

**REQUIREMENTS FOR THE BACHELOR OF SCIENCE IN
MATHEMATICS/MASTER OF SCIENCE IN BIOSTATISTICS
GRADUATE COLLEGE**
THE UNIVERSITY OF OKLAHOMA HEALTH SCIENCES CENTER

<p>For Students Entering the Oklahoma State System For Higher Education: Summer 2025 through Spring 2026</p>	<p>Minimum Credit Hours and Grade Point Averages Required</p> <p>Total Hours for Degree – 136 Major Hours – 37</p> <p>Grade Point Averages: Overall: Combined OUHSC/Transfer – 3.0 Major: Combined OUHSC/Transfer - 3.0</p>	<p>BACHELOR OF SCIENCE IN MATHEMATICS / MASTER OF SCIENCE IN BIOSTATISTICS 1226D</p>
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<p>PREREQUISITE REQUIREMENTS</p> <p>The requirements for admission to the program are the same as those for admission to the College of Arts and Sciences. These requirements are listed in the Bulletin and class schedule of the University of Oklahoma. Students may apply for admission to the Graduate Program provided they have completed (1) at least 45 credit hours of coursework; (2) at least nine of these credit hours are in upper division courses; and (3) the overall GPA and the GPA in all upper division coursework are both 3.00 or better. International students must also submit a TOEFL score of at least 570 paper-based or 88 IBT. Students who have been granted admission to the Graduate Program may begin taking the graduate coursework. All students, regardless of admission status, are required to maintain a GPA of 3.00 or greater in all coursework completed. The 136 credit hours submitted to satisfy the requirements of the program may not include more than eight credit hours with a grade of C. Moreover, the 136 credit hours submitted to satisfy the requirements of this program may not include any credit hours in courses numbered 4000 or above for which a grade lower than a C was given.</p>	<p>MS – BIOSTATISTICS / BS MATH - CURRICULUM REQUIREMENTS</p> <p>Major Requirements in Mathematics 39 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 a C may be applied to the program.)</p> <p>MATH 1823 Calculus/Analytic Geometry I MATH 2423 Calculus/Analytic Geometry II MATH 2433 Calculus/Analytic Geometry III MATH 2443 Calculus/Analytic Geometry IV MATH 2513 Discrete Mathematical Structures MATH 3333 Linear Algebra I MATH 4073 Numerical Analysis I MATH 3113 Introduction to Ordinary Differential Equations <u>OR</u> MATH 3413 Physical Mathematics I Choose one of the following courses: MATH 4323 Introduction to Abstract Algebra I MATH 4383 Applied Modern Algebra MATH 4433 Introduction to Analysis I MATH 4733 Mathematical Theory of Probability <u>OR</u> BSE 5703 Theory of Probability MATH 4743 Introduction to Mathematical Statistics <u>OR</u> BSE 5733 Principles of Mathematical Statistics I</p>
<p><u>Undergraduate Courses Counted Toward the BS Degree</u></p> <p>General Education Requirement (Students in the program must meet all the general education requirements. The Capstone requirement for the BSE degree is satisfied by the thesis required for the MS degree).</p> <p>Core Area I Symbolic and Oral Communication 9 – 22 hrs Core Area II Natural Science 7 hours Core Area III Social Sciences 6 hours Core Area IV Humanities 18 hours</p>	

**MS – BIOSTATISTICS / BS MATH - CURRICULUM
REQUIREMENTS - CONTINUED**

Major Electives (6 hours)

MATH 4093 Applied Numerical Methods
MATH 4193 Introduction to Mathematics Modeling
MATH 4323 Introduction to Abstract Algebra I
MATH 4333 Introduction to Abstract Algebra II
MATH 4373 Abstract Linear Algebra
MATH 4433 Introduction to Analysis I
MATH 4443 Introduction to Analysis II
MATH 4773 Regression Analysis **or**
 BSE 6643 Survival Data Analysis
MATH 4853 Introduction to Topology
MATH 4793 Advanced Applied Statistics **or**
 BSE 6663 Analysis of Multivariate Data
BSE 5653 Nonparametric Methods

Major Support Requirements (4-5 hours)

MBIO 2815 Introduction to Microbiology (lab) **or**
 BIOL 2124 Human Physiology

Unrestricted Elective Courses (20-30 hours)

Must be approved by Advisory Committee

BS & MS REQUIREMENTS (22 hours)

Required Courses in Biostatistics and Epidemiology

BSE 5001 Problems in Biostatistics and Epidemiology
BSE 5113 Principles of Epidemiology
BSE 5163 Biostatistics Methods I
BSE 5173 Biostatistics Methods II
BSE 5193 Intermediate Epidemiologic Methods
BSE 5980 Research for Master's Thesis (3 credit hours)
Elective – Select 3 credits from the following:
 HAP 5113 Health Organization and Administration
 HPS 5213 Social and Behavioral Sciences in Public Health
 OEH 5013 Environmental Health
Elective – Choose any BSE course (3 hours) that has not been taken to fulfill other requirements excluding BSE 5103, BSE 5950, BSE 6950

Math/Biostatistics Courses (6 hours)

MATH 5783 Topics in Mathematical Statistics
MATH 5793 Advanced Applied Statistics
BSE 5653 Nonparametric Methods
BSE 5663 Analysis of Frequency Data
BSE 6643 Survival Data Analysis
BSE 6663 Analysis of Multivariate Data

**MS – BIOSTATISTICS / BS MATH - CURRICULUM
REQUIREMENTS - CONTINUED**

Graduate Elective Courses (6 hours)

Note: These courses may not duplicate the six hours of math electives for the undergraduate major requirements and when offered on a slash listed bases must be the graduate-level course.

MATH 4093 Applied Numerical Methods
MATH 4193 Introduction to Mathematics Modeling
MATH 4323 Introduction to Abstract Algebra I
MATH 4333 Introduction to Abstract Algebra II
MATH 4373 Abstract Linear Algebra
MATH 4433 Introduction to Analysis I
MATH 4443 Introduction to Analysis II
MATH 4853 Introduction to Topology
MATH 5773 Applied Regression Analysis
BSE 5603 Sampling Theory and Methods
BSE 5763 Applied Bayesian Statistics
BSE 6563 Longitudinal Data Analysis

Additional Graduate Epidemiology Requirements (3 hours)

BSE 5303 Epidemiology of Infectious Disease
BSE 5363 Epidemiology of Prevention of Chronic Disease
BSE 5633 Public Health Strategies for Tobacco Control
BSE 6363 Cancer Epidemiology and Prevention

Note: The thesis also satisfies the Senior Capstone Requirement. It may be necessary to enroll in more than 3 credit hours of BSE 5980; however, only 3 credit hours may apply to the minimum 136 credit hours required for the dual degree program.