

Suggested Curriculum Guide for BS Data Science and Statistics

Freshman (1st Semester) 14 hrs

GSD 101 - Foundations of Learning
STA 270 - Applied Statistics I
⁶MAT 234 (fulfills E.E. 2A) - Calculus I
ENG 101 (fulfills E.E. 1A) - Reading, Writing, and Rhetoric

Sophomore (1st Semester) 15-16 hrs

MAT 239 - Linear Algebra and Matrices
E.E. 1C
E.E. 2B
DSC/STA Elective
Free Elective (*Discrete Math*) or
CSC 189 - Computing Concepts and Programming
OR CSC 190 - Object-Oriented Programming I (*Data Science*)
MAT 254 - Calculus III (*Statistics*)

Junior (1st Semester) 15 hrs

STA 575 - Statistical Methods Using SAS
Domain Knowledge course #2 (*upper division*)
E.E. 4B
Free Elective (*upper division*)
Free Elective (*upper division*) (*Discrete Math and Data Science*) or
Major Elective: STA 585 - Experimental Design (*Statistics*)

Senior (1st Semester) 15 hrs

STA 498 - Data Science and Statistics Capstone
Free Elective
Free Elective
Free Elective
Free Elective (*upper division*) (*Discrete Math and Data Science*) or
STA 520 - Mathematical Statistics I (*Statistics*)

Freshman (2nd Semester) 16 hrs

STA 340 - Applied Regression Analysis
CSC 174 - Introduction to Programming for Science & Engineering
OR CSC 190 - Object-Oriented Programming I
MAT 244 - Calculus II
ENG 102 (fulfills E.E. 1B) - Reading, Writing, and Rhetoric
E.E. 3A

Sophomore (2nd Semester) 15 hrs

CSC/DSC/MAT/STA Elective
Domain Knowledge course #1
PHI 130 (fulfills E.E. 3B) - Beginning Ethics
E.E. 2B (Flex)
Free Elective

Junior (2nd Semester) 15 hrs

ENG 300 - Introduction to Technical and Professional Writing
DSC 580 or STA 580 - R and Introductory Data Mining
E.E. 4B
Free Elective
Free Elective (*upper division*) (*Statistics*) or
Major Elective:
CSC 210 - Data Structures and Programming (*Data Science*)
STA 470 - Applied Probability (*Discrete Math*)

Senior (2nd Semester) 15 hrs

Free Elective
Free Elective
Free Elective
Free Elective (*upper division*)
Major Elective:
STA 521 - Mathematical Statistics II (*Statistics*)
MAT 306 - Discrete Mathematics (*Discrete Math*)
CSC 581 - Machine Learning (*Data Science*)

⁶ Denotes that 3 credit hours from this course are/can be applied to fulfill a Gen. Ed. requirement.

Essential Education

Foundations in Learning (GSD 101; waived for transfers with 30+ hrs).

30 hours
3 hours

MAJOR REQUIREMENTS

Core Courses

MAT 239, MAT 244, STA 270, STA 340, STA 498, CSC 174 or 190, ENG 300, DSC 580 or STA 580, STA 575

PLUS, THREE (3) HOURS selected from (DSC/STA electives): DSC 390, STA 375, STA 380, STA 470, *STA 520, STA 521, STA 570, STA 585
PLUS, THREE (3) HOURS selected from CSC, DSC, MAT, STA courses numbered 300 or above

- Excluding: any 349 courses and MAT 303.
- STA 480 Seminar in ____ will count for only approved topics.
- Only courses completed with a grade of at least a "C" will count toward the major requirements.
- Courses will not count in multiple categories.

35 hours

Major Electives

Statistics Combination: STA 521, STA 585—Recommended for students who want to attend graduate school.

Data Science Combination: CSC 210 and CSC 581

Discrete Math Combination: MAT 306 and STA 470

12 hours

SELECT TWO (2) COURSES from one of the following categories (*Domain Knowledge Course*):

Accounting: BUS 209 or ACC 200, ACC 350

Agriculture: AGR 374, AGR 501 or AGR 509

Anthropology and Sociology: *ANT 371, *SOC 232, *SOC 310, *SOC 395

Biology and Environmental Health Sciences: *BIO 315 and *BIO 533, *BIO 316 and *BIO 532, EHS 280 and *EHS 370

Management Information Systems: *MIS 335, *MIS 430 or *BUS 304,

Computer Science and Informatics: *CSC 310, *CSC 313, *INF 314

Finance: FIN 201, FIN 304 or FIN 311 or FIN 324

Global Supply Chain Management: BUS 306, MGT 442 or MGT 444

Government: *POL 280, *POL 400, *POL 440

Geosciences: *GEO 351, *GEO 353, *GEO 453, *GEO 456, *GEO 458

Marketing: MKT 301, MKT 455 or MKT 457

Physics: *PHY 315, *PHY 406, *PHY 460

Psychology: *PSY 240, *PSY 315, *PSY 340, *PSY 590

Risk Management and Insurance: RMI 378, RMI 370 or 374 or 376 or 382

Advisor Approved: Two advisor-approved courses from a department other than the Department of Mathematics and Statistics

Supporting Course Requirements

⁶ MAT 234, ⁶ PHI 130

Free Electives

Total Curriculum Requirements

1 hour

**39 hours
120 hours**

