DATA SCIENCE FIVE-YEAR ACCELERATED DEGREE BACHELOR OF ARTS AND MASTER OF SCIENCE PROGRAM

A five-year degree program is offered in Data Science at Fairfield University's School of Engineering and Computing, leading to a Bachelor of Arts in Computer Science and a Master of Science in Data Science. This program embraces the educational objectives of the BA in Computer Science program, as well as those of the graduate program in Data Science. It emphasizes experiential learning and innovation. Graduates of the program master the knowledge and tools they need to become data scientists. Data is ubiquitous in the modern world, and data scientists with skills and knowledge to analyze that data are a valuable, sought-after resource.

Students having achieved a 3.0 GPA, may apply to the Master's degree program at the end of their third year. Students follow the standard undergraduate curriculum for the first three years, and then complete the BA baccalaureate degree requirements (122 credits) during their fourth year. During this final year, students may enroll in up to two graduate courses that are above and beyond their undergraduate degree requirement. These graduate courses may not be applied towards the undergraduate degree. After receiving the baccalaureate degree, students will take an additional eight courses (for a total of ten courses) to complete the MS degree requirements in the fifth year.

Requirements

Code	Title	Credits
All Requirements for BA in Computer Science [1]		122
MATH 5417	Applied Statistics I	3
SWEG 5322	Visual Analytics	3
SWEG 6508	Data Warehouse Systems	3
SWEG 6518	Data Mining and Business Intelligence	3
Concentration Courses		
Complete two courses in one of the following concentration areas: [2]		6
Health Analytics		
NURS 7602	Healthcare Economics and Marketing	
NURS 7613	Finance and Quality Management in Healthcare Organizations	
Computational Analytics		
SWEG 5357	Database Management Systems	
SWEG 6461	Pattern Recognition	
Bioinformatics		
BIOL 5365	Evolutionary Biology	
SWEG 5315	Computational Biology	
SWEG 5317	Computational Statistics for Biomedical Sciences	
Behavioral Analytics [4]		
Social Analytics		
SOCI 5110	Race, Cities, and Poverty	
SOCI 5100	American Class Structure	
SOCI 5300	Sociology of Education	
Graduate Electives		
Select two additional graduate-level electives from the following: [4]		6
Computing Technical Electives		
SWEG 5355	Artificial Intelligence	
SWEG 5349	Cloud Computing	
SWEG 5360	Machine Learning	
SWEG 6499	Algorithms	
SWEG 6505	Advanced Database Concepts	
SWEG 6530	Applications and Data Security	
Mathematics Electives		
MATH 5418	Applied Statistics II	
MATH 5451	Probability Theory	
MATH 5452	Statistics Theory	
Capstone Sequence		
SWEG 6961	Capstone Professional Project I	3
SWEG 6962	Capstone Professional Project II	3
Total Credits		**152**

[1] Requirements are the same as those for the BA in Computer Science.

[2] The two graduate concentration courses, to be taken during the final year of undergraduate study, are in addition to the required 122 credits for the BA, and will be applied to the graduate degree.

[3] Electives may be chosen from courses listed, SWEG 5990 Independent Study, or any other graduate-level course from a concentration or another area, under advisement of the academic advisor and department chair.

[4] Please consult with program director.

Note: A minimum of 30 credits must be completed at the graduate level.