REQUIREMENTS FOR THE BACHELOR OF SCIENCE IN MATHEMATICS

COLLEGE OF ARTS AND SCIENCES

THE UNIVERSITY OF OKLAHOMA

For Students Entering the Oklahoma State System for Higher Education:

Summer 2013 through Spring 2014

Minimum Credit Hours and Grade Point Averages Required			
Total Hours —	**120**	Upper-Division Within Total	**48**
Major Hours —	**39**		

Grade Point Averages:

Overall & Major: Combined OU/Transfer - **2.00** OU - **2.00**

48 Upper-Division Hours REQUIRED

Mathematics
(Professional Option)

B671
Bachelor of Science in Mathematics

OU encourages students to complete at least 30 hours of applicable coursework each year to have the opportunity to graduate in four years.

GENERAL EDUCATION AND COLLEGE REQUIREMENTS
Courses graded P/NP will not apply.

Courses for fulfillment of General Education and College of Arts & Sciences requirements must be from the approved General Education course list published in the Class Schedule or at **http://www.ou.edu/enrollment/home/**

University-Wide General Education (minimum 40 hours) and College of Arts and Sciences Requirements

Core Area I: Symbolic and Oral Communication (9-22 hours, 3-6 courses)

a. **English Composition** (6 hours, 2 courses)
   1. English 1113, Principles of English Composition
   2. English 1213, Principles of English Composition, **or** EXPO 1213, Expository Writing

b. **Foreign Language** (0-13 hours in the same language)
   The College of Arts and Sciences requirement ***cannot be met by high school coursework***.
   1. Beginning Course (0-5 hours) _____
   2. Beginning Course, continued (0-5 hours) _____
   ♦ 3. Intermediate Course (2000 level, 0-3 hours). _____
   One course at the intermediate level or demonstrated competency at that level.

c. **Mathematics** (3 hours, 1 course). _____

Core Area II: Natural Science (7 hours, 2 courses) including one laboratory component.

♦ 1. **Biological Science** _____
Chosen from the following approved General Education designators: BIOL, HES, MBIO, or PBIO.

♦ 2. **Physical Science** _____
Chosen from the following approved General Education designators: AGSC, ASTR, CHEM, GEOG, GEOL, GPHY, METR, or PHYS.

Core Area III: Social Science (6 hours, 2 courses)

1. Political Science 1113, American Federal Government
2. _____

Core Area IV: Humanities (18 hours, 6 courses)

a: **Understanding Artistic Forms** (3 hours, 1 course) _____

b. **Western Civilization and Culture** (6 hours, 2 courses)
   1. History 1483, U.S., 1492-1865, **or** History 1493, U.S., 1865-Present,
   2. _____ (excluding HIST 1483 and 1493)

c. **Non-Western Culture** (3 hours, 1 course):_____

d. **Additional Core IV Humanities courses** (6 upper-division hours, 2 courses at the 3000- 4000-level). Must be outside the major and selected from Understanding Artistic Forms, Western Civilization and Culture, or Non-Western Culture.

♦ 1. _____

♦ 2. _____

Core Area V: Senior Capstone Experience (3 hours, 1 course): _____

♦ College of Arts and Sciences Requirements: College requirements are not automatically fulfilled by a previous degree.

Some courses required for the major may also fulfill University General Education and/or College of Arts & Sciences Requirements

MAJOR REQUIREMENTS

Students must earn a grade of C or better in all MATH courses at the 3000-level or higher.

MATH

One of the following two sequences:

1823 Calculus & Analytic Geometry I
2423 Calculus & Analytic Geometry II
2433 Calculus & Analytic Geometry III
2443 Calculus & Analytic Geometry IV
or
1914 Differential & Integral Calculus I
2924 Differential & Integral Calculus II
2934 Differential & Integral Calculus III

_____ 3-4

_____ 3-4

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_____ 0-3

2513 Discrete Mathematical Structures 3
3333 Linear Algebra I 3
4323 Introduction to Abstract Algebra I 3
4373 Abstract Linear Algebra 3
4433 Intro. to Analysis I 3
4853 Intro. to Topology 3

One of the following:
3113 Introduction to Ordinary Differential Equations, **or**
3413 Physical Mathematics I

_____ 3

One of the following:
4333 Introduction to Abstract Algebra II, **or**
4443 Introduction to Analysis II

_____ 3

4513 Senior Mathematics Seminar (Capstone) 3

Free Electives

Electives to bring total applicable hours to 120 including 48 upper-division hours.

INFORMATION CONCERNING GENERAL RULES, REGULATIONS AND MINIMUM REQUIREMENTS

TOTAL HOURS: A minimum of 120 semester hours acceptable toward graduation must be completed.

UPPER-DIVISION HOURS: A minimum of 48 upper-division semester hours acceptable toward graduation must be completed. OU courses numbered 3000 or above are upper-division. Transfer work is counted as lower-division or upper-division credit depending on the level at which it was offered at the institution where it was earned. Two-year college work is accepted only as lower-division credit.

ARTS AND SCIENCES HOURS: At least 80 semester hours of liberal arts and sciences courses are required for a BA degree. At least 55 semester hours of liberal arts and sciences courses are required for a BS degree.

MAJOR WORK: A minimum of 30 semester hours must be earned in the major, including a minimum of 15 credit hours at the upper-division level.

PASS/NO PASS ENROLLMENT: A maximum of 16 semester hours of free elective credit may be attempted under this option.

INDIVIDUAL STUDIES (e.g., courses titled "Independent Study"): A maximum of 12 total semester hours may be counted toward graduation, excluding Honors Reading and Honors Research.

P.E. COURSES: No physical education activity courses will be counted toward the 120 semester hours of acceptable credit for graduation.

SENIOR INSTITUTION HOURS: A minimum of 60 semester hours applied toward graduation must be earned at senior (4-year) institutions.

RESIDENCY:

- At least 15 of the final 30 hours applied toward the degree or at least 50 percent of the hours required by the institution in the major field must be satisfactorily completed at the awarding institution.
- At least 15 semester hours of upper-division major work must be completed in residence at OU.
- OU correspondence courses are ***not*** considered resident credit.
- Credits earned via examination are neither resident nor nonresident credit.

GRADE POINT AVERAGES: Students must earn a minimum overall 2.00 for each of the following: Combined Retention GPA (all college grades), OU Retention GPA, GPA for all major courses, and GPA for all major courses taken at OU. Some schools and departments of the College have higher minimum grade point averages required for their students.

SPECIAL DEGREES: Students may qualify for an Honors degree (cum Laude, Magna cum Laude, or Summa cum Laude) by completing specific requirements of the Honors College. A degree will be earned with Distinction if the student completes at least 60 semester hours at OU with at least a 3.60 combined retention GPA and OU retention GPA. A degree will be earned with Special Distinction if the student completes at least 60 semester hours at OU with at least a 3.90 combined retention GPA and OU retention GPA.

APPLICATION FOR GRADUATION: Students must apply for graduation during the term in which they complete their degree requirements in order to graduate in that term. The graduation application is available online on your Ozone site. Deadlines for the OU Graduation Application are: **March 1** for Spring certification and the University of Oklahoma Commencement book; **July 1** for Summer graduation certification; and, **October 1** for Fall graduation certification.

Refer to the OU General Catalog for more complete information.

Suggested Semester Plan of Study — Mathematics (Professional Option) - B671

This plan shows one possible grouping of courses that would allow students to graduate in four years. Please refer to the front of the degree checksheet for official requirements. Students must consult with College of Arts and Sciences and/or Department of Mathematics academic advisers to verify that courses selected each semester fulfill the recommended plan and satisfy university, College of Arts and Sciences, and Mathematics major requirements.

Year	FIRST SEMESTER	Hours	SECOND SEMESTER	Hours
FRESHMAN	ENGL 1113, Principles of English Composition (Core I)	3	ENGL 1213, Principles of English Composition (Core I), **or**	3
	MATH 1823, Calculus & Analytic Geometry I (Core I), **or**	3-4	EXPO 1213, Expository Writing (Core I)	
	MATH 1914, Differential & Integral Calculus I		HIST 1483, United States 1492-1865, **or**	3
	P SC 1113, American Federal Government (Core III)	3	1493, United States 1865-Present (Core IV)	
	Beginning Foreign Language (Core I)	5	MATH 2423, Calculus & Analytic Geometry II, **or**	3-4
	Free Elective, lower-division (e.g., UCOL 1002, HES 2212)	2	MATH 2924, Differential & Integral Calculus II	
			Beginning Foreign Language continued (Core I)	5
	TOTAL CREDIT HOURS	**16-17**	**TOTAL CREDIT HOURS**	**14-15**
SOPHOMORE	MATH 2433, Calculus & Analytic Geometry III, **or**	3-4	MATH 2443, Calculus & Analytic Geometry IV, **or**	3
	MATH 2934, Differential & Integral Calculus III		Free Elective, lower- or upper-division§	
	MATH 2513, Discrete Mathematical Structures	3	MATH 3333, Linear Algebra I	3
	Intermediate Foreign Language	3	Natural Science with lab (Core II)	4
	Natural Science without lab (Core II)	3	Social Science (Core III)	3
	Western Civilization & Culture (Core IV)	3	Understanding Artistic Forms (Core IV)	3
	TOTAL CREDIT HOURS	**15-16**	**TOTAL CREDIT HOURS**	**16**
JUNIOR	MATH 4323, Introduction to Abstract Algebra I	3	MATH 3113, Introduction to Ordinary Differential Equations, **or**	3
	MATH 4433, Introduction to Analysis I	3	3413, Physical Mathematics I	
	Free Elective, lower- or upper-division	3	MATH 4333, Introduction to Abstract Algebra II, **or**	3
	Free Elective, upper-division (3000-4000-level)	3	4443, Introduction to Analysis II	
	Free Elective, upper-division (3000-4000-level)	3	Humanities, upper-division, outside major (Gen. Ed.)	3
			Non-Western Culture (Core IV)	3
			Free Elective, upper-division (3000-4000-level)	3
	TOTAL CREDIT HOURS	**15**	**TOTAL CREDIT HOURS**	**15**
SENIOR	MATH 4373, Abstract Linear Algebra	3	MATH 4513, Senior Mathematics Seminar (Capstone)	3
	Humanities, upper-division, outside major (Gen. Ed.)	3	MATH 4853, Introduction to Topology	3
	Free Elective, lower- or upper-division	3	Free Elective, lower- or upper-division	3
	Free Elective, upper-division (3000-4000-level)	3	Free Elective, upper-division (3000-4000-level)	3
	Free Elective, upper-division (3000-4000-level), MATH is recommended	3	Free Elective, upper-division (3000-4000-level)	3
	TOTAL CREDIT HOURS	**15**	**TOTAL CREDIT HOURS**	**15**

§ Free Elective is chosen only if MATH 1914, 2924, and 2934 have been completed.

Bachelor's degrees require a minimum of 48 hours of upper-division (3000-4000) coursework.
This plan of study should not be used in lieu of academic advisement.

Students who transfer from other institutions (particularly community colleges) must verify credit hour and course requirements with their college academic counselor, ELLH 124, 325-4411, **http://ou.edu/cas**. Please make an appointment for a degree check with your college academic counselor once you have earned 90 hours. Appointments may be scheduled at **https://iadvise.ou.edu/**.