Mathematics and Statistics

Department Information

- **Department Web Site:**
  www.ndsu.edu/math/ (http://www.ndsu.edu/math/)
- **Credential Offered:**
  B.S.; B.A.
- **Sample Program Guide:**
  catalog.ndsu.edu/programs-study/undergraduate/mathematics-statistics/ (http://catalog.ndsu.edu/programs-study/undergraduate/mathematics-statistics/)

Major Requirements

Major: Mathematics & Statistics Pre-Actuarial Option

Degree Type: B.A. or B.S.
Minimum Degree Credits to Graduate: 120

University Degree Requirements

1. Satisfactory completion of all requirements of the curriculum in which one is enrolled.
2. Earn a minimum total of 120 credits in approved coursework. Some academic programs exceed this minimum.
3. Satisfactory completion of the general education requirements as specified by the university.
4. A minimum institutional GPA of 2.00 based on work taken at NDSU.
5. At least 30 credits must be NDSU resident credits. Resident credits include credits registered and paid for at NDSU.
6. At least 36 credits presented for graduation must be in courses numbered 300 or higher.
7. Students presenting transfer credit must meet the NDSU residence credits and the minimum upper level credit. Of the 30 credits earned in residence, a minimum of 15 semester credits must be in courses numbered 300 or above, and 15 semester credits must be in the student's curricula for their declared major.

For complete information, please refer to the Degree and Graduation Requirements (http://catalog.ndsu.edu/past-bulletin-archive/2023-24/academic-policies/undergraduate-policies/degree-and-graduation/) section of this Bulletin.

University General Education Requirements

Code	Title	Credits
Communication (C)		**12**
ENGL 110	College Composition I	
ENGL 120	College Composition II	
COMM 110	Fundamentals of Public Speaking	
Upper Division Writing [†]		
Quantitative Reasoning (R) [†]		**3**
Science and Technology (S) [†]		**10**
Humanities and Fine Arts (A) [†]		**6**
Social and Behavioral Sciences (B) [†]		**6**
Wellness (W) [†]		**2**
Cultural Diversity (D) [*†]		
Global Perspectives (G) [*†]		
Total Credits		**39**

[*]
 May be satisfied by completing courses in another General Education category.

[†]
 General education courses may be used to satisfy requirements for both general education and the major, minor, and program emphases, where applicable. Students should carefully review major requirements to determine if specific courses can also satisfy these general education categories.

- A list of university approved general education courses and administrative policies are available here (http://catalog.ndsu.edu/past-bulletin-archive/2023-24/academic-policies/undergraduate-policies/general-education/#genedcoursestext).

College Requirements

Code	Title	Credits
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. *		12
Bachelor of Science (BS) Degree – An additional 6 credits in Humanities or Social Sciences *		6

*
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 for all courses used toward the major.

Code	Title	Credits
Science and Mathematics College Requirements		**6-12**
Math Major Requirements		
MATH 129	Basic Linear Algebra	3
MATH 165	Calculus I (May satisfy general education category R)	4
MATH 166	Calculus II	4
MATH 265	Calculus III	4
MATH 266	Introduction to Differential Equations	3
MATH 270	Introduction to Abstract Mathematics	3
MATH 329	Intermediate Linear Algebra	3
MATH 346	Metric Space Topology	3
MATH 450	Real Analysis I	3
Mathematics Elective	Any 300-400 level	3
Statistics Major Requirements		
STAT 330	Introductory Statistics	3
STAT 461	Applied Regression Models	3
STAT 462	Introduction to Experimental Design (Capstone)	3
STAT 467	Probability and Mathematical Statistics I	3
STAT 468	Probability and Mathematical Statistics II	3
STAT 476	Actuary Exam Study	1
Statistics Electives	Courses must be at the 400 level and not listed above	9
Related Required Courses		
ACCT 200	Elements of Accounting I	3
ACCT 201	Elements of Accounting II	3
CSCI 160	Computer Science I	4
CSCI 161	Computer Science II	4
ECON 201	Principles of Microeconomics (May satisfy general education category B and G)	3
ECON 202	Principles of Macroeconomics (May satisfy general education category B and G)	3
Electives: Select three courses from the following:		9
CSCI 453	Linear Programming and Network Flows	
CSCI 454	Operations Research	
ECON 341	Intermediate Microeconomics	
ECON 343	Intermediate Macroeconomics	
ECON 410	Econometrics	
ECON 440	Game Theory and Strategy	
ECON 456	History of Economic Thought	
ECON 461	Economic Development	

ECON 465	Labor Economics
ECON 470	Public Economics
ECON 472	International Trade
ECON 476	Monetary Theory and Policy
ECON 480	Industrial Organization
ECON 481	Natural Resource Economics
ECON 482	Environmental Economics
FIN 320	Principles of Finance
FIN 410	Investment Analysis and Management
FIN 420	Options, Futures, and Other Derivatives
FIN 450	Advanced Bank Management
FIN 460	Corporate Finance
Total Credits	**93-99**

Program Notes

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