THE UNIVERSITY OF ARIZONA
COLLEGE OF SCIENCE
Mathematics

BACHELOR OF SCIENCE (B.S.) IN DATA SCIENCE

EMPHASIS IN **APPLIED STATISTICS**

NOTE: This is a sample plan for the 2025 & 2026 catalog year; students are expected to meet with department advisors to personalize a plan based on their placements and academic needs.

The Mathematical Sciences lie at the heart of modern data science, providing essential tools for understanding and working with complex data. Offered through the Department of Mathematics, the B.S. in Data Science combines a strong foundation in mathematics and statistics with hands-on experience in computing and real-world data analysis. Students engage with complex data and applied projects throughout the curriculum, gaining the skills needed to drive innovation and discovery in science, technology, and AI. The **emphasis in Applied Statistics** is intended primarily for students wanting a more statistical-focused data science major in preparation for entering the workforce after graduation. This emphasis may also be appropriate preparation for graduate study in fields that rely heavily on statistics and data science.

Freshman Year

Fall		Spring	
CSC 110 Computer Programming I or ISTA 130 Computational Thinking & Doing	4	CSC 120 Intro to Computer Prog II or ISTA 131 Dealing with Data	4
ENGL 101 - First Year Writing 1 (GE Foundation Composition)	3	ENGL 102 - First Year Writing 2 (GE Foundation Composition)	3
[1] MATH 122A Functions for Calculus	1	MATH 129 Calculus II	3
MATH 122B First-Semester Calculus	4	[2] DATA 201 Foundations of Data Science - GE Core: (Building Connections)	3
MATH 263 Intro: Stat+Biostatistics	3		
Colloquium /career exploration ex. DATA 195M Math and SDS Major Colloquium	1		
UNIV 101 - Introduction to the General Education Experience (GE Entry)	1		
Total 17 Units		**Total 13 Units**	

Sophomore Year

Fall		Spring	
[3] ISTA 322 Data Engineering	3	DATA 363 Intro to Statistical Methods	3
[4] MATH 313 Intro to Linear Algebra	3	Applied Statistics Elective 1 ex. DATA 367 Sports Analytics	3
GE Foundation Second Language (First Semester)	4	GE Foundation Second Language (Second Semester)	4
GE Core: Exploring Perspectives or Building Connections	3	GE Core: Exploring Perspectives or Building Connections	3
GE Core: Exploring Perspectives or Building Connections	3	GE Core: Exploring Perspectives or Building Connections	3
Total 16 Units		**Total 16 Units**	

Junior Year

Fall		Spring	
DATA 375 Intro to Statistical Computing	3	DATA 474 Intro Stat Machine Learning	3
Applied Statistics Elective 2 ex. ISTA 321 Data Mining & Discovery	3	Applied Statistics Elective 3 ex. DATA 462 Financial Math	3
[5] Supporting Laboratory Science	4	[5] Supporting Laboratory Science	4
GE Core: Exploring Perspectives or Building Connections	3	UNIV 301 - General Education Portfolio (GE Exit)	1
GE Core: Exploring Perspectives or Building Connections	3	General Elective	3
Total 16 Units		**Total 14 Units**	

Senior Year

Fall		Spring	
DATA 467 Intro to Applied Linear Models	3	Applied Statistics Elective 4 ex. LING 439 Stat Natural Lang Processing	3
DATA 498D Capstone: Data Science	3	General Elective	3
General Elective	3	General Elective	3
Upper-Division General Elective	3	General Elective	1
Upper-Division General Elective	3	Upper-Division General Elective	3
Total 15 Units		**Total 13 Units**	

This degree program requires at least 120 total units, including 42 upper division units (300-400 level)

1 MATH 122A and MATH 122b are a single-semester sequence of courses that cover Calculus I

2 DATA 201 is a new building Connections Gen Ed. Up to 3 courses may count to fulfill General Education Exploring Perspectives or Building Connections requirements as well as major, pre-major, minor, and/or certificate requirements

3 CSC 460 Database Design will also fulfill this requirement, but has additional prerequisites

4 Students who have transfer credit equivalent to MATH 215 may use it to fulfill this requirement, though they will not earn upper-division credit for the course

5 For a list of lab science courses available to fulfill these requirements, please see the advisment report, website, or handbook.

THE UNIVERSITY OF ARIZONA
COLLEGE OF SCIENCE
Mathematics

BACHELOR OF SCIENCE (B.S.) IN DATA SCIENCE

EMPHASIS IN **COMPREHENSIVE STATISTICS**

NOTE: This is a sample plan for the 2025 & 2026 catalog year; students are expected to meet with department advisors to personalize a plan based on their placements and academic needs.

The Mathematical Sciences lie at the heart of modern data science, providing essential tools for understanding and working with complex data. Offered through the Department of Mathematics, the B.S. in Data Science combines a strong foundation in mathematics and statistics with hands-on experience in computing and real-world data analysis. Students engage with complex data and applied projects throughout the curriculum, gaining the skills needed to drive innovation and discovery in science, technology, and AI.

The **emphasis in Comprehensive Statistics** is intended for students planning to attend graduate school in statistics or statistics & data science.

Freshman Year

Fall		Spring	
CSC 110 Computer Programming I or ISTA 130 Computational Thinking & Doing	4	CSC 120 Intro to Computer Prog II or ISTA 131 Dealing with Data	4
ENGL 101 - First Year Writing 1 (GE Foundation Composition)	3	ENGL 102 - First Year Writing 2 (GE Foundation Composition)	3
[1] MATH 122A Functions for Calculus	1	MATH 129 Calculus II	3
MATH 122B First-Semester Calculus	4	[2] DATA 201 Foundations of Data Science - GE Core: (Building Connections)	3
MATH 263 Intro: Stat+Biostatistics	3	GE Core: Exploring Perspectives or Building Connections	3
Colloquium /career exploration ex. DATA 195M Math and SDS Major Colloquium	1		
UNIV 101 - Introduction to the General Education Experience (GE Entry)	1		
Total 17 Units		**Total 16 Units**	

Sophomore Year

Fall		Spring	
MATH 223 Vector Calculus	3	DATA 363 Intro to Statistical Methods	3
[3] Linear Algebra Course ex. MATH 313 Intro to Linear Algebra	1	[4] ISTA 322 Data Engineering	3
GE Foundation Second Language (First Semester)	4	GE Foundation Second Language (Second Semester)	4
GE Core: Exploring Perspectives or Building Connections	3	GE Core: Exploring Perspectives or Building Connections	3
		GE Core: Exploring Perspectives or Building Connections	3
Total 14 Units		**Total 16 Units**	

Junior Year

Fall		Spring	
DATA 375 Intro to Statistical Computing	3	DATA 474 Intro Stat Machine Learning	3
MATH 464 Theory of Probability	3	MATH 466 Theory of Statistics	3
[5] Supporting Laboratory Science	4	[5] Supporting Laboratory Science	4
GE Core: Exploring Perspectives or Building Connections	3	UNIV 301 - General Education Portfolio (GE Exit)	1
GE Core: Exploring Perspectives or Building Connections	3	General Elective	3
Total 14 Units		**Total 14 Units**	

Senior Year

Fall		Spring	
DATA 467 Intro to Applied Linear Models	3	Comprehensive Statistics elective ex. DATA 468 Applied Stochastic Processes	3
DATA 498D Capstone: Data Science	3	General Elective	3
General Elective	3	General Elective	3
Upper-Division General Elective	3	General Elective	1
Upper-Division General Elective	3	Upper-Division General Elective	3
Total 15 Units		**Total 15 Units**	

This degree program requires at least 120 total units, including 42 upper division units (300-400 level)

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