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)
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1 introductory course: | MATH 240-0
or STAT 210-0 | Introduction to Statistics
or STAT 232-0 | Introductory Statistics for the Social Sciences

Or equivalent

| Course | Title |
--- | ---|
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.)

| Course | Title |
--- | ---|
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

| Course | Title |
--- | ---|
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 | MATH: Linear Algebra and Multivariable Calculus
&MATH 290-2 | and MATH: Linear Algebra and Multivariable Calculus
&MATH 290-3 | and MATH: Linear Algebra and Multivariable Calculus
or MATH 291-1 | MATH: Intro to Linear Algebra and Multivariable Calculus
&MATH 291-2 | and MATH: Intro to Linear Algebra and Multivariable Calculus
&MATH 291-3 | and MATH: Intro to Linear Algebra and Multivariable Calculus

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 320-1 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

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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.