Mathematics ADT to BS - Statistics

Title	C-ID Units	C-ID Designation	Double Counted for GE	CSUEB Course	Units
Single Variable Calculus I – Early Transcendentals Or Single Variable Calculus I – Late Transcendentals	Math 210 or Math 211	4			
Single Variable Calculus II – Early Transcendentals Or Single Variable Calculus II – Late Transcendentals	Math 220 or Math 221	4			
Multivariable Calculus	Math 230	4			
OR					
Single Variable Calculus Sequence (2 sem/3 quarters) Or Single Variable Calculus I – Early Transcendentals And Single Variable Calculus II – Early Transcendentals Or Single Variable Calculus I – Late Transcendentals And Single Variable Calculus II – Late Transcendentals	Math 900S or Math 210 and Math 220 or Math 211 and Math 221	≥8			
Multivariable Calculus	Math 230	4			
OR					
Single Variable and Multivariable Calculus Sequence (3 sem/4 quarters)		≥12			
Choose a minimum of 6 units from below with at least 3 units from Group A.					
Group A Provides Depth of understanding in subject major					
Ordinary Differential Equations	Math 240	3			
Introduction to Linear Algebra	Math 250	3			
OR					
Differential Equations and Linear Algebra	Math 910S	5			
Group B Expands application of discipline					
Discrete Math	Math 160	3			
Calculus-Based Physics for Scientists and Engineers: A (Any course articulated as preparation for the physics major at a CSU)	Physics 205	4			
Mathematical Computing Systems	See sample.	1			
Computer Programming	articulated preparati	3			
Proof	See sample.	3			
Introduction to Statistics	Math 110	3			
TOTAL MAJOR UNITS		**18**			
CSU GE Requirements		39			
Double Counting GE		4			
Elective		7*			
Total Units		**60**			

***Can be used to fulfill CSU American Institutions or any additional major requirements**

GRADUATION REQUIREMENTS These should be fulfilled at the Community College, however if not taken at the Community College, they must be completed at CSU East Bay			
US History, Constitution & American Ideals			
First Category US-1			0-3
Second Category US-2			0-3
Third Category US-3			0-3
		Total Units	**0-9**

These courses must be taken at CSU East Bay

Please note: A minimum of three courses in the Upper Division General Education pattern must have a topic/learning outcomeoriented toward one of the following topic areas (overlays): **Diversity (DIV)**, **Social Justice (SJ)**, or **Sustainability (S)**.

Upper Division GE/Overlay	Courses	Overlay	Units
GE-UD-B			3
GE-UD-C			3
GE-UD-D			3
		Total Units	**9**

University Writing Requirement	Course	GE/Overlay	Units
UWR			
		Total Units	**3**

Introductory Core	Course	GE/Overlay	Units
Basic lower-division requirements for 9-10 units.			
Select one (1) of the following (CS 100 is recommended for Data Science Concentration):			
CS 100*	Programming for Everyone		3
MATH 130*	Calculus I	GE-B4	4
Select two (2) courses from the following (CS 200 is recommended for Data Science Concentration):			
CS 200*	Advanced Programming for Everyone		3
MATH 131*	Calculus II		3
STAT 303	Statistical Methods in Biology		3
*Completeted at a CCC		**Total Units**	**0-10**

Advanced Core	Course	GE/Overlay	Units
The following courses for 24 units are required as outlined below:			
Take all of the following:			

STAT 330	Statistical Inference		3
STAT 331	Introduction to Analysis of Variance		3
STAT 432	Introduction to Linear Regression and Logistic Regression		3
STAT 495	Data Analysis with SAS		3
Select one (1) of the following (STAT 321 recommended for Data Science Concentration):			
STAT 320	Introduction to Probability Theory I		3
STAT 321	Probability Through Simulation		3
Select three (3) Elective Courses from the following:			
STAT 351	Sampling Procedures for Surveys		3
STAT 450	Introduction to R for Data Science (Cannot be double-counted for students in the Data Science Concentration)		3
STAT 451	Introduction to Data Visualization (Cannot be double-counted for students in the Data Science Concentration)		3
STAT 452	Introduction to Statistical Learning (Cannot be double-counted for students in the Data Science Concentration)		3
STAT 460	Advanced Statistical Package Usage		3
STAT 473	Introduction to Nonparametric Statistics		3
STAT 474	Introduction to Time Series and Forecasting		3
STAT 475	Introduction to Stochastic Processes		3
STAT 481	Bayesian Statistics		3
		Total Units	**24**

Emphasis Coursework			
Only students NOT completing the Data Science concentration are required to complete an emphasis area. Complete one (1) of the following for 15 units:			
Fifteen (15) units of approved Statistics courses in addition to those used for the requirements above. MATH 230 may be included in these 15 units and is especially recommended for students wishing to apply to the master's degree program in Statistics.			
OR			
Fifteen (15) units of approved Mathematics courses in addition to those used for the requirements above. MATH 230 m			
OR			
Fifteen (15) units of approved Computer Science courses in addition to those used for the requirements above.			
OR			
Fifteen (15) units of approved courses in an approved area. Areas currently approved include the following: Anthropology, Biological Sciences, Business Administration, Chemistry, Economics, Geography, Geological Sciences, Health Sciences, Physics, Psychology, Sociology. For other areas, contact the Department of Statistics and Biostatistics. To gain departmental approval, these courses must include at least one upper division course and be judged to constitute a coherent program of study. (With the approval of the department, upper division Statistics courses not counted above, except STAT 310 and STAT 303 may be applied toward these fifteen units.)			
		Total Units:	**15**

ADDITIONAL COURSE(S) to MEET 60 UNITS		GE/Overlay	Units
These courses may be additional major courses or prerequisites taken at the Community College.			
Free Elective Elective			9
		Total Units	**9**
		Grand Total:	60

FIRST SEMESTER JUNIOR YEAR (FALL)			
UDGE UD-B	COURSE:	OVERLAY:	3
UD Major	STAT 330	Statistical Inference	3
*UD Major OR UD Elective	STAT 320	Introduction to Probability Theory I	3
Area of Emphasis			3
UWR			3
		TOTAL:	***15***
SECOND SEMESTER JUNIOR YEAR (SPRING)			
UDGE UD-D	COURSE:	OVERLAY:	3
UD Major	STAT 331	Introduction to Analysis of Variance	3
UD Major	STAT 432	Introduction to Linear Regression and Logistic Regression	3
*UD Major OR UD Elective	STAT 321	Probability Through Simulation	3
UD Elective			3
		TOTAL:	***15***
THIRD SEMESTER SENIOR YEAR (FALL)			
Check your MyCSUEB "Degree Audit Report" (DAR) and email any discrepancies to The ADT ADVISOR.			
UDGE UD-C	COURSE:	OVERLAY:	3
UD Major	STAT 495	Data Analysis with SAS	3
UD Elective			3
Area of Emphasis Elective			3
Area of Emphasis Elective			3
		TOTAL:	***15***
FOURTH SEMESTER SENIOR YEAR (SPRING)			
See the ADT ADVISOR and apply for graduation through MyCSUEB by the posted deadline, available at Important Dates			
Area of Emphasis Elective			3
Area of Emphasis Elective			3
FREE ELECT			3
FREE ELECT			3
FREE ELECT			3
		TOTAL:	***15***
		GRAND TOTAL:	**60**