

DATA SCIENCES, B.S. (SCIENCE)

Begin Campus: Any Penn State Campus

End Campus: University Park

Suggested Academic Plan

The suggested academic plan(s) listed on this page are the plan(s) that are in effect during the 2023-24 academic year. To access previous years' suggested academic plans, please visit the archive (<https://bulletins.psu.edu/undergraduate/archive/>) to view the appropriate Undergraduate Bulletin edition (*Note: the archive only contains suggested academic plans beginning with the 2018-19 edition of the Undergraduate Bulletin*).

Statistical Modeling Data Sciences: Data Sciences, B.S. at University Park Campus

The course series listed below provides **only one** of the many possible ways to move through this curriculum. The University may make changes in policies, procedures, educational offerings, and requirements at any time. This plan should be used in conjunction with your degree audit (accessible in LionPATH as either an **Academic Requirements** or **What If** report). Please consult with a Penn State academic adviser on a regular basis to develop and refine an academic plan that is appropriate for you.

First Year

Fall	Credits Spring	Credits
MATH 140*	4 MATH 141*	4
PSU 16	1 DS 220*	3
CMPSC 131*	3 CMPSC 132*	3
DS 200 or STAT 200*	4 General Education Course	3
ENGL 15	3 General Education Course	3
	15	16

Second Year

Fall	Credits Spring	Credits
STAT 184*	2 STAT 380*	3
MATH 220*	2 STAT 462*	3
MATH 230*	4 STAT 414*	3
CAS 100	3 ENGL 202C	3
General Education Course	3 General Education Course (with IL or US)	3
General Education Course	3	
	17	15

Third Year

Fall	Credits Spring	Credits
STAT/MATH 415*	3 List B Selection*	3
DS 310 or CMPSC 448*	3 STAT 440*	3
DS 435*	3 MATH 311W or CMPSC 360*	3
General Education Course	3 General Education Course	3
General Education Course	3 Elective	3
	15	15

Fourth Year

Fall	Credits Spring	Credits
DS 340W*	3 DS 440*	3
List A Selection*	3 List A Selection*	3
List B Selection*	3 General Education Course (GHW)	1.5
General Education Course	3 General Education Course	3
General Education Course (GHW)	1.5 Elective	3
Elective	3 Elective	3
	16.5	16.5

Total Credits 126

- * Course requires a grade of C or better for the major
- ‡ Course requires a grade of C or better for General Education
- # Course is an Entrance to Major requirement
- † Course satisfies General Education and degree requirement

University Requirements and General Education Notes:

US and IL are abbreviations used to designate courses that satisfy Cultural Diversity Requirements (United States and International Cultures).

W, M, X, and Y are the suffixes at the end of a course number used to designate courses that satisfy University Writing Across the Curriculum requirement.

General Education includes Foundations (GWS and GQ), Knowledge Domains (GHW, GN, GA, GH, GS) and Integrative Studies (Inter-domain) requirements. N or Q (Honors) is the suffix at the end of a course number used to help identify an Inter-domain course, but the inter-domain attribute is used to fill audit requirements. Foundations courses (GWS and GQ) require a grade of 'C' or better.

All incoming Schreyer Honors College first-year students at University Park will take ENGL 137H/CAS 137H in the fall semester and ENGL 138T/CAS 138T in the spring semester. These courses carry the GWS designation and satisfy a portion of that General Education requirement. If the student's program prescribes GWS these courses will replace both ENGL 15/ENGL 30H and CAS 100A/CAS 100B/CAS 100C. Each course is 3 credits.

Advising Notes

List A Courses (6 credits required from this list)

- MATH 435 Basic Abstract Algebra
- MATH 436 Linear Algebra or MATH 441 Matrix Algebra
- MATH 451 Numerical Computations or MATH 455 Introduction to Numerical Analysis I
- MATH 484 Linear Programs and Related Problems
- MATH 416 Stochastic Modeling/STAT 416 Stochastic Modeling
- STAT 461 Analysis of Variance
- STAT 463 Applied Time Series Analysis
- STAT 466 Survey Sampling
- STAT 483 Statistical Programming in SAS

List B Courses (6 credits required from this list)

- DS 320 Data Integration
- DS 330 Visual Analytics for Data Sciences
- DS 410 Programming Models for Big Data
- DS 402 Emerging Trends in the Data Sciences
- IST 461 Database Management and Administration
- CMPSC 442 Artificial Intelligence
- CMPSC 465 Data Structures and Algorithms

Statistical Modeling Data Sciences: Data Sciences, B.S. at Commonwealth Campuses

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First Year

Fall	Credits Spring	Credits
MATH 140 ^{†#†}	4 MATH 141 ^{†#†}	4
STAT 200 ^{**†}	4 CMPSC 122 or 132 ^{**†}	3
PSU 16	1 ENGL 15 (or General Education Course) [†]	3
CMPSC 121 or 131 ^{**†}	3 General Education Course	3
ENGL 15 (or General Education Course) [†]	3 General Education Course	3
	15	16

Second Year

Fall	Credits Spring	Credits
MATH 220 ^{**†}	2 STAT 414 (or Supporting Course) [*]	3
MATH 230 [*]	4 ENGL 202C [‡]	3
CAS 100A [‡]	3 General Education Course	3
General Education Course	3 General Education Course	3
General Education Course	3 General Education Course	3
	15	15

Third Year

Fall	Credits Spring	Credits
STAT 184 [*]	2 STAT 380 [*]	3
STAT 414 (or Supporting Course (if not taken in 4th semester)) [*]	3 DS 310 or CMPSC 448 [*]	3
STAT 462 [*]	3 DS 435 [*]	3
DS 220 [*]	3 STAT 415 [*]	3
General Education Course	3 General Education Course	3
Elective	3	
	17	15

Fourth Year

Fall	Credits Spring	Credits
DS 340W [*]	3 DS 440 [*]	3
List A [*]	3 STAT 440 [*]	3
List B [*]	3 List A [*]	3
General Education Course (GHW)	1.5 List B [*]	3
CMPSC 360 or MATH 311W [*]	3 General Education Course (GHW)	1.5
Elective	3 Elective	3
	16.5	16.5

Total Credits 126

* Course requires a grade of C or better for the major

‡ Course requires a grade of C or better for General Education

Course is an Entrance to Major requirement

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Advising Notes

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- MATH 451 Numerical Computations or MATH 455 Introduction to Numerical Analysis I
- MATH 484 Linear Programs and Related Problems
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