

Statistics Major Suggested Course Sequence

- The following courses are suggested in sequence. Prerequisites are noted for each course.
- All courses are 3 credits, unless otherwise noted.
- Detailed descriptions for each course can be found in the Undergraduate Catalog.

Important Considerations

The Statistics major requires 24 credits at the 2000-level or above in statistics and must include STAT 3375Q and 3445.

- STAT 1000 or 1100 does not count towards the 24 required major credits. Neither does STAT 3494W (this is used for the W in major).

Since STAT 3375Q has MATH 2110Q or 2130Q as a prerequisite, students should begin the calculus sequence as soon as possible. A grade of C+ or better in Math 2110 or 2130 is required as a prerequisite for this course.

Students who complete the requirements for the Statistics major will satisfy the computer technology requirement.

To satisfy the information literacy competency and writing in the major requirement, Statistics majors must take STAT 3494W.

A Statistics major must have four Related Courses (12 credits) on the Major Plan of Study. Typical choices are Math courses, including MATH 2110. Math and a combination of other “quantitatively oriented” courses in Biology, Business, Economics, Geography, Psychological Sciences, Sociology, etc. may be accepted. The related courses need not all be from a single discipline. The students must get the faculty advisor’s approval for use of any such courses toward Related Credits.

Sequence for Required Courses

1. STAT 1000Q (Introduction to Statistics) or STAT 1100Q (Elementary Concepts of Statistics)

- 4 credits
- Offered both Fall and Spring semesters
- This course teaches/uses MINITAB.
- This course can be taken at UConn or can be transferred in through a) a UConn Early College Experience course at a Connecticut high school; b) a score of 4 or 5 on the AP Statistics exam.

- This course counts toward General Education Requirements (GER) but does not count toward the 24 credits needed for a Statistics major.
2. **STAT 2215Q (Introduction to Statistics II)**
 - **Prerequisites:** STAT 1000Q or STAT 1100Q.
 - Offered both Fall and Spring semesters.
 - This course teaches/uses MINITAB.
 3. **STAT 3005 (Biostatistics for Health Professions)**
 - Also offered as AH 3005
 - **Prerequisites:** A course in pre-calculus or higher; STAT 1000Q or 1100Q or higher
 - Open to Statistics majors, juniors or higher, others with instructor consent
 - Not open for credit to students who have passed AH 3005 or STAT 4625
 4. **STAT 3025Q (Statistical Methods)**
 - **Prerequisites:** MATH 1122 or 1132 or 1152
 - Offered both Fall and Spring semesters and with limited Summer availability.
 - Students may not receive more than three credits from STAT 3025 and STAT 3345. Students may not receive credit for STAT 3025Q after they have passed STAT 3445.
 - This course requires knowledge of calculus up to single variable differentiation and integration.
 5. **STAT 3115Q (Analysis of Experiments)**
 - **Prerequisites:** STAT 2215Q or STAT 3025Q or instructor consent
 - Offered both Fall and Spring semesters.
 - Credit may not be received for both STAT 3115Q and 5315.
 - This course teaches/uses SAS.
 - This course may be offered as STAT 3115Q only or as a combined course with STAT 5315 (a graduate course). Undergraduate majors should take the one that is **not** offered jointly as STAT 5315 when possible.
 6. **STAT 3515Q (Design of Experiments)**
 - **Prerequisites:** STAT 2215Q or STAT 3025Q or instructor consent.
 - Offered either Fall or Spring semester.
 - Credit may not be received for both STAT 3515Q and STAT 5515.
 - This course teaches/uses SAS.
 - Undergraduate majors should take the one that is **not** offered jointly as STAT 5515 when possible.
 - This course may be offered as STAT 3515Q only or as a combined course with STAT 5515 (a graduate course). Undergraduate majors should take the one that is **not** offered jointly as STAT 5515 when possible.
 7. **STAT 3375Q (Introduction to Mathematical Statistics)**
 - **Prerequisites:** MATH 2110 or MATH 2130. **Students must have received a C+ or better in MATH 2110 or 2130 to enroll.**

- Primarily offered in Fall semester only. Very limited Spring semester availability.
- This is the first part of a two semester sequence of STAT 3375Q and STAT 3445.
- Students may not receive credit for both STAT 3375Q and STAT 5585.
- This course requires knowledge of multivariable calculus.
- This course cannot be taken after passing STAT 3445.
- Overall, students do better in this course if they have previously taken STAT 3025Q.
- **Important Note:** Undergraduate students should not take the Honors section of this course, which is a Ph.D. level course and will be at a very high level. In exceptional cases, an Undergraduate Honors student may discuss with the instructor of STAT 3375H and perhaps obtain permission to take the Honors section.

8. STAT 3445 (Introduction to Mathematical Statistics)

- **Prerequisites:** STAT 3375Q
- Primarily offered in Spring semester only. Very limited Fall semester availability.
- This is the second part of a two semester sequence of STAT 3375Q and STAT 3445.
- Students may not receive credit for both STAT 3445 and STAT 5685. Students may not receive credit for STAT 3025Q after they have passed STAT 3445.
- **Important Note:** Undergraduate students should not take the Honors section of this course, which is a Ph.D. level course and will be at a very high level. In exceptional cases, an Undergraduate Honors student may discuss with the instructor of STAT 3445H and perhaps obtain permission to take the Honors section.

9. STAT 3494W (Undergraduate Seminar)

- **Prerequisites:** ENGL 1010 or 1011 or 2011 AND STAT 2215Q or 3115Q AND STAT 3025Q or 3375Q.
- 1 credit.
- This is a one credit course that will satisfy the W requirement for the major.
- Important Note: The 1 credit from STAT 3494W DOES NOT count toward the 24 major credits required for a Statistics major.

Sequence for Other Statistics Courses

A combination of the following courses may be taken to reach the 24 credits required for the major. Not all classes are offered each semester.

➤ STAT 3965 (Elementary Stochastic Processes)

- Also offered as MATH 3170
- **Prerequisites:** STAT 3025Q or STAT 3375Q or MATH 3445
- Not open for credit for students who have passed MATH 3170.
- Typically offered by the Department of Statistics in Fall semesters and by the Department of Math in Spring semesters.

- Note: This is a difficult course and may be unsuitable for students who are not happy about thinking “abstract mathematical concepts.” Undergraduate students may wish to consult with the course instructor prior to enrolling. Some Master’s or Ph.D. level Statistics students may take this course for credit.
- **STAT 4525 (Sampling Theory)**
 - **Prerequisites:** STAT 3445 or instructor consent
- **STAT 4875 (Nonparametric Methods)**
 - **Prerequisites:** STAT 3445 or instructor consent
- **STAT 3675Q (Statistical Computing)**
 - 4 credits
 - **Prerequisites:** STAT 3025Q or STAT 3375Q. Recommended preparation: An applied statistics course.
- **STAT 4475 (Statistical Quality Control and Reliability)**
 - **Prerequisites:** STAT 3445
 - This course has not been offered recently.
- **STAT 4625 (Introduction to Biostatistics)**
 - **Prerequisites:** STAT 3025Q or instructor consent
 - Note: This seems to be an accessible course for majors.
- **STAT 4825 (Applied Time Series)**
 - **Prerequisites:** STAT 3445 or instructor consent
 - Students seem to do well in this course after having taken STAT 3025Q and STAT 3115Q.
 - Teaches/uses R.
- **STAT 4190 (Field Study Internship)**
 - Offered Fall and Spring semesters.
 - Credits and hours by arrangement.
 - Usually, students get 3 credits. Students are allowed to receive payment for the internship.
 - Students most often take this during the summer before their senior year, provided they have met the following prerequisites:
 - Completion of Freshman – Sophomore General CLAS requirements
 - Completion of the following courses with a grade of C or better: STAT 3025Q or STAT 3375Q AND STAT 3115Q or STAT 3515Q.
 - Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory), so although the credits may count toward the 24 major credits, the grade will not affect the student’s GPA.
 - This is meant for supervised field work relevant to some area of Statistics with a regional industry, government agency, or non-profit organization. Evaluated by the field supervisor and by the instructor (based on a detailed written report submitted by the student).

➤ **STAT 4389 (Undergraduate Research)**

- 3 credits
- Offered Fall and Spring semesters.
- Hours by arrangement.
- Open only with consent of instructor.
- This course is meant for supervised research in probability or statistics. A final written report and oral presentation are required.

The following course is mainly intended for Engineering/EE majors. Statistics or Mathematics-Statistics majors do not usually take this.

➤ **STAT 3345 (Probability Models for Engineers)**

- **Prerequisites:** MATH 2110 or 3375
- Offered either Fall or Spring semester.
- Students may not receive more than three credits total from STAT 3345 and STAT 3025Q or from STAT 3345 and STAT 3375Q. Not open for credit to students who have passed STAT 3445.

Related Courses

A Statistics major must have four Related Courses (12 credits) on the Major Plan of Study. Typical choices are Math courses, including MATH 2110. Math and a combination of other “quantitatively oriented” courses in Biology, Business, Economics, Geography, Psychological Sciences, Sociology, etc. may be accepted. The related courses need not all be from a single discipline. The students must get the faculty advisor’s approval for use of any such courses toward Related Credits.