

Data Science and Engineering Bachelor of Science Program

FRESHMAN YEAR

First Semester	Credits	Second Semester	Credits
Science lab course ¹	4	Science lab course ¹	4
MATH 1131Q – Calculus I	4	Math 1132Q – Calculus II	4
CSE 1010 – Intro Computing for Engineers	3	CSE 2050 – Data Structures & Object-Oriented Design	3
ENGR 1000 – Orientation to Engineering	1	ENGL 1007 – Seminar in Writing	4
Area 2 (Social Sciences)	<u>3</u>		<u>15</u>
	15		

SOPHOMORE YEAR

First Semester	Credits	Second Semester	Credits
Additional science course ¹	4	CSE 3140 – Cybersecurity Lab	2
CSE 2500 - Intro to Discrete Systems	3	CSE 3500 - Algorithms and Complexity	3
CSE 2600 – Intro to Data Science & Engineering	3	STAT 3025Q – Statistical Methods	3
MATH 2110Q – Multivariate Calculus	3	Area 2 (Social Science)	3
Area 1 (Arts and Humanities)	<u>3</u>	MATH 2210Q – Linear Algebra	<u>3</u>
	16		14

JUNIOR YEAR

First Semester	Credits	Second Semester	Credits
CSE 4701 – Principals of Databases	3	CSE 4502 – Big Data Analytics	3
CSE 4820 – Intro to Machine Learning	3	CSE 3000 - Contemporary Issues in CSE	1
Data Science & Engineering elective course 1	3	CSE Elective course 2	3
PHIL 1104 (Area 1) – Phil. and Soc Ethics	3	CSE Elective course 2	3
Elective	<u>3</u>	Area 4 (Diversity and Multiculturalism)	3
	15	Elective	<u>3</u>
			16

SENIOR YEAR

First Semester	Credits	Second Semester	Credits
CSE 4939W - Design Project I	3	CSE 4940 - Design Project II	3
Data Science & Engineering elective course 3	3	Data Science & Engineering elective course 4	3
Area 4 (Diversity and Multiculturalism)	3	Elective	3
Elective	3	Elective ⁶	<u>5</u>
Elective	<u>3</u>		14
	15		

Additionally the program must include 1) one W course other than CSE 4939W, which may be used to satisfy other requirements or Free Electives, and 2) one E course of at least three credits in Environmental Literacy.

¹ A two-course sequence must be selected from one of the following sequences: CHEM 1127Q–1128Q; CHEM 1137Q–1138Q; CHEM 1147Q–1148Q; PHYS 1401Q–1402Q; PHYS 1501Q–1502Q; or PHYS 1601Q–1602Q. One additional science course must be selected from the the department not selected for the two-course sequence or from BIOL 1107, BIOL 1108, BIOL 1110, EARTH 1050, or EARTH 1051 and 1052