

BS Stat

Bachelor of Science in Statistics

Under Review | Fall 2024

Proposal Information

Status

Active

Workflow Status

In Progress

Faculty Senate Approval, Faculty Senate

expand ▲

Waiting for Approval | Faculty Senate Approval

Rick Holmes

Nancy Middlebrook

Changes

- participants
- Proposed Effective Term and Year
- Sponsoring faculty/staff member
- Sponsoring faculty/staff email
- Program Justification

Show All ▼

Proposal Information

Proposed

Sponsoring faculty/staff member

Ana Lombard

Proposed

Sponsoring faculty/staff email

alombard@unm.edu

Existing

Sponsoring faculty/staff member

Dimitar Vassilev

Existing

Sponsoring faculty/staff email

vassilev@unm.edu

College

College of Arts & Sciences

Department

Mathematics & Statistics

Campus

Main Campus

Effective Term and Year

Proposed  
**Proposed Effective Term and Year**  
Fall 2024

Existing  
**Proposed Effective Term and Year**  
Fall 2023

## Justification

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Proposed  
**Program Justification**  
Department Honors updated to Stat requirements as in 2022/23 catalog.

Existing  
**Program Justification**  
same program. new Quali system

## Program Category and Level

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Program Category	Program Level	Degree, Minor, or Certificate Name
Program	Undergraduate	Bachelor of Science in Statistics

**Degree Type**  
Bachelor of Science

**Degree/Certificate Level**  
Undergraduate

**Is this program also offered online?**  
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## Associated Forms

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Select any associated course forms that exist

Select any associated program forms that exist

## Shared Credit and Dual Degree information

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## Interdepartmental Program

No

# Catalog Information

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## Program Description

Statistics is the science of collecting and analyzing data. Statisticians interact with researchers in all the various disciplines of science, engineering, medicine, social science and business to develop scientifically sound methods in those areas. Most course work in the department is devoted to understanding current methods and the reasoning behind them. A degree in statistics prepares students for careers in industry, government, academia, and research institutes, as well as being excellent preparation for professional programs in medicine, law, business administration and public policy and administration.

## Admissions Requirements

### College of Arts and Sciences and Department of Mathematics and Statistics Undergraduate Admission Requirements

A minimum of 26 credit hours; 23 credit hours must be in courses acceptable toward graduation.

A cumulative grade point average of at least 2.00 on all work.

- Transfer students must have a 2.00 transfer GPA.
- Continuing UNM students must have a 2.00 institutional GPA.

Demonstrated academic achievement by satisfying the following:

- Completion of General Education Curriculum: Communication.
- Completion of General Education Curriculum: Mathematics and Statistics.
- Completion of General Education Curriculum: Second Language.

Completion of Department of Mathematics and Statistics admission course work with a grade of "C" or better:

- MATH 1522.

## **Bachelor of Science in Statistics**

### **Major Study Requirements**

The following is required of all Statistics majors:

- 1) Assignment of a faculty advisor. Students must go to the Department of Mathematics and Statistics to be assigned an advisor from the Statistics Group as soon as they decide to major in statistics.
- 2) MATH 1350 or approved equivalent.
- 3) Knowledge of an intro computing language.
- 4) MATH 1512, 1522, 2530, (\*\*314 or \*\*321).
- 5) At least 21 credit hours of statistics courses numbered 250 or above with a grade of "C" (not "C-") or better. These must include STAT \*\*345, 427, 428, 440 and 445.
- 6) Enrichment courses: At least 6 additional credit hours of courses numbered 300 or higher and approved by the student's undergraduate advisor. These can be taken in an appropriate discipline of the student's choice, for example: anthropology, biology, business, chemistry, computer science, economics, engineering, mathematics, psychology, and statistics. These courses may overlap with the student's minor.
- 7) The Credit/No Credit grade option may not be used in courses taken to satisfy requirements 2, 4 and 5. All grades in these courses must be "C" (not "C-") or better.

### **Departmental Honors**

Requirements for departmental honors in Statistics are 1) a 3.5 GPA in Mathematics and Statistics courses and a 3.2 overall GPA; 2) notification to the department program specialist no later than two full semesters prior to graduation; 3) completion of a project based on 6 credit hours of STAT 495 (project outline to be presented to the Undergraduate Honors Committee (UHC) for approval) 4) final written report to be submitted to UHC for approval; and 5) seminar to be given at the end of the project. These requirements are in addition to the major requirements.

Existing

## Graduation Requirements

### Bachelor of Science in Statistics

#### Major Study Requirements

The following is required of all Statistics majors:

- 1) Assignment of a faculty advisor. Students must go to the Department of Mathematics and Statistics to be assigned an advisor from the Statistics Group as soon as they decide to major in statistics.
- 2) MATH 1350 or approved equivalent.
- 3) Knowledge of an intro computing language.
- 4) MATH 1512, 1522, 2530, (\*\*314 or \*\*321).
- 5) At least 21 credit hours of statistics courses numbered 250 or above with a grade of "C" (not "C-") or better. These must include STAT \*\*345, 427, 428, 440 and 445.
- 6) Enrichment courses: At least 6 additional credit hours of courses numbered 300 or higher and approved by the student's undergraduate advisor. These can be taken in an appropriate discipline of the student's choice, for example: anthropology, biology, business, chemistry, computer science, economics, engineering, mathematics, psychology, and statistics. These courses may overlap with the student's minor.
- 7) The Credit/No Credit grade option may not be used in courses taken to satisfy requirements 2, 4 and 5. All grades in these courses must be "C" (not "C-") or better.

#### Departmental Honors

Requirements for departmental honors in Mathematics are 1) a 3.5 GPA in Mathematics and Statistics courses and a 3.2 overall GPA; 2) notification to the department program specialist no later than two full semesters prior to graduation; 3) completion of a project based on 6 credit hours of MATH 499 (project outline to be presented to the Undergraduate Honors Committee (UHC) for approval); 4) final written report to be submitted to UHC for approval; and 5) seminar to be given at the end of the project. These requirements are in addition to the major requirements.

## Professional Credential/Licensure Program Information

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Proposed

**License/Certification associated with program**

No

Existing

**License/Certification associated with program**

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## Degree Information

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## Degree Requirements

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### Requirements

- Complete all of the following
  - Complete the following:
    - MATH1350 - Introduction to Statistics (3)
    - MATH1512 - Calculus I (4)
    - MATH1522 - Calculus II (4)
    - MATH2531 - Calculus III (4)
  - Complete at least 1 of the following:
    - MATH314 - Linear Algebra with Applications (3)
    - MATH321 - Linear Algebra (3)
  - Knowledge of an intro computing language.
  - Complete the following:
    - STAT345 - Elements of Mathematical Statistics and Probability Theory (3)
    - STAT427 - Advanced Data Analysis I (3)
    - STAT428 - Advanced Data Analysis II (3)
    - STAT440 - Regression Analysis (3)
    - STAT445 - Analysis of Variance and Experimental Design (3)
  - Earned at least 6 credits from STAT 250 - 499
  - Earn at least 6 credits from the following types of courses:  
 Enrichment courses: At least 6 additional credit hours of courses numbered 300 or higher and approved by the student's undergraduate advisor. These can be taken in an appropriate discipline of the student's choice, for example: anthropology, biology, business, chemistry, computer science, economics, engineering, mathematics, psychology, and statistics. These courses may overlap with the student's minor.
  - For students interested in a career in actuarial science, preparation for the first actuarial exam consists of the courses MATH 1512, 1522, 2531, (\*\*314 or \*\*321). Preparation for the second actuarial exam consists of STAT 453, 461.
  - Students planning on pursuing a graduate degree in Statistics are encouraged to take MATH \*\*321 and 401.
  - Earn at least 79 credits from the following types of courses:  
 Completed at least 79 credits. In addition to the program-specific requirements outlined here, all undergraduate students are required to fulfill UNM's General Education Program requirements. In some instances, courses included in an undergraduate degree program's requirement may also fulfill a General Education requirement. Please review the General Education Program in this Catalog for General Education information. Students within the College of Arts and Sciences must also complete 1) a major and a minor; or 2) two majors; or 3) one of the special curricula of the College that requires no minor.

**Grand Total Credits: 124**

# Concentrations

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## Program Concentrations

Code	Title
Concentration Required	
No	

# Emphases

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Emphasis required	Emphasis Hours
N/A	
Emphasis Rules	
No Rules	

# Sample Degree Plan

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Sample Degree Plan Upload

# Program Learning Outcomes

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Learning Outcomes
1. <b>Statistical knowledge.</b> Students should demonstrate proficiency in probability and statistical theory and methods.
2. <b>Presentation and interpretation of data.</b> Student should demonstrate the ability to manipulate and visualize data and to compute standard statistical summaries.
3. <b>Mathematical knowledge.</b> Students should demonstrate skill in applying fundamental mathematical techniques.