MATH requirements can count in math electives category. See below for more details. MATH or STAT 3999T or 4999T courses may count in the MATH/STAT 30000+ requirement as students still meet the 50% rule. Not all 999T classes pull into the degree audit automatically, so students may need to request classes be moved into the minor by their academic advisor.
UPPER-LEVEL COURSE REQUIREMENT **0 hrs ***	~~Completion of **8 additional hours at the 30000** level or higher not in Mathematics or Statistics chosen with department approval.*~~	***This requirement was removed from the 2024-25 catalog.** The department does not enforce this requirement in any catalog years. Students still need 120 total hours in their degree but may take any general electives they would like in lieu of this requirement. ***For this reason, this requirement is not listed in the degree snapshot on page 1.***
GENERAL ELECTIVES **23-40 hrs**	Hours will vary depending on math placement and whether a student is exempt from ENGL 10103 and 10203.	Some general electives may need to be upper level to meet college and university residency requirements. See Graduation Checklist on page 3 for more information.

Last Updated: June 17, 2024

MAJOR MAP FOR BACHELOR OF SCIENCE IN MATHEMATICS PURE CONCENTRATION (MATHBS-MATH2) 2022-23 THROUGH 2024-25 CATALOG YEARS

WRITING REQUIREMENT	The college writing requirement may be satisfied in one of two ways: • Upon completion of MATH 49303 • Successful honors thesis defense	
HONORS	**Minimum Requirements for Honors:** • Maintain cumulative grade point average of 3.5 in all coursework (as well as a 3.5 GPA in all CSCE and MATH/STAT courses) • Students must receive a C or higher in all 2000 level MATH/STAT classes required for the degree. • Complete a minimum of 12 hours of honors courses from the UofA (including at least 2 hrs of MATH 399HV taken at least one semester before graduation). Students on 2023-24 and older catalogs may count MATH 498V for this requirement. • Complete and defend Honors Thesis See Catalog for full description of requirements.	**Honors Thesis Timeline:** Honors students should consistently check the honors thesis timeline to stay on track to complete your honors thesis. **College Honors:** Students who also are following the College Honors Plan need to complete additional requirements. Those can be found on the advising website (consult with an academic advisor if you have questions about your catalog year): Academic Planning Resources

Last Updated: June 17, 2024