

# APPLIED STATISTICS - MASTER OF SCIENCE

The Department of Economics, Applied Statistics and International Business offers the Master of Science (MS) degree in applied statistics. The applied statistics program produces graduates proficient in the practice of statistics and prepared to enter directly into positions in government or industry. Students in the program receive instruction in both the theory and the application of statistics, with an emphasis on experimental design and modeling. Statistical software packages, which are necessary for modern data analysis, are used throughout the curriculum. The program culminates in a capstone course in which students gain experience in analyzing real-world data.

Students from a variety of disciplines, including mathematics, psychology, engineering, and the natural sciences, have successfully completed the MS in applied statistics.

## Admission

Requirements for regular admission to the MS in applied statistics include the following:

- A minimum 3.0-grade point average overall or in the last two years of study. Complete graduate and undergraduate transcripts must be supplied.
- Two semesters of calculus, equivalent to NMSU courses MATH 1511G Calculus and Analytic Geometry I MATH 1521G Calculus and Analytic Geometry II, and one semester of Linear Algebra equivalent to NMSU course MATH 2415 Introduction to Linear Algebra, completed with grades of B or better.
- Three letters of reference from former professors or others able to evaluate the student's academic potential.
- A one- to two-page typewritten letter of application, discussing academic objectives, professional plans, and specific reasons for selecting statistics as a field for advanced study.

In addition to the formal requirements above, some experience in computer programming is strongly recommended.

Applicants whose native language is not English must take the Test of English as a Foreign Language (TOEFL). Fluency in written and spoken English is essential to successful completion of the program. Further information regarding the TOEFL can be obtained from <https://issn.nmsu.edu/> (<https://gradschool.nmsu.edu/future-students/requirements/english-proficiency-transcript-evaluation.html>).

Students must choose one of two options to complete the course requirements: the research option or the coursework-only option.

## Research Option

Under the research option, the combined research (A ST 598 or A ST 599) and elective credits must equal six. The number of research credits may vary from four to six, with the remaining credits fulfilled with electives.

| Prefix         | Title                   | Credits |
|----------------|-------------------------|---------|
| <b>Theory</b>  |                         |         |
| A ST 565       | Statistical Analysis I  | 3       |
| A ST 566       | Statistical Analysis II | 3       |
| <b>Methods</b> |                         |         |

|   |  |           |
|---|--|-----------|
| A ST 503  | SAS Basics                                     | 3         |
| A ST 505  | Statistical Inference I                        | 4         |
| A ST 506  | Statistical Inference II                       | 3         |
| A ST 507  | Advanced Regression                            | 3         |
| A ST 509  | Statistical Models for Complex Data Structures | 3         |
| A ST 515  | Statistical Analysis with R                    | 3         |
| <b>Research</b>                                   |  |           |
| A ST 598  | Special Research Problems                      | 4-6       |
| or A ST 599                                       | Master's Thesis                                |           |
| <b>Electives</b>                                  |  |           |
| Electives sufficient to bring total credits to 34 |  | 2-0       |
| <b>Capstone</b>                                   |  |           |
| A ST 554  | Practicum in Statistics                        | 3         |
| <b>Total Credits</b>                              |  | <b>34</b> |

## Coursework Only Option

| Prefix  | Title  | Credits   |
|---|--|-----------|
| <b>Theory</b>                                     |  |           |
| A ST 565  | Statistical Analysis I                         | 3         |
| A ST 566  | Statistical Analysis II                        | 3         |
| <b>Methods</b>                                    |  |           |
| A ST 503  | SAS Basics                                     | 3         |
| A ST 505  | Statistical Inference I                        | 4         |
| A ST 506  | Statistical Inference II                       | 3         |
| A ST 507  | Advanced Regression                            | 3         |
| A ST 509  | Statistical Models for Complex Data Structures | 3         |
| A ST 515  | Statistical Analysis with R                    | 3         |
| <b>Electives</b>                                  |  |           |
| Electives sufficient to bring total credits to 34 |  | 6         |
| <b>Capstone</b>                                   |  |           |
| A ST 554  | Practicum in Statistics                        | 3         |
| <b>Total Credits</b>                              |  | <b>34</b> |