# UNDERGRADUATE MINOR IN STATISTICS PROGRAM

A demonstrated knowledge and working understanding of basic statistical techniques and methods is critical for students in many disciplines including business, engineering, life sciences and social sciences. The undergraduate minor in statistics is designed as a valuable asset to enhance most undergraduate majors and career opportunities for their students.

## Course Requirements

To achieve the statistics minor, the student must successfully complete the requirements listed in (1.)-(3.) below. A minimum of 13 semester credit hours is required for the statistics minor.

(1.) Take and pass with a grade of C- or above each of the following required courses.

|  |  |
| --- | --- |
| Stat 3201 (3)  | Introduction to Probability for Data Analytics |
| Stat 3202 (4) | Introduction to Statistical Inference for Data Analytics |
| Stat 3301 (3) | Statistical Modeling for Discovery I |
|  **Note:** Stat 3201-3202 can be replaced with Stat 4201-4202.  |
| Stat 4201 (4) | Introduction to Mathematical Statistics I |
| Stat 4202 (4) | Introduction to Mathematical Statistics II |

(2.) Take and pass with a grade of C- or above one of the following two courses.

|  |  |
| --- | --- |
| Stat 3302 (3)  | Statistical Modeling for Discovery II |
| Stat 3410 (3) | Principles of Data Collection and Analysis |

(3.) Maintain a minimum cumulative grade point average of 2.00 in the statistics minor.

(4.) Stat 4201 is waived for students with credit for Math 4530 (Probability) or Math 5530H (Rigorous Probability). However, for Math majors, Math 4530 or Math 5530H cannot be counted for credit in the Statistics minor. Students with Math 4530 or Math 5530H but not Stat 4201 will have to take 3 semester hours of electives (see next note for a list of possible electives).

(5.) In addition to the required courses, it is recommended that the student take one or more electives from such specialized courses as Bayesian Analysis and Statistical Decision Making (3303), Introduction to Statistical Learning (4620), Advanced Statistical Inference (4301), Computational Statistics (4302), Statistical Foundations of Survey Research (5510), Introductory Time Series Analysis (5550), or Introduction to SAS Software (5740). Other electives may be selected with the approval of the Undergraduate Minor Coordinator.

## Sample Undergraduate Minor in Statistics Programs

|  |  |
| --- | --- |
|  | **SAMPLE PROGRAM B** |
|  **Year** | **Autumn** | **Spring** |
| 1 | 4201 | 4202 |
| 2 | 3301 | 3302 |

|  |  |
| --- | --- |
|  | **SAMPLE PROGRAM A\*** |
|  **Year** | **Autumn** | **Spring** |
| 1 | 3201 | 3202 |
| 2 | 3301 | 3302 |

|  |  |
| --- | --- |
|  | **SAMPLE PROGRAM D** |
|  **Year** | **Autumn** | **Spring** |
| 1 | 4201 | 4202 |
| 2 | 3301 |  |
| 3 | 3410 |  |

|  |  |
| --- | --- |
|  | **SAMPLE PROGRAM C\*** |
|  **Year** | **Autumn** | **Spring** |
| 1 | 3201 | 3202 |
| 2 | 3301 |  |
| 3 | 3410 |  |

|  |  |
| --- | --- |
|  | **SAMPLE PROGRAM E** |
|  **Year** | **Autumn** | **Spring** |
| 1 | 3201 | 3202 |
| 2 | 3301, 3410 |  |

\*Sample Programs A and C are primary examples.

**Undergraduate Minor in Statistics Transition Policy**

Students who began their degree before minor revision will be grandfathered by the previous rules and will not be penalized as the revised program is put in place, either in terms of progress towards their degree or their expected date of graduation.

1. Students taking 4201 only are advised to complete the Mathematical Statistics sequence (Stat 4201-4202) instead of switching to 3202.
2. Students who have completed the Data Analysis sequence (Stat 5301-5302) may substitute these courses for 3301 and 3410.
3. Students taking 5301 only can substitute Stat 3301 for 5302, but the 3201-3202 prerequisites for Stat 3301are not waived. Under this transition policy, Stat 5301 substitutes Stat 3410.

## Sample Undergraduate Minor in Statistics Transition Programs

|  |  |
| --- | --- |
|  | **SAMPLE PROGRAM B** |
|  **Year** | **Autumn** | **Spring** |
| 1 | 4201 | 4202 |
| 2 | 3301 | 3302 |

|  |  |
| --- | --- |
|  | **SAMPLE PROGRAM A** |
|  **Year** | **Autumn** | **Spring** |
| 1 | 5301 | 5302 |
| 2 | 3201 | 3202 |

|  |  |
| --- | --- |
|  | **SAMPLE PROGRAM D** |
|  **Year** | **Autumn** | **Spring** |
| 1 | 4201 | 4202 |
| 2 | 3301 |  |
| 3 | 3410 |  |

|  |  |
| --- | --- |
|  | **SAMPLE PROGRAM C** |
|  **Year** | **Autumn** | **Spring** |
| 1 | 5301 | 3201 |
| 2 | 3202 |  |
| 3 | 3301 |  |

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|  |  |
| --- | --- |
|  | **SAMPLE PROGRAM E** |
|  **Year** | **Autumn** | **Spring** |
| 1 | 4201 | 4202 |
| 2 | 3301, 3410 |  |

**Undergraduate Minor in Statistics to Major Transition Policy**

1. Stat 4201-4202 can substitute Stat 3201-3202. Students taking 4201 (or Math 4530 or 5530H) only are advised to complete the Mathematical Statistics sequence (Stat 4201-4202) instead of switching to 3202.
2. Students who have completed the Data Analysis sequence (Stat 5301-5302) may substitute these courses for 3301 and 3410.
3. Students taking 5301 only can substitute Stat 3301 for 5302, but the 3201-3202 prerequisites for Stat 3301are not waived. Under this transition policy, Stat 5301 substitutes Stat 3410.

## Sample Undergraduate Minor in Statistics to Major Transition Programs

|  |  |
| --- | --- |
|  | **SAMPLE PROGRAM B** |
|  **Year** | **Autumn** | **Spring** |
| 1 | 4201 | 4202 |
| 2 | 3301 | 3302 |

|  |  |
| --- | --- |
|  | **SAMPLE PROGRAM A** |
|  **Year** | **Autumn** | **Spring** |
| 1 | 5301 | 5302 |
| 2 | 3201 | 3202 |

|  |  |
| --- | --- |
|  | **SAMPLE PROGRAM D** |
|  **Year** | **Autumn** | **Spring** |
| 1 | 4201 | 4202 |
| 2 | 3301 |  |
| 3 | 3410 |  |

|  |  |
| --- | --- |
|  | **SAMPLE PROGRAM C** |
|  **Year** | **Autumn** | **Spring** |
| 1 | 5301 | 3201 |
| 2 | 3202 |  |
| 3 | 3301 |  |

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|  |  |
| --- | --- |
|  | **SAMPLE PROGRAM E** |
|  **Year** | **Autumn** | **Spring** |
| 1 | 4201 | 4202 |
| 2 | 3301, 3410 |  |

The current Undergraduate Minor in Statistics program is on the next page for reference.

# UNDERGRADUATE MINOR IN STATISTICS PROGRAM

**Semester Curriculum**

A demonstrated knowledge and working understanding of basic statistical techniques and methods has become a critical element for students in many disciplines including business, engineering, life sciences and social sciences. The undergraduate minor in statistics is designed as a valuable asset to enhance most undergraduate majors and their career opportunities. Students with a statistics minor may also be eligible to obtain a Master of Applied Statistics with one additional academic year of coursework.

## Course Requirements Under Semesters

To achieve the statistics minor, the student must successfully complete the requirements listed in (1.) and (2.) below. A minimum of 15 semester credit hours is required for the statistics minor.

(1.) Take and pass with a grade of C- or above in each of the required courses.

|  |  |
| --- | --- |
| Stat 4201 (4) | Introduction to Mathematical Statistics I |
| Stat 4202 (4) | Introduction to Mathematical Statistics II |
| Stat 5301 (4) | Intermediate Data Analysis I |
| Stat 5302 (3) | Intermediate Data Analysis II |

(2.) Maintain a minimum cumulative grade point average of 2.00 in the statistics minor.

(3.) Stat 4201 is not required for Math students with credit for Math 4530 (Probability) or Math 5530H (Rigorous Probability). However, Math 4530 or Math 5530H cannot be counted for credit in the Statistics minor. Students with Math 4530 or Math 5530H but not Stat 4201 will have to take 4 semester hours of electives (see next note for a list of possible electives).

(4.) In addition to the required courses, it is recommended but not usually required that the student take one or more electives from such specialized courses as Statistical Foundations of Survey Research (5510), Introductory Time Series Analysis (5550), or Introduction to SAS Software (5740). Other electives may be selected with the approval of the Undergraduate Minor Coordinator.

## Sample Undergraduate Minor in Statistics Programs

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| --- |
| **SAMPLE PROGRAM B** |
| **Autumn** | **Spring** |
| 4201 | 4202 |
| 5301 | 5302 |

|  |
| --- |
| **SAMPLE PROGRAM A** |
| **Autumn** | **Spring** |
| 5301 | 5302 |
| 4201 | 4202 |

**Year 1**

 **Year 2**