

Statistics

Statistics Major

The Department of Statistics offers a major leading to a B.S., B.A., M.S., or Ph.D. degree, as well as minors in Statistics for both undergraduate and graduate students. The program is flexible enough to be individually planned around prior experience and in accord with professional goals. The program emphasis is on applied statistics, consulting, and computational methods.

Statistics Minors

Two different tracks within the Statistics minor are offered. A Department of Statistics (Morrill 221 (<https://www.ndsu.edu/alphaindex/buildings/Building::382>)) adviser for minors must approve the program.

Major Requirements

Major: Statistics

Degree Type: B.A. or B.S.

Required Degree Credits to Graduate: 122

General Education Requirements

First Year Experience (F):

UNIV 189	Skills For Academic Success (Students transferring in 24 or more credits do not need to take UNIV 189.)	1
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Communication (C):

ENGL 110	College Composition I	3
ENGL 120	College Composition II	3
One Course in Upper Level Writing: Select from current general education list		3
COMM 110	Fundamentals of Public Speaking	3

Quantitative Reasoning (R):

MATH 165	Calculus I	4
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Science & Technology (S):

A one-credit lab must be taken as a co-requisite with a general education science/technology course unless the course includes an embedded lab experience equivalent to a one-credit course. Select from current general education list

Humanities & Fine Arts (A): Select from current general education list 6

Social & Behavioral Sciences (B): Select from current general education list 6

Wellness (W): Select from current general education list 2

Cultural Diversity (D): Select from current general education list

Global Perspectives (G): Select from current general education list

Total Credits 41

College Requirements

Bachelor of Science (BS) Degree – An additional 6 credits in Humanities or Social Sciences*

Bachelor of Arts (BA) Degree – An additional 12 credits Humanities and Social Sciences* and proficiency at the second year level in a modern foreign language.

* Humanities and Social Sciences may be fulfilled by any course having the following prefix: ADHM, ANTH, ARCH, ART, CJ, CLAS, COMM, ECON, ENGL, FREN, GEOG, GERM, HDFS, HIST, LA, LANG, MUSC, PHIL, POLS, PSYC, RELS, SOC, SPAN, THEA, WGS, or any course from the approved list of general education courses in humanities and social sciences (general education categories A and B). These credits must come from outside the department of the student's major.

Major Requirements

A grade of 'C' or better is required in ALL courses used toward the major.

General Education Requirements 40

College of Science and Mathematics Requirements 6-12

Statistics Major Requirements

MATH 129	Basic Linear Algebra	2
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MATH 166	Calculus II	4
MATH 265	Calculus III	4
STAT 367	Probability	3
STAT 368	Statistics	3
STAT 461	Applied Regression Models	3
STAT 462	Introduction to Experimental Design	3
STAT 476	Actuary Exam Study II	1
or STAT 491	Seminar	
Electives: Select 15 credits from the following (Can choose only one CSCI course):		15
CSCI 161	Computer Science II	
CSCI 418	Simulation Models	
MATH 429	Linear Algebra	
STAT 460	Applied Survey Sampling	
STAT 463	Nonparametric Statistics	
STAT 464	Discrete Data Analysis	
STAT 467	Probability and Mathematical Statistics I	
STAT 468	Probability and Mathematical Statistics II	
STAT 469	Introduction to Biostatistics	
STAT 470	Statistical SAS Programming	
STAT 471	Introduction to the R Language	
STAT 472	Time Series	
STAT 473	Actuarial Statistical Risk Analysis	
STAT 477	Introductory Survival and Risk Analysis I	
STAT 478	Introductory Survival & Risk Analysis II	
Related Required Courses		
CSCI 160	Computer Science I	
Select one of the following:		3
CSCI 222	Discrete Mathematics	
MATH 270	Introduction to Abstract Mathematics	
Minor Requirement: A minor is required in one of the following disciplines: Social Science, Physical Science, Biological Science, Business, Mathematics, or Computer Science.		16
Electives: Elective credits to reach 122		8-14
Total Credits		122

Program Notes

- Except for courses offered only as pass/fail grading, no course may be taken Pass/Fail.

Two tracks are available:

- **Statistical (Standard) Track** (p. 2)
- **Applied Statistics Track** (p. 3)

Minor Requirements

Statistics (Standard) Track

Required Credits: 22

Required Courses

MATH 165	Calculus I	4
MATH 166	Calculus II	4
STAT 331	Regression Analysis	2
or STAT 461	Applied Regression Models	
STAT 367	Probability	3
STAT 368	Statistics	3

STAT 462	Introduction to Experimental Design	3
STAT Elective	400 Level	3
Total Credits		22

Minor Requirements

Applied Statistics Track

Required Credits: 17

Required Courses

STAT 330	Introductory Statistics	3
STAT 331	Regression Analysis	2
STAT Electives	Select 4 department approved 400-level, 3 credit statistics courses.	12
Total Credits		17

Minor Requirements and Notes

- A minimum of 8 credits must be taken at NDSU.