

**REQUIREMENTS FOR THE BACHELOR OF SCIENCE/MASTER OF SCIENCE  
DODGE COLLEGE OF ARTS AND SCIENCES  
THE UNIVERSITY OF OKLAHOMA**

<b>Academic Year</b>	<b>General Requirements</b>	<b>Program</b>
For Students Entering the Oklahoma State System for Higher Education Summer 2023 through Spring 2024	Minimum Total Credit Hours ..... 136 Minimum Upper-Division Hours ..... 57 Major Hours ..... 39 <b>Minimum Retention/Graduation Grade Point Averages:</b> Overall - Combined and OU ..... 3.00 Major - Combined and OU ..... 3.00	<b>Mathematics &amp; Biostatistics</b>  <b>A671</b>  Bachelor of Science/Master of Science

OU encourages students to complete at least 28 hours of applicable coursework each year to have the opportunity to graduate in 5 years.

**Minimum Total Credit Hours:** 136  
**Major Hours:** 39  
**Minimum Upper-Division Hours:** 57  
**Overall GPA - Combined and OU:** 3.00  
**Major GPA - Combined and OU:** 3.00

**Program Code:** A671

### General Education and College Requirements

Courses for fulfillment of General Education and Dodge 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/gened/courses>. **Courses graded P/NP will not apply.**

#### UNIVERSITY-WIDE GENERAL EDUCATION (MINIMUM 40 HOURS) AND COLLEGE REQUIREMENTS

Code	Title	Credit Hours
<b>Core Area I: Symbolic and Oral Communication</b>		
<i>English Composition (6 hours)</i>		
ENGL 1113	Principles of English Composition	3
ENGL 1213	Principles of English Composition	3
or EXPO 1213	Expository Writing	
<i>Language (0-13 hours in the same language)</i>		
The college requirement cannot be met by high school coursework.		
	Beginning Course	0-5
	Beginning Course, continued	0-5
	Intermediate Course (2000 level) <sup>1,2</sup>	0-3
<i>Mathematics (3 hours)</i>		
	Choose one course from the General Education Mathematics list	3
<b>Core Area II: Natural Science (7 hours, including one laboratory component)</b>		
<i>Biological Science</i>		
	Choose an approved General Education Natural Science course with one of the following prefixes: BIOL, HES, MBIO, or PBIO <sup>1</sup>	3-4
<i>Physical Science</i>		
	Choose an approved General Education Natural Science course with one of the following prefixes: AGSC, ASTR, CHEM, GEOG, GEOL, GPHY, METR, or PHYS <sup>1</sup>	3-4
<b>Core Area III: Social Science (6 hours)</b>		
P SC 1113	American Federal Government	3
	Choose one course from the General Education Social Science list	3
<b>Core Area IV: Arts and Humanities (18 hours)</b>		
<i>Artistic Forms</i>		

Choose one course from the General Education Artistic Forms list	3
<i>Western Culture</i>	
HIST 1483 United States to 1865	3
or HIST 1493 United States, 1865 to the Present	
Choose one course from the General Education Western Culture list (excluding HIST 1483/1493)	3
<i>World Culture</i>	
Choose one course from the General Education World Culture list	3
<i>Additional Core IV Upper-Division Arts &amp; Humanities courses</i>	
Choose one course from Artistic Forms, Western Culture, or World Culture <sup>1,3</sup>	3
Choose one course from Artistic Forms, Western Culture, or World Culture <sup>1,3</sup>	3
<b>Core Area V: First Year Experience (3 hours)</b>	
Choose one course	3
<b>Total Credit Hours</b>	<b>56</b>

<sup>1</sup>College of Arts and Sciences Requirements: college requirements are not automatically fulfilled by a previous degree.  
<sup>2</sup>One course at the intermediate level or demonstrated competency at that level  
<sup>3</sup>6 upper-division hours, 2 courses, at the 3000- 4000-level. **Must be outside the major.**

### Free Electives

Electives to bring total applicable hours to the minimum total required for the degree including 48 upper-division hours.

- No more than 8 hours applied to this program may carry a grade lower than B. No course at the 4000-level or higher with a grade lower than C may be applied to the program.

## Major Requirements

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

Code	Title	Credit Hours
MATH 1823	Calculus and Analytic Geometry I <sup>1</sup>	3
MATH 2423	Calculus and Analytic Geometry II <sup>1</sup>	3
MATH 2433	Calculus and Analytic Geometry III <sup>1</sup>	3
MATH 2443	Calculus and Analytic Geometry IV <sup>1</sup>	3
MATH 2513	Discrete Mathematical Structures	3
MATH 3333	Linear Algebra I	3
MATH 4073	Numerical Analysis I	3
MATH 3113	Introduction to Ordinary Differential Equations <sup>2</sup>	3
or MATH 3413	Physical Mathematics I	
Choose one of the following:		3
MATH 4323	Introduction to Abstract Algebra I	
MATH 4383	Applied Modern Algebra	
MATH 4433	Introduction to Analysis I	
MATH 4733	Mathematical Theory of Probability <sup>3</sup>	3
or BSE 5703	THEORY OF PROBABILITY-OUHSC	
MATH 4743	Introduction to Mathematical Statistics <sup>3</sup>	3
or BSE 5733	PRII OUHSC	
<b>Major Electives</b>		
Choose two courses from the Undergraduate Major Electives course list (p. )		6
<b>Total Credit Hours</b>		<b>39</b>

<sup>1</sup>Students may substitute MATH 1914, MATH 2924, and MATH 2934 for MATH 1823, MATH 2423, MATH 2433, and MATH 2443.

<sup>2</sup>MATH 3113 and MATH 3413 overlap by 2 hours. Students who take both will earn only 4 hours of credit.

<sup>3</sup>No student may earn credit for both MATH 4733 and BSE 5703 Theory of Probability, or MATH 4743 and BSE 5733 Principles of Mathematical Statistics I.

## Major Support Requirements

Code	Title	Credit Hours
MBIO 2815	Introduction to Microbiology (lab)	5
or BIOL 2124	Human Physiology	
<b>Total Credit Hours</b>		<b>5</b>

## BS and MS Requirements

Code	Title	Credit Hours
BSE 5001	Problems in Biostatistics & Epidemiology-OUHSC	1
BSE 5113	Principles of Epidemiology-OUHSC	3

BSE 5163	Biostatistical Methods I-OUHSC	3
BSE 5173	Biostatistical Methods II-OUHSC	3
BSE 5193	Intermediate Epidemiologic Methods-OUHSC	3
BSE 5980	Research for Master's Thesis-OUHSC	3
Choose one of the following:		3
HAP 5113	Health Organization & Administration-OUHSC	
HPS 5213	Social & Behavioral Sciences in Public Health-OUHSC	
OEH 5013	Environmental Health-OUHSC	
<b>Graduate Electives</b>		
Choose two courses from the Graduate Electives course list (p. ) <sup>2</sup>		6
<b>Additional Graduate Requirements</b>		
<i>Epidemiology Elective</i>		
Choose one of the following:		3
BSE 5303	Epidemiology of Infectious Disease-OUHSC	
BSE 5363	Epidemiology & Prevention of Chronic Disease-OUHSC	
BSE 6363	Cancer Epidemiology & Prevention-OUHSC	
<i>Math/Biostatistics Courses</i>		
Choose two courses from the following in consultation with advisor:		6
MATH 5783		
or BSE 5653	NONPARAMETRIC METHODS-OUHSC	
MATH 5793	Advanced Applied Statistics	
or BSE 6663	A OUHSC	
BSE 5663	Analysis of Frequency Data-OUHSC	
BSE 6643	Survival Data Analysis-OUHSC	
<i>BSE Elective-OUHSC</i>		
Choose any BSE course that has not been taken to fulfill other requirements <sup>3</sup>		3
<b>Total Credit Hours</b>		<b>37</b>

<sup>1</sup>Note: No more than three hours earned of BSE 5980 Research for Master's Thesis may be applied toward the dual degree program.

<sup>2</sup>These courses may not duplicate the six hours of math electives for the undergraduate major requirements and when offered on a slashlisted basis must be the graduate-level course.

<sup>3</sup>Excluding BSE 5103, BSE 5950 Field Work in Biostatistics and Epidemiology, and BSE 6950 Research in Biostatistics and Epidemiology.

More information in the catalog: (<http://ou-public.courseleaf.com/dodge-arts-sciences/proctor-mathematics/mathematics-biostatistics-bachelor-science-master-science/>).

## Information Concerning General Rules, Regulations and Minimum Requirements

**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.

**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.

**Grade Point Averages:** Students must earn a minimum over all 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.

## Undergraduate Major Electives

Six additional hours of math chosen in consultation with adviser from the following:

Code	Title	Credit Hours
MATH 4093	Applied Numerical Methods	3
MATH 4193	Introductory Mathematical Modeling	3
MATH 4323	Introduction to Abstract Algebra I	3
MATH 4333	Introduction to Abstract Algebra II	3
MATH 4373	Abstract Linear Algebra	3
MATH 4433	Introduction to Analysis I	3
MATH 4443	Introduction to Analysis II	3
MATH 4753	Applied Statistical Methods	3
MATH 4773	Applied Regression Analysis	3
	or BSE 6643 SURVIVAL DATA ANALYSIS-OUHSC	
MATH 4853	Introduction to Topology	3
MATH 4793	Advanced Applied Statistics	3
	or BSE 6663 ANALYSIS OF MULTIVARIATE DATA-OUHSC	
BSE 5653	Nonparametric Methods-OUHSC	3

## Graduate Electives

Six additional hours of math chosen in consultation with adviser from the following:

Code	Title	Credit Hours
MATH 4093	Applied Numerical Methods	3
MATH 4193	Introductory Mathematical Modeling	3
MATH 4323	Introduction to Abstract Algebra I	3
MATH 4333	Introduction to Abstract Algebra II	3
MATH 4373	Abstract Linear Algebra	3
MATH 4433	Introduction to Analysis I	3
MATH 4443	Introduction to Analysis II	3
MATH 4853	Introduction to Topology	3
MATH 5773	Applied Regression Analysis	3
	or BSE 6643 SURVIVAL DATA ANALYSIS-OUHSC	
MATH 5793	Advanced Applied Statistics	3
	or BSE 6663 AN/OUHSC	
BSE 5653	Nonparametric Methods-OUHSC	3