

# Statistics Major

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## About

A major in Statistics provides students with the statistical expertise needed to secure employment in statistics and related fields, such as data science and biostatistics.

**Program:** [Mathematics and Statistics](#)

**Type:** Bachelor of Science

## Major (55 credits)

Students who are interested in the Major in Statistics should state this intention in their initial application to Villanova. Alternatively, after starting as a student at Villanova, students can switch to a Statistics Major or, if they are initially undeclared, declare a Statistics Major.

Item #	Title	Credits
MAT 1000	Math and Stat Communities	1
MAT 1500	Calculus I	4
MAT 1505	Calculus II	4
MAT 2500	Calculus III	4
	Linear Algebra Course	3
STAT 4310	Stat Methods	3
STAT 4315	Applied Statistical Models	3
STAT 4380	Data Science	3
STAT 5700	Math Statistics I	3
STAT 5705	Math Statistics II	3
CSC 1051	Algorithms & Data Struc I	4
	Statistics Major Electives	9
	Statistics Natural Science Elective	8
STAT 5905	Seminar in Statistics	3

## Category Descriptions

### Linear Algebra Course

Credits: 3

Select one linear algebra course from below.

Item #	Title	Credits
MAT 2705	Diff Equation with Linear Alg	4
MAT 3100	Applied Linear Algebra	3

## Statistics Major Electives

Credits: 9

Any three courses with the subject code STAT numbered 3000:9000 or from the list below.

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
MAT 4600	Deterministic Oper Res	3

## Statistics Natural Science Elective

Credits: 8

Choose a two-semester sequence of natural science courses with lab at the science-major level.

## Astronomy Sequence

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
AST 2122	Understanding Our Universe	3
MSE 2151	AST:Astronomy Lab - Stars	1
AST 2121	Solar System Astronomy	3
MSE 2150	AST:Astronomy Lab - Planets	1

## Biology Sequence

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
BIO 2105	General Biology I	4
BIO 2106	General Biology II	4

## Chemistry Sequence

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
CHM 1151	General Chemistry I	4
CHM 1152	General Chemistry II	4
CHM 1103	General Chemistry Lab I	1
CHM 1104	General Chemistry Lab II	1

## Environmental Science Sequence

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
GEV 1050	Environmental Science I	4
GEV 1051	Environmental Science II	4

## Physics Sequence, Option 1

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
PHY 1100	General Physics I	3
PHY 1101	General Physics I Lab	1
PHY 1102	General Physics II	3
PHY 1103	General Physics II Lab	1

## Physics Sequence, Option 2

<b>Item #</b>	<b>Title</b>	<b>Credits</b>
PHY 2410	University Phy:Mechanics	3
PHY 2411	Lab: Mechanics	1
PHY 2412	Univ Physics:Elec & Mag	3
PHY 2413	Lab:Elec & Magnetism	1