Data Science with AI Emphasis B.S. Degree — Suggested 4-year Plans

Students who start with CS 1400 and Precalculus.

	FALL semester		SPRING semester	
Freshman year (32 credits)	CS 1400: Intro to Computer Programming	4	CS 1410: Intro to Object-Oriented Prog	4
	MATH 1080: Precalculus	5	MATH 1210: Calculus I†	4
	WRTG 1010: Introduction to Writing	3	WRTG 2010: Intermediate Writing†	3
	American Institutions (AI)†	3	Gen Ed†	3
			Gen Ed (IR)†	3
Sophomore year (31 credits)	CS 2420: Intro to Algs & Data Structures	4	CS 3500: Software Practice I	4
	MATH 1220: Calculus II†	4	CS 2100: Discrete Mathematics	3
	Gen Ed†	3	DS 2500: Data Wrangling	3
	Gen Ed†	3	MATH 2270: Linear Algebra	4
			Gen Ed†	3
Junior year (32 credits)	MATH 3070: Applied Statistics 1	4	MATH 3080: Applied Statistics 2	4
	CS 4150: Algorithms	3	DS 4530: Database Systems	3
	DS 3390: Ethics in Data Science	3	DS 3190: Foundation of Data Analysis	3
	DS 4630: Visualization for DS	3	DS 4350: Machine Learning	3
	Data Domain Elective	3	WRTG 3014 or WRTG 3015	3
Senior year (25 credits)	DS 4800 (Project) or DS 4940 (Thesis)	3	DS 4850 (Project)‡ or DS 4970 (Thesis)◁	3
	DS 4140: Data Mining	3	DS 3941: Data Science Seminar	1
	CS 4300: Artificial Intelligence	3	Data Analysis Elective	3
	Data Domain Elective	3	Data Analysis Elective	3
120 credits total			Data Domain Elective	3

Students who start with CS 1420 and Calculus I.

	FALL semester		SPRING semester
Freshman year (34 credits)	CS 1420: Accelerated Object-Oriented Prog	4	CS 2420: Intro to Algs & Data Structures
	MATH 1210: Calculus I†	4	MATH 1220: Calculus II†
	WRTG 1010: Introduction to Writing	3	WRTG 2010: Intermediate Writing†
	American Institutions (AI)†	3	Gen Ed†
	Gen Ed†	3	Gen Ed†
Sophomore year (32 credits)	CS 3500: Software Practice I	4	CS 4150: Algorithms
	CS 2100: Discrete Mathematics	3	DS 3390: Ethics in Data Science
	MATH 2270: Linear Algebra	4	DS 4350: Machine Learning
	DS 2500 Data Wrangling	3	Gen Ed
	Gen Ed†	3	Gen Ed
Junior year (29 credits)	MATH 3070: Applied Statistics 1	4	MATH 3080: Applied Statistics 2
	DS 3190: Foundation of Data Anaylsis	3	DS 4530: Database Systems
	DS 4630: Visualization for DS	3	Data Analysis Elective
	Data Domain Elective	3	WRTG 3014 or 3015†
	Gen Ed†	3	
Senior year (25 credits)	DS 4800(Project) or DS 4940 (Thesis)	3	DS 4850 (Project)‡ or DS 4970 (Thesis)◁
	DS 4140: Data Mining	3	DS 3941: Data Science Seminar
	CS 4300: Artificial Intelligence	3	Data Analysis Elective
	Data Domain Elective	3	Data Domain Elective
120 credits total			Exploration Elective, if needed

† Honors options available, see https://honors.utah.edu/ for details.

‡ Project Students pursuing the Honors degree must take CS 4998 concurrently with DS 4850 to satisfy the Honors Thesis Work.

◁ Thesis Students pursuing the Honors degree must take DS 4999 (instead of DS 4970) to satisfy the Honors Thesis Work.