

# Mathematics and Statistics Pre-Actuarial Major

## Major Requirements

Degree Type: B.S./B.A.  
Minimum Required Credits: 120

### University Degree Requirements

For complete details on these and other university degree requirements, refer to the Degree and Graduation Requirements (<http://catalog.ndsu.edu/academic-policies/undergraduate-policies/degree-and-graduation/>) section in the University Catalog.

1. Minimum of 120 semester credits (some programs may exceed this minimum).
2. Complete the University General Education requirements.
3. Minimum institutional GPA of 2.00 based on work taken at NDSU.
4. Minimum of 30 credits in resident at NDSU.
5. Minimum of 36 upper level credits (courses numbered 300 or higher).
6. Students with transfer credit must meet the NDSU 30 credits in residence (#4). Of these 30 credits in residence, a minimum of 15 credits must be in courses numbered 300 or above, and 15 credits must be in the student's declared major curricula.

### University General Education Requirements

A list of university approved general education courses along with the administrative policies governing the requirement and the categories is available here (<http://catalog.ndsu.edu/academic-policies/undergraduate-policies/general-education/>).

| Code  | Title | Credits   |
|---|-------|-----------|
| <b>Category C: Communication</b>                  |       | <b>12</b> |
| <b>Category R: Quantitative Reasoning</b>         |       | <b>3</b>  |
| <b>Category S: Science and Technology</b>         |       | <b>10</b> |
| <b>Category A: Humanities and Fine Arts</b>       |       | <b>6</b>  |
| <b>Category B: Social and Behavioral Sciences</b> |       | <b>6</b>  |
| <b>Category W: Wellness</b>                       |       | <b>2</b>  |
| <b>Category D: Cultural Diversity</b>             |       |           |
| <b>Category G: Global Perspectives</b>            |       |           |
| <b>Category L: Digital Literacy</b>               |       |           |
| <b>Total Credits</b>                              |       | <b>39</b> |

## Major Requirements

A grade of 'C' or better is required for all courses used toward the major.

| Code                                 | Title  | Credits |
|--------------------------------------|--|---------|
| <b>Math Major Requirements</b>       |  |         |
| MATH 129                             | Basic Linear Algebra                                   | 3       |
| MATH 165                             | Calculus I   | 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 MATH prefix courses not listed above | 3       |
| <b>Statistics Major Requirements</b> |  |         |
| STAT 330                             | Introductory Statistics                                | 3       |
| STAT 367                             | Probability  | 3       |
| STAT 368                             | 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 Elective                               | Any 400 level STAT prefix courses not listed above | 6 |
| <b>Related Required Courses</b>                   |  |   |
| 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                       | 3 |
| ECON 202  | Principles of Macroeconomics                       | 3 |
| Electives: Select two courses from the following: |  | 6 |
| CSCI 453  | Linear Programming and Network Flows               |   |
| ECON 341  | Intermediate Microeconomics                        |   |
| ECON 343  | Intermediate Macroeconomics                        |   |
| ECON 356  | History of Economic Thought                        |   |
| ECON 410  | Econometrics                                       |   |
| ECON 440  | Game Theory and Strategy                           |   |
| 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****87**

## Program Notes

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