

STATISTICS MINOR

Students who complete the minor in statistics receive serious exposure to probability theory, statistical estimation theory, statistical analysis, and the design of statistical data collection.

Prerequisites for the Minor

Students choosing to minor in statistics are required to complete prerequisite courses in mathematics. Some may be completed concurrently with the 7 courses for the minor.

Course	Title
Prerequisite courses (units vary by sequence)	
MATH 220-1 & MATH 220-2 or MATH 218-1 & MATH 218-2 & MATH 218-3	Single-Variable Differential Calculus and Single-Variable Integral Calculus Single-Variable Calculus with Precalculus and Single-Variable Calculus with Precalculus and Single-Variable Calculus with Precalculus
MATH 230-1 or MATH 228-1 or MATH 281-1 or MATH 285-2 or MATH 290-2 or MATH 291-2 or ES_APPM 252-1	Multivariable Differential Calculus Multivariable Differential Calculus for Engineering Accelerated Mathematics for ISP. First Year Accelerated Mathematics for MMSS MENU: Linear Algebra and Multivariable Calculus MENU: Intensive Linear Algebra and Multivariable Calculus Honors Calculus for Engineers
MATH 226-0 & MATH 230-2 or STAT 228-0 or MATH 235-0 or MATH 226-0 & MATH 228-2 or MATH 226-0 & MATH 281-2 or MATH 226-0 & MATH 285-3 or MATH 226-0 & MATH 290-3 or MATH 226-0 & MATH 291-3 or MATH 226-0 & ES_APPM 252-2	Sequences and Series and Multivariable Integral Calculus Series and Multiple Integrals Series and Multiple Integrals Sequences and Series and Multivariable Integral Calculus for Engineering Sequences and Series and Accelerated Mathematics for ISP. First Year Sequences and Series and Accelerated Mathematics for MMSS Sequences and Series and MENU: Linear Algebra and Multivariable Calculus Sequences and Series and MENU: Intensive Linear Algebra and Multivariable Calculus Sequences and Series and Honors Calculus for Engineers
MATH 240-0 or MATH 281-3 or MATH 285-1 or MATH 290-1 or MATH 291-1 or GEN_ENG 205-1 or GEN_ENG 206-1	Linear Algebra Accelerated Mathematics for ISP. First Year Accelerated Mathematics for MMSS MENU: Linear Algebra and Multivariable Calculus MENU: Intensive Linear Algebra and Multivariable Calculus Engineering Analysis I Honor Engineering Analysis

Courses for the minor

Course	Title
Minor Requirements (7 units)	
2 introductory courses:	
STAT 201-0 or COMP_SCI 110-0	Introduction to Programming for Data Science Introduction to Computer Programming

(students who do not take STAT 201-0 are responsible for independently learning content not covered in alternative course)¹

STAT 202-0 or STAT 210-0 or STAT 232-0	Introduction to Statistics and Data Science Introduction to Probability and Statistics Applied Statistics
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5 core courses:

STAT 320-1 or STAT 383-0 or MATH 310-1 or MATH 311-1 or MATH 314-0 or MATH 385-0 or ELEC_ENG 302-0 or IEMS 302-0	Statistical Theory & Methods 1 Probability and Statistics for ISP Probability and Stochastic Processes MENU: Probability and Stochastic Processes Probability and Statistics for Econometrics Probability and Statistics for MMSS Probabilistic Systems Probability
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(students who do not take STAT 320-1 are responsible for independently learning content not covered in alternative course)¹

STAT 320-2	Statistical Theory & Methods 2
STAT 320-3	Statistical Theory & Methods 3
STAT 348-0 or STAT 351-0 or STAT 354-0	Applied Multivariate Analysis Design and Analysis of Experiments Time Series Modeling
STAT 350-0 or ECON 381-2	Regression Analysis Econometrics

¹ List of topics not covered in substitute courses can be found on the department website (<https://statistics.northwestern.edu/undergraduate/>).

The Statistics Minor in Relation to Majors

The minor in Statistics can be completed along with any major. The general Weinberg College policies about major/minor pairings apply. Below is clarifying text about how this works with certain majors, and where particular exceptions to general rules are approved.

The Statistics Minor for Students in the Integrated Science Program

Students complete all requirements for ISP major, and requirements for Statistics minor are modified as follows:

- Introductory Statistics course requirement: STAT 202-0, STAT 210-0, STAT 232-0 or equivalent is **waived**
- MATH 226-0 is **waived**
- STAT 383-0 Probability and Statistics for ISP counts in place of STAT 320-1
- ISP students required to take either STAT 348-0 or STAT 354-0 (STAT 351-0 may not be applied to the minor)

All other statistics minor course requirements remain the same.

The Statistics Minor for Students in the Mathematical Methods in the Social Sciences Program

Students complete all requirements for the MMSS adjunct major, and requirements for the Statistics minor are modified as follows:

- Introductory Statistics course requirement: STAT 202-0, STAT 210-0, STAT 232-0 or equivalent is **waived**
- MATH 226-0 is **waived**

- MATH 385-0 Probability and Statistics for MMSS counts in place of STAT 320-1
- STAT 350-0 is replaced by a combination of MATH 386-1 Econometrics for MMSS and MATH 386-2 Econometrics for MMSS
- MMSS students required to take either STAT 348-0 or STAT 354-0 (STAT 351-0 may not be applied to the minor)

All other statistics minor course requirements remain the same.

Statistics Minor and the Data Science Major

see Data Science Major (<https://catalogs.northwestern.edu/undergraduate/arts-sciences/statistics-data-science/data-science-major/>) catalog page