

Bachelor of Arts in Statistics Degree Requirements

To earn a BA in Statistics and Data Science, a student must [complete the requirements of the College of Arts and Sciences](#); the following foundational courses in statistics, data science, and computing; as well as 18 credits in an outside area of emphasis, for a total of 65 credit hours.

Students must earn a grade of C- or better in all coursework applied to the major and have at least a C average for all attempted work for the major.

Minimum required courses specific to the STAT-BA degree

1. Mathematical Foundations
 - a. APPM 1350 and APPM 1360 are introductory courses and prerequisites for Calculus 3
 - b. Select one of APPM 2340 or APPM 2350 or MATH 2400 (Calculus 3). APPM 2340 is the preferred course for Statistics majors.
 - c. APPM 3310 (Matrix Methods)
2. Computing
 - a. APPM 1650 or CSCI 1300 or CSCI 1320. APPM 1650 (Python with Math/Stat Applications) is the preferred course for Statistics Majors
 - b. STAT 2600 (Introduction to Data Science)
3. Statistical Theory Core
 - a. STAT 3100 (Applied Probability)
 - b. STAT 4520 (Introduction to Mathematical Statistics)
4. Statistical Modeling Core
 - a. STAT 3400 (Applied Regression)
 - b. STAT 4610 (Statistical Learning)
5. Collaboration or Capstone Course, choose one
 - a. STAT 4680 (Statistical Collaboration I)
 - b. STAT 4640 (STAT Capstone Course)
6. Any 9-credit hour combination of the following courses:
 - a. STAT 4100 (Markov Processes, Queues, and Monte Carlo Simulations)
 - b. STAT 4250 (Data Assimilation in High Dimensional Dynamical Systems)
 - c. STAT 4350 (Applied Deep Learning 1)
 - d. STAT 4360 (Applied Deep Learning 2)
 - e. STAT 4400 (Advanced Statistical Modeling)
 - f. STAT 4430 (Spatial Statistics)
 - g. STAT 4540 (Introduction to Time Series)
 - h. STAT 4630 (Computational Bayesian Statistics)
 - i. STAT 4700 (Philosophical and Ethical Issues in Statistics)
 - j. APPM 3650 (Algorithms and Data Structures in Python)
 - k. APPM 4370 (Computational Neuroscience)
 - l. APPM 4440 (Undergraduate Applied Analysis 1)
 - m. APPM 4490 (Theory of Machine Learning)
 - n. APPM 4515 (High-Dimensional Probability for Data Science)
 - o. APPM 4530 (Stochastic Analysis for Finance)
 - p. APPM 4565 (Random Graphs)

As well as other advisor-approved APPM or STAT upper-division special topics classes

7. [Area of Application](#): The area of application is a minimum of 18 credits in advisor approved courses with significant statistical content.