ADD, CHANGE OR DELETE UNIT, PROGRAM REQUIREMENTS, OR ACADEMIC POLICIES

Complete this form consistent with the instructions in Academic Policy 1622.20. Use the form to add, change, or delete a program or unit or to change program policies. Proposed additions and changes must be consistent with Academic Policies 1100.40 and 1621.10 and any other policies which apply.

SECTION I: Approvals

_____   _____
Department / Program Chair   Date Submitted   Graduate Council Chair   Date

_____   _____
College Dean   Date   Faculty Senate Chair   Date

_____   _____
Honors College Dean   Date   Provost   Date

_____   _____
Core Curriculum Committee   Date   Board of Trustees Approval/Notification Date

_____   _____
University Course and Programs Committee   Date   Arkansas Higher Education Coordinating Board Approval/Notification Date

SECTION II: Profile Data - Required Information and Name Change Information

Academic Unit:　　☒ Major/Field of Study　　☐ Minor　　☐ Other Unit _____　☐ Policy

Level:　　　　　　☒ Undergraduate　　☐ Graduate　　☐ Law　　Effective Catalog Year _____

Program changes are effective with the next available catalog. See Academic Policy Series 1622.20

Current Name　　　　　**BS, Mathematics**

College, School, Division **ARSC**　　　　　Department Code **MASC**

Current Code (6 digit Alpha) **MATHBS**　　　Proposed Code (6 digit Alpha)　_____
                                            Prior approval from the Office of the Registrar is required.

☐ Interdisciplinary Program　　　　　CIP Code **27.0101**
                                    Prior assignment from Office of Institutional Research is required.

Proposed Name _____
When a program name is changed, enrollment of current students reflects the new name.

SECTION III: Add a New Program/Unit

☐　For new program proposals, complete Sections II and VII and use as a cover sheet for a full program proposal as described in 'Criteria and Procedures for Preparing Proposals for New Programs in Arkansas.' ADHE
http://www.adhe.edu/divisions/academicaffairs/Pages/aa_academicproposals.aspx

　　☐ Program proposal uses courses offered by another academic college, and that college dean's office has been notified. The signature of the dean of that academic college is required here: _____

SECTION IV: Eliminate an Existing Program/Unit

Code/Name _____　　　　　Effective Catalog Year _____

No new students admitted to program after Term: ___ Year: _____
Allow students in program to complete under this program until Term: ___ Year: _____

SECTION V: Proposed Changes to an Existing Program or Program Policies

Insert here a statement of the exact changes to be made:

The department specifies that PHIL 2203, Logic, cannot count towards the Philosophy requirement.

Clarification of the department's intent that students need to take a PHIL class (not to include Logic) and 3 additional hours of humanties which, although often satisfied by World Literature, not restricted to WLIT and can come from any other non-PHIL course.

The department proposes to eliminate CSCE 2014 as a requirement; add CSCE 2014 (CSCE 2004 is a prereq, and a requirement) as an allowed science track.

Remove Math 2603 as a requirement.

The total number of specified MATH (or CSCE) courses required for the BS in Mathematics will drop from 34 to 28. All of the options will increase by at least 3 hours; some options more.

Additionally, there are specific changes for each option:

Option 1: Require STAT 3013/5103, MATH 3423, CSCE 3313, MATH 4353 and MATH 4363, and one of MATH 4523, MATH 4443 or STAT 4003/4001L. (This is an increase in 6 hours for this option.)

Option 2: Change requirement from 12 hours to 18, allowing CSCE 3313, Algorithms to count towards this. (This is an increase in 6 hours for this option.)

Option 3: Change the requirement to 19 hours. Allow STAT 5103 in lieu of STAT 3013. (This is an increase in 3 hours for this option).

Finally course changes are in the approval chain for 4932 and 3404: 4932 is to become 4933 and 3404 to become 2584.

Check if either of these boxes apply and provide the necessary signature:

- ☐ Program change proposal adds courses offered by another academic college, and that college dean's office has been notified. The signature of the dean of that academic college is required here: _____
- ☐ Program change proposal deletes courses offered by another academic college, and that college dean's office has been notified. The signature of the dean of that academic college is required here: _____

Check all the boxes that apply and complete the required sections of the form:

- ☐ Change of Name and Code (Complete only sections I, II, V and VII.)
- ☐ Change Course Requirements: (Complete all sections of the form except "Proposed Name" in II, section III, and section IV.)
- ☐ Change Delivery Site/Method (Complete all sections of the form except "Proposed Name" in II, section III, and section IV.)
- ☐ Change Total Hours (Complete all sections of the form except "Proposed Name" in II, section III, and section IV.)
- ☐ Change in Program Policies

SECTION VI: Justification

Justify this change and state its likely effect on any other degree program (including those outside the school or college). Identify any program or program components (other than courses) to be eliminated if this program is implemented. (Program and course change forms must also be submitted for such related changes.)

PHIL 2203 Logic is redundant for a MATH major, so we wish to require students to take some other PHIL class other than Logic.

The change to the wording of the Fine Arts/Humanities/Philosophy requirement is an attempt to clarify the requirement.

Math 2603 is largely redundant, with Math 2803 playing a more effective role in introducing students to proof and abstraction. At the same time, we are attempting to streamline progress into more advanced coursework.

In order to trim down the number of non-mathematics courses required, we are removing the requirement for CSCE 2014, but allowing CSCE to be one of the science sequences (Only 2014 is listed there, but 2004 is a prereq).

All three options have had 3 hours added specifically at the 3000-level or higher in place of 2603. (Additions are discussed below.)

Option 1 has been redesigned to be more coherent.

In order to align more closely with Option 3, both Options 1 & 2 have had three additional upper level mathematics/statistics hours added. For both, however, CSCE 3313 is allowed to serve double duty as an advanced science course.

In the box below, insert the current catalog text which is to be changed, with changes highlighted with the color yellow. Include all proposed changes identified in Section V.   Only changes explicitly stated in Section V will be considered for approval by the University Course and Programs Committee, the Graduate Council and the Faculty Senate. If you are proposing a new program, give proposed text with all of the elements listed below. If you are proposing modified text, include these elements as appropriate.

Include the following elements, in order, in the catalog text for proposed undergraduate program(s) or program changes:

- State complete major/program name
- Briefly define or describe the major/program or discipline.
- Identify typical career goals or paths for graduates. (Optional)
- State admission requirements (if any) for entry or entry into upper/advanced level of major/program.
- Identify location in catalog of university, college/school, and department/program requirements which the student must meet in addition to hours in the major, but do not restate these requirements.
- State course requirements in the major and any allied areas, giving number of hours and specific courses; specify electives or elective areas and give numbers of hours and courses in elective pools or categories; identify any other course requirements.
- State any other requirements (required GPA, internship, exit exam, project, thesis, etc.).
- Identify name and requirements for each concentration (if any).
- Specify whether a minor or other program component is allowed or required and provide details.
- State eight-semester plan requirements

For minors, state requirements in terms of hours, required courses, electives, etc.

For graduate program/units, include elements (as needed) parallel to those listed for undergraduate programs above.

For Law School program/units, prepare text consistent with current catalog style.

For centers, prepare text consistent with current catalog style.

Requirements for a Major in Mathematics, B.S. Degree: Students must complete 124 degree credit hours to include the minimum University/state core requirements (see page 39), the Fulbright College of Arts and Sciences Graduation Requirements (see page 126 under Fulbright College Academic Regulations and Degree Completion Program Policy), and the following liberal arts and major course requirements. Bolded courses from the list below may be applied to portions of the University/state minimum core requirements.
15-20 – Two of the following sequences of science courses and one advanced level course from BIOL, CHEM, CSCE, GEOL or PHYS:
BIOL 1543/1541L and one of **BIOL 1603/1601L**, **BIOL 1613/1611L**, **BIOL 2013/2011L**, or **BIOL 2533/2531L**
CHEM 1103/1101L and **CHEM 1123/1121L**
CSCE 2014
GEOL 1113/1111L and **GEOL 1133/1131L**
PHYS 2054 and **PHYS 2074**
3 – Philosophy course to be selected from: **PHIL 2003**, **PHIL 2103**,
or **PHIL 3103**
3 – One additional non-PHIL University/state core humanities course
3 – Any world language at the Elementary II 1013 level. NOTE: If 1003 is taken as a prerequisite for 1013, 1003 usually will not count towards the 124 hours required for college degree credit; see Fulbright College Admission Requirements on page 125 for further details.
As a part of the requirements for a B.S. degree with a major in mathematics, the student must also complete the following 28 hours: MATH 2574, MATH 2584, MATH 2701, MATH 2803, MATH 3093, MATH 3113, MATH 4513, MATH 4933, CSCE 2004, and the completion of a senior writing project under the direction of a faculty member; this is typically carried out in MATH 4933. An honors senior thesis will satisfy this requirement. It is recommended that MATH 2701 and MATH 2803 be taken as early as possible in the program.

In addition, for the B.S. degree in mathematics, the student is required to complete one of the following three options:

Option 1 (Applied): 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.

Requirements: 18-19hours to include STAT 3013 or STAT 5103; MATH 3423, CSCE 3313, MATH 4353, MATH 4363, and one of MATH 4443, MATH 4523 or STAT 4003/4001L. Option 2 (Pure). A program for the student who is seeking a broad background in mathematics or who wishes to study mathematics at the graduate level.

Requirements: 18 hours to include MATH 4113, MATH 4443, MATH 4523, and nine hours of electives from CSCE 3313 or mathematics and statistics courses numbered above 3000.

Option 3 (Statistics). A program for the student who wishes to emphasize statistics or who intends to study statistics at the graduate level.

Requirements:

19 hours of MATH or STAT courses at the 3000-level or higher to include MATH 4353, STAT 3013 or STAT 5103, STAT 4003, STAT 4001L, STAT 4033, and STAT 4043. Strongly recommended electives in this program are STAT 5103 and STAT 5113.

All of the mathematics and statistics electives used in fulfilling the requirements for the bachelor of science in mathematics must be approved by the student's adviser. 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.

Mathematics, B.S., Option 1 (Applied)

Eight-Semester Degree Program

Students wishing to follow the eight-semester degree plan should see page 40 in the Academic Regulations chapter for university requirements of the program. Core requirement hours may vary by individual, based on placement and previous credit granted. Once all core requirements are met, students may substitute a three-hour (or more) general elective in place of a core area.

Fall Semester Year 1

3 ENGL 1013 Composition I
4 †MATH 2554 Calculus I
3 US History requirement
3 Social science university/state core requirement
3 1013 Elementary II world language course

16 Total Hours

Spring Semester Year 1

3 ENGL 1023 Composition II
4 †MATH 2564 Calculus II
1 MATH 2701 Survey of Higher Mathematics
3 †MATH 2803 Introduction to Mathematical Proof
4 Science Sequence 1

15 Total Hours

Fall Semester Year 2

4 †MATH 2574 Calculus III
4 CSCE 2004 Programming Foundations
3 Social Science university/state core requirement
4 Science Sequence 1 (continued)

15 Total Hours

Spring Semester Year 2

4 †MATH 2584 Differential Equations
3 †‡MATH 3093 Abstract Linear Algebra
3 Social science university/state core requirement
3 Fine arts, philosophy, or other humanities requirement (as needed)
3 General Elective

16 Total Hours

Fall Semester Year 3

3 †‡MATH 3113 Abstract Algebra
3 †‡STAT 3013 Probability and Statistics
4 CSCE 2014 Programming Foundations II
3 Philosophy, other humanities or fine arts requirement (as needed)
3 General Elective

16 Total Hours

Spring Semester Year 3

3 †‡ MATH 3423 Advanced Applied Mathematics
3 †‡MATH 4353 Numerical Linear
3 CSCE 3313 Algorithms
3 Non-PHIL humanities, fine arts or philosophy requirement (as needed)

3 General Elective
15 Total Hours
Fall Semester Year 4
3 †‡MATH 4513 Advanced Calculus
3 †‡MATH 4363 Numerical Methods
3-4 †‡MATH 4443 Complex Variable for Application or †‡STAT 4003/4001 Statistical Methods and Lab
6 General Electives
15-16 Total Hours
Spring Semester Year 4
3 †‡MATH 4933 Math Major Seminar
12-13 General Electives (as needed to complete 124 degree credit hours)
15-16 Semester Hours
124 Total Hours
* Students should only take one of MATH 3083 or MATH 3093, but not both.
† Meets 40-hour advanced credit hour requirement. See College Academic
Regulations on page 127 of this chapter
‡ Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College),
in addition to meeting the 40-hour rule. See College Academic Regulations
on page 127 of this chapter.
Mathematics, B.S., Option 2 (Pure)
Eight-Semester Degree Program
Students wishing to follow the eight-semester degree plan should see page 40 in
the Academic Regulations chapter for university requirements of the program.
Core requirement hours may vary by individual, based on placement and previous
credit granted. Once all core requirements are met, students may substitute a
three-hour (or more) general elective in place of a core area.
Fall Semester Year 1
3 ENGL 1013 Composition I
4 †MATH 2554 Calculus I
4 Science Sequence 1
3 Social science university/state core requirement
3 1013 Elementary II world language course
17 Semester Hours
Spring Semester Year 1
3 ENGL 1023 Composition II
4 †MATH 2564 Calculus II
1 MATH 2701 Survey o9f Higher Mathematics
3 †MATH 2803 Introduction to Mathematical Proof
4 Science Sequence 1 (continued)
15 Semester Hours
Fall Semester Year 2
4 †MATH 2574 Calculus III
3 †‡MATH 3093 Abstract Linear Algebra
4 Science Sequence 2
3 U.S. History requirement
3 Fine arts, philosophy, or non-PHIL humanities course
16 Semester Hours
Spring Semester Year 2
4 †MATH 2584 Differential Equations
3 †‡MATH/STAT 3000-4000 Level Elective
4 CSCE 2004 Programming Foundations
4 Science Sequence 2 (continued)
15 Semester Hours
Fall Semester Year 3
3 †‡ MATH 3113 Introduction to Abstract Algebra I
3 †‡ MATHSTAT 3000-4000 Level Elective
4 Science Sequence 3 (3000+ course from Science Sequence 1 or 2)
3 Philosophy, non-PHIL humanities course, or fine arts course requirement (as needed)
3 General Elective
16 Semester Hours

Spring Semester Year 3
3 †‡ MATH 4513 Advanced Calculus
3 †‡ MATH 4113 Introduction to Abstract Algebra II
3 Social science university/state core requirement
3 Non-PHIL humanities course, fine arts course or Philosophy course requirement (as needed)
3 General Electives
15 Semester Hours
Fall Semester Year 4
3 †‡ MATH 4443 Complex Variable for Application
3 †‡MATH/STAT 3000-4000 Level Elective3 Social Science university/state core requirement
6 General Electives
15Semester Hours
Spring Semester Year 4
3 †‡ MATH 4933 Math Major Seminar
3 †‡MATH 4523 Advanced Calculus II
9 General Electives
15 Semester Hours
124 Total Hours
† Meets 40-hour advanced credit hour requirement. See College Academic
Regulations on page 127 of this chapter
‡ Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College),
in addition to meeting the 40-hour rule. See College Academic Regulations
on page 127 of this chapter.
Mathematics, B.S., Option 3 (Statistics)
Eight-Semester Degree Program
Students wishing to follow the eight-semester degree plan should see page 40 in
the Academic Regulations chapter for university requirements of the program.
Core requirement hours may vary by individual, based on placement and previous
credit granted. Once all core requirements are met, students may substitute a
three-hour (or more) general elective in place of a core area.
Fall Semester Year 1
3 ENGL 1013 Composition I
4 †MATH 2554 Calculus I
4 Science Sequence 1
3 1013 Elementary II world language course
3 Social Science university/state core requirement
17 Semester Hours
Spring Semester Year 1
3 ENGL 1023 Composition II
4 †MATH 2564 Calculus II
3 †MATH 2803 Introduction to Mathematical Proof

1 MATH 2701 Survey of Higher Mathematics
4 Science Sequence 1 (continued)
17 Semester Hours
Fall Semester Year 2
4 †MATH 2574 Calculus III
3 †‡MATH 3093 Abstract Linear Algebra
4 †‡Science Sequence 2
4 CSCE 2004 Programming Foundations I
15 Semester Hours
Spring Semester Year 2
4 †MATH 2584 Differential Equations
3 †‡STAT 3013 Probability and Statistics
3 U.S. History requirement
3 Fine arts, philosophy or non-PHIL humanities course requirement
4 Science Sequence 2 (continued)
17 Semester Hours
Fall Semester Year 3
3 †‡MATH 3113 Abstract Algebra

4 †‡STAT 4003 Statistical Methods and Lab
3 Science Sequence 3 (3000+ course from Science Sequence 1 or 2)
3 Fine arts, philosophy or non-PHIL humanities requirement (as needed)
3 Social science university/state core requirement
16 Semester Hours
Spring Semester Year 3
3 †‡MATH 4353 Numerical Linear Algebra
3 †‡MATH/STAT 3000-4000 Level Elective
3 Social science university/state core requirement
6 General Elective
15 Semester Hours
Fall Semester Year 4
3 †‡MATH 4513 Advanced Calculus I
3 †‡STAT 4033 Nonparametric Stat Methods
3 Fine arts, philosophy or non-PHIL humanities requirement (as needed)
6 General Elective
15 Semester Hours
Spring Semester Year 4
3 †‡MATH 4933 Math Major Seminar
3 †‡STAT 4043 Sampling Techniques
8 General Electives (as needed to meet 124 hour requirement)
14 Semester Hours
124 Total Hours
† Meets 40-hour advanced credit hour requirement. See College Academic
Regulations on page 127 of this chapter
‡ Meets 24-hour rule (24 hours of 3000-4000 level courses in Fulbright College),
in addition to meeting the 40-hour rule. See College Academic Regulations
on page 127 of this chapter.

Requirements for Departmental Honors in Mathematics: The Departmental
Honors Program in Mathematics is designed for the superior student and is intended
to help the student develop a more comprehensive view of the nature of mathematics.
The program provides a vehicle for the recognition of the achievements of work
beyond the usual course of study and earns the student the distinction "Mathematics
Scholar *Cum Laude*" at graduation. Higher degree distinctions are recommended only
in truly exceptional cases and are based upon the whole of the candidate's program of
honors studies.

Graduation with honors: The candidate must satisfy the requirements set forth
by the Honors Council. The candidate must also obtain at least a 3.50 grade-point
average in mathematics courses numbered MATH 2554, MATH 2564, MATH
2574, MATH 2584, MATH 3093, MATH 3113, and MATH 4513, as well as in
the additional mathematics courses necessary to complete the requirements for the
chosen option. In addition, a grade of "D" or "F" in any other course offered by the
department disqualifies a student for honors.

Candidates must take one year of honors mathematics in their senior year. This
course will require an acceptable paper and will carry two hours of credit per semester.
The quality of this paper, along with the execution of the rest of the student's honors
program including the overall academic performance, will be used in determining the
distinction between Honors and High Honors.

SECTION VIII: Action Recorded by Registrar's Office

PROGRAM INVENTORY/DARS

PGRM _____   SUBJ _____   CIP _____   CRTS _____

DGRE _____   PGCT _____   OFFC&CRTY VALID _____

REPORTING CODES

PROG. DEF. ____   REQ. DEF.

Initials ____   Date ____

5/12/08