Degree: Statistics, B.S.: Data Science Concentration 21-22

Requirement Area	Course	Course Title	Prerequisites	Units
First Semester (FALL)				
E	GS 101A	Foundations of Success I		1
A1 or A3		Oral Communication or Critical Thinking		3
B4/LD Major	MATH 130	Calculus I	One from the following: Satisfactory score of 78 or higher on Mathematics Placement Exam, MATH 120 or MATH 125 (either course with grade C- or better).	4
C1 or C2		Arts or Humanities		3
D1/Code 1		Social Science/U.S Code (1,2)		3
			Total:	14
Second Semester (SPRING)				
E	GS 101B	Foundations of Success II		1
A2		Written Communication		3
C1 or C2		Arts or Humanities		3
D2		Social Science		3
LD Major	CS 100	Programming for Everyone		3
Elective				2
			Total:	15
Third Semester (FALL)				
E				1
A1 or A3		Oral Communication or Critical Thinking		3
Add'l C1 or C2*		Arts or Humanities		3
B2/B3		Life Science/Laboratory Science		3
Second Composition	ENGL 200	College Writing II		3
LD Major	CS 200	Advanced Programming for Everyone	CS 100	3
			Total:	16
Fourth Semester (SPRING)				
F		Ethnic Studies		3
B1/B3		Physical Science/Laboratory Science		3
UD Major	STAT 315	Exploring and Analyzing Data	Completion of GE area B4	3
Elective				3
Elective				3
			Total:	15
Fifth Semester (FALL)				
UD-B/Overlay				3
UD Major	STAT 330	Statistical Inference	One of: MATH 115, MATH 120, MATH 180.	3
Code 2		U.S. Code (1,3)		3
Concentration Elective				3
Elective				3
			Total:	15
Sixth Semester (SPRING)				
UD-D/Overlay				3
UD Major	STAT 321	Probability Through Simulation	CS 100	3
UD Major	STAT 331	Introduction to Analysis of Variance	STAT 316 or STAT 330	3
UD Major	STAT 432	Introduction to Linear Regression and Logistic Regression	STAT 330 or STAT 310	3
Concentration Elective				3
			Total:	15
Seventh Semester (FALL)				
UD-C/Overlay				3
UD Major Elective				3
Concentration Elective	STAT 450	Introduction to R for Data Science	One of: STAT 110, STAT 303, STAT 310, STAT 315, STAT 330	3
Concentration Elective	STAT 451	Introduction to Data Visualization	STAT 303 or STAT 310 or STAT 316 or STAT 330.	3
UD Major	STAT 495	Data Analysis with SAS	STAT 330	3
			Total:	15
Eighth Semester (SPRING)				
Concentration Elective	STAT 452	Introduction to Statistical Learning	One of: STAT 110, STAT 303, STAT 310, STAT 315, STAT 330.	3
UD Major Elective				3
UD Major Elective				3
Elective				3
Elective				3
			Total:	15
Total Units:				120

Note: No changes to, or from, the credit/no credit pattern are permitted after the Grade Type Change period. There are no exceptions to this rule. Courses in a student's major department, regardless of course prefix, may not be taken "CR/NC," unless that is the only grading pattern in the course.

CSUEB General Breadth and Graduation Requirement Checklist

Area A (9 units): Communication in the English Language & Critical Thinking (Must earn passing grade of C-/CR or better)
- ☐ A1. COMM 100 or 104, MLL 111
- ☐ A2. ENGL 101, 102, or 104
- ☐ A3. PHIL 100

Area B (9 units) : Scientific Inquiry & Quantitative Reasoning
- ☐ B1. Physical Science
- ☐ B2. Life Science
- ☐ B3. Laboratory Activity
- ☐ B4. Quantitative Reasoning (Must earn passing grade of C-/CR or better.)

Area C (9 units): Arts & Humanities - Minimum of three different disciplines as designated by course prefix (e.g., ART, THEA, MUS)
- ☐ C1. Arts
- ☐ C2. Humanities
- ☐ *Additional Lower-division Area C Course in Arts (C1) or Humanities (C2)

Area D (6 units) : Social Sciences - Minimum of three different disciplines as designated by course prefix (e.g., ANTH, ECON, POSC)
- ☐ D1.
- ☐ D2.

Area E (3 units) : Lifelong Learning and Self-Development
- ☐ E.

Area F (3 units): Ethnic Studies
- ☐ F.

Second Composition : Requires completion of GE A2 with a C-/CR or better. Must be completed before attaining junior standing.
- ☐ Second Composition

U.S. Code (American Institutions Requirement) - Two courses (6 units) covering three U.S. Code Requirements of US-1 (U.S. History), US-2 (U.S. Constitution), and US-3 (California State & Local Government).
- ☐ Code 1.
- ☐ Code 2.

Upper Division GE Requirements (9 units): Should be taken after completion of A1, A2, A3, and B4 with a C- (CR)
- ☐ UD-B. Upper-division Science Inquiry and Quantitative Reasoning
- ☐ UD-C.Upper-division Arts OR Humanities
- ☐ UD-D. Upper-division Social Sciences

Overlay Requirements (9 units): Courses may be upper or lower division, and GE or major
- ☐ Diversity (Div)
- ☐ Social Justice (SJ)
- ☐ Sustainability (S)

Data Science Concentration

Complete fifteen (15) units of approved courses in Computer Science and/or Statistics as follows:

STAT 450 - Introduction to R for Data Science Units: 3
STAT 451 - Introduction to Data Visualization Units: 3
STAT 452 - Introduction to Statistical Learning Units: 3
An additional approved course in Computer Science or Statistics Units: 3
A second approved course in Computer Science or Statistics Units: 3