STATISTICS MAJOR

Students must also complete the Undergraduate Registration Requirement (https://catalogs.northwestern.edu/undergraduate/requirements-policies/undergraduate-registration-requirement/) and the degree requirements of their home school.

Course
Department Courses (9 units)
1 introductory course:
- STAT 202-0 Introduction to Statistics
- or STAT 210-0 Introductory Statistics for the Social Sciences
- or STAT 232-0 Applied Statistics

Or equivalent
- STAT 320-1 Statistical Theory & Methods 1
- & STAT 320-2 and Statistical Theory & Methods 2
- & STAT 320-3 and Statistical Theory & Methods 3

& STAT 325-0 Survey Sampling
- or STAT 351-0 Design and Analysis of Experiments

STAT 350-0 Regression Analysis

3 additional 300-level courses offered by the department ¹

Related Courses (Units depend on mathematics sequence taken.)
- MATH 220-1 Single-Variable Differential Calculus
- & MATH 220-2 and Single-Variable Integral Calculus
- or MATH 218-1 Single-Variable Calculus with Precalculus
- & MATH 218-2 and Single-Variable Calculus with Precalculus
- & MATH 218-3 and Single-Variable Calculus with Precalculus

MATH 226-0 Sequences and Series

For the following sequence options GEN_ENG 205-1 can be substituted for MATH 240-0
- MATH 230-1 Multivariable Differential Calculus
- & MATH 230-2 and Multivariable Integral Calculus
- & MATH 240-0 and Linear Algebra
- or MATH 228-1 Multivariable Differential Calculus for Engineering
- & MATH 228-2 and Multivariable Integral Calculus for Engineering
- & MATH 240-0 and Linear Algebra
- or MATH 281-1 Accelerated Mathematics for ISP: First Year
- & MATH 281-2 and Accelerated Mathematics for ISP: First Year
- & MATH 281-3 and Accelerated Mathematics for ISP: First Year
- or MATH 285-1 Accelerated Mathematics for MMSS: First Year
- & MATH 285-2 and Accelerated Mathematics for MMSS: First Year
- & MATH 285-3 and Accelerated Mathematics for MMSS: First Year
- or MATH 290-1 MENU: Linear Algebra and Multivariable Calculus
- & MATH 290-2 and MENU: Linear Algebra and Multivariable Calculus
- & MATH 290-3 and MENU: Linear Algebra and Multivariable Calculus
- or MATH 291-1 MENU: Intensive Linear Algebra and Multivariable Calculus
- & MATH 291-2 and MENU: Intensive Linear Algebra and Multivariable Calculus
- & MATH 291-3 and MENU: Intensive Linear Algebra and Multivariable Calculus

¹ MATH 310-2 Probability and Stochastic Processes, IEMS 315-0 Stochastic Models, IEMS 351-0 Optimization Methods in Data Science, IEMS 365-0 Analytics for Social Good, or IEMS 373-0 Intro to Financial Engineering may substitute for 1 of the 3 STAT 300-level elective courses. Only 1 substitution is permitted.

The Statistics Major for Students in MMSS

For students completing the adjunct major in MMSS, STAT 202-0 Introduction to Statistics is waived, MATH 385-0 Probability and Statistics for MMSS counts in place of STAT 302-1 Statistical Theory & Methods 1, and the combination of MATH 386-1 and MATH 386-2 Econometrics for MMSS count in place of STAT 350-0 Regression Analysis. Therefore students who are completing an adjunct major in MMSS will need to complete the following requirements (6 units) for the joint major in statistics (for triple major limitations see MMSS Adjunct Major (https://catalogs.northwestern.edu/undergraduate/arts-sciences/mathematical-methods-social-sciences/mmss-adjunct-major/)):

Course
Title
- STAT 320-2 Statistical Theory & Methods 2
- STAT 320-3 Statistical Theory & Methods 3
- STAT 325-0 Survey Sampling

Three additional 300-level statistics courses.

Honors in Statistics

Majors with strong academic records and an interest in pursuing honors should contact the director of undergraduate studies no later than the start of senior year. Accepted students take 2 quarters of STAT 399-0 Independent Study, during which they develop and write a research paper; these enrollments do not count toward the major.

Students whose theses and grades meet department criteria are recommended to the college for graduation with honors. For more information consult the director of undergraduate studies and see Honors in the Major (https://catalogs.northwestern.edu/undergraduate/arts-sciences/#academicoptionstext).

Relevant Courses in Other Departments

Industrial Engineering and Management Sciences

See McCormick School (https://catalogs.northwestern.edu/undergraduate/engineering-applied-science/).

Course
Title
- IEMS 202-0 Probability
- IEMS 315-0 Stochastic Models
- IEMS 351-0 Optimization Methods in Data Science
- IEMS 365-0 Analytics for Social Good
- IEMS 373-0 Intro to Financial Engineering

Mathematics

Course
Title
- MATH 310-1 Probability and Stochastic Processes
- & MATH 310-2 and Probability and Stochastic Processes
- & MATH 310-3 and Probability and Stochastic Processes