

Bachelor of Science in Data Science

(120 hours)

This is a recommended course sequence based on the UHD 2024-25 Undergraduate Catalog for a degree in BS in Data Science which equips students to work as professional data scientist. Courses with asterisks (*) indicate Common Core courses.

First Year					
Semester 1			Semester 2		
Hours	Grade		Hours	Grade	
ENG 1301* (Composition I) <i>P: A TSIA2 score meeting college readiness in Reading and Writing, or TSIA2 Reading and Writing complete, or TSIA2 Reading and Writing exempt</i>	3		ENG 1302* (Composition II) <i>P: A grade of C or better in ENG 1301 or placement by examination</i>	3	
MATH 2421* (Differential and Integral Calculus with Applications) <i>P: A grade of C or better in MATH 1505 or placement by exam taken at UHD</i>	4		MATH 2422 (Linear Algebra & Multivariable Calculus with Applications) <i>P: C or higher in either MATH 2421 or MATH 2402</i>	4	
UHD First-year Seminar* <i>Refer to catalog for approved options</i>	3		CS 1411 (Introduction to Computer Science with Python) <i>P: Credit or enrollment in MATH 1404 or MATH 1505</i>	4	
Approved Life and Physical Science course <i>P: Refer to catalog</i>	3		Approved Life and Physical Science course <i>P: Refer to catalog</i>	3	
MATH 2305 (Discrete Mathematical Structures) <i>P: A grade of C or better in MATH 1505 or placement by exam taken at UHD</i>	3		POLS 2305* (Federal Government) (Summer Option) <i>P: Enrollment in or completion of ENG 1301 or 010 core complete</i>	3	
Total Hours	16		Total Hours	17	
Second Year					
Semester 1			Semester 2		
Hours	Grade		Hours	Grade	
CS 2311 (Data Structures and Algorithms with Python) <i>P: C or better in CS 1311</i>	3		DATA 3401 (Data Science II) <i>P: C or better in CS 1311, MATH 2305, and DATA 2401</i>	4	
MATH 3302 (Probability & Stats.) <i>P: C or better in MATH 2402 or MATH 2421</i>	3		Approved Language, Philosophy, and Culture course* (Summer Option) <i>Refer to catalog for approved options</i>	3	
POLS 2306* (Texas Government) (Summer Option) <i>P: Enrollment in or completion of ENG 1301 or 010 complete.</i>	3		Approved American History course (Summer Option) <i>P: Refer to catalog</i>	3	
DATA 2401 (Data Science I) <i>P: C or better in MATH 1505</i>	4		Approved Oral Communication Course* (Summer Option) <i>Refer to catalog for approved options</i>	3	
Total Hours	13		Total Hours	13	

Third Year					
Semester 1			Hours	Grade	
STAT 3333 (Statistical Inference) <i>P: C in MATH 3302</i>			3		
DATA 4300 (Ethics in Data Science) <i>P: C or better in DATA 3401</i>			3		
Approved American History course (Summer Option) <i>P: Refer to catalog</i>			3		
Approved Creative Arts course* (Summer Option) <i>Refer to catalog for approved options</i>			3		
Domain Focus Course <i>Refer to catalog for approved options</i>			3		
Total Hours			15		
Semester 2			Hours	Grade	
DATA 3402 (Data collection/Curation) <i>P: C or better in CS 2311 and DATA 3401</i>			4		
MATH 3323 (Numerical Linear Alg & Opt) <i>P: C or better in CS 1411 and MATH 2422; or in CS 1411, MATH 2403 and MATH 2307</i>			3		
STAT 4310 (Applied Regression) <i>P: C or better in MATH 3302 or MATH 3317 or STAT 3311 or STAT 3333 or STAT 3334</i>			3		
Domain Focus Course <i>Refer to catalog for approved options</i>			3		
Free Elective (if needed)			3		
Total Hours			16		
Fourth Year					
Semester 1			Hours	Grade	
Approved Social & Behavioral Sciences Course* (Summer Option) <i>Refer to catalog for approved options</i>			3		
DATA 4419 (Statistical& Machine Learning) <i>P: C or better in DATA 3401; and a grade of C or better (or concurrent enrollment) in MATH 3323 and STAT 3333</i>			4		
Domain Focus Course <i>Refer to catalog for approved options</i>			3		
Domain Focus Course <i>Refer to catalog for approved options</i>			3		
Free Elective (if needed)			3		
Total Hours			16		
Semester 2			Hours	Grade	
STAT 4303 (Decision Math) or STAT 4311 (Operations Research) <i>P: Refer to catalog</i>			3		
DATA Science Elective <i>Refer to catalog for approved options</i>			3		
DATA 4320 (Advanced Machine Learning) <i>P: C or better in DATA 4419</i>			3		
Free Elective (if needed)			3		
Free Elective (if needed)			2		
Total Hours			14		

15 to Finish
Fall: 15 hours • Spring: 15 hours

30 in 3
Fall: 12 hours • Spring: 12 hours • Summer: 6 hours