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

Courses for the minor

Course	Title
Minor Requirements (7 units)	
2 introductory courses:	
STAT 201-0	Introduction to Programming for Data Science
or COMP_SCI 110-0	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	Introduction to Statistics and Data Science
or STAT 210-0	Introduction to Probability and Statistics
or STAT 232-0	Applied Statistics
5 core courses:	
STAT 320-1	Statistical Theory & Methods 1
or STAT 383-0	Probability and Statistics for ISP
or MATH 310-1	Probability and Stochastic Processes
or MATH 311-1	MENU: Probability and Stochastic Processes
or MATH 314-0	Probability and Statistics for Econometrics
or MATH 385-0	Probability and Statistics for MMSS
or ELEC_ENG 302-0	Probabilistic Systems
or IEMS 302-0	Probability
(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	Applied Multivariate Analysis
or STAT 351-0	Design and Analysis of Experiments
or STAT 354-0	Time Series Modeling
STAT 350-0	Regression Analysis
or ECON 381-2	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