

Computer Science ADT to Business Analytics B.S.

Title	C-ID Designation	C-ID Units	Double	CSUEB Course	Units
Programming Concepts & Methodology I (CS1)	COMP 122	3			
Programming Concepts & Methodology II (CS2)	COMP 132	3			
Computer Architecture & Organization	COMP 142	3			
Discrete Structures	COMP 152	3			
Choose 1					
Single Variable Calculus I and II – Early Transcendentals (min. 8 units)		8	4		
or					
Single Variable Calculus I and II – Late Transcendentals (min. 8 units)		8	4		
or	MATH 210 and 220	8	4		
Single Variable Calculus Sequence (min. 8 units)					
or					
	MATH 211 and 221	8	4		
or					
	MATH 900S	8	4		
Choose 1	PHYS 205	4			
or					
Cell and Molecular Biology		4			
or					
Organismal Biology		4			
Choose 1					
	PHYS 210	4	4		
General Chemistry for Science Majors I, with Lab (min. 5 units)					
or					
	BIOL 190		3-4		
or					
	BIOL 140		3-4		
or					
	CHEM 110		3-4		
TOTAL MAJOR UNITS		28			
CSU GE Requirements		39			
Double Counting GE		7-8			
Elective		0			
Total Units		60			

Please note: A minimum of three courses in the Upper Division General Education pattern must have a topic/learning outcome oriented 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-Area 5	BAN 320	Sustainability	0
GE-UD-Area 3			3
GE-UD-Area 4			3
		Total Units	6

University Writing Requirement	Course	GE/Overlay	Units
UWR	MKTG 305W		0
		Total Units	0

Upper Division Coursework	Course	GE/Overlay	Units
BAN 310	Data Analysis with Python I		3
BAN 315	Data Analysis with Python II		3
BAN 320	Optimization and Simulation	GE-UD-B; Sustainability	3
BAN 331	Database Management and SQL		3
BAN 340	Machine Learning for Business Applications		3
BAN 350	Data Wrangling and Data Pipeline		3
BAN 441	Business Data Visualization and Reporting (crosslist: ITM 441)	Social Justice	3
BAN 449	Big Data and Business Applications		3
BAN 499	Capstone Seminar		3
MKTG 305W	Business Communication		3
		Total Units	30

Marketing Analytics Concentration Required

Students must complete three courses of the following for 9 units:

MKTG 300	Marketing Principles		3
MKTG 310	Marketing Research		3
MKTG 312	Marketing Analytics		3
		Total Units	9

Marketing Analytics Concentration Courses

Choose three (3) courses of the following for 9 units:

MKTG 420	Product, Service, and Brand Management		3
MKTG 427	Digital Marketing and Social Media		3
MKTG 432	Marketing for New Ventures		3
MKTG 434	Social and Digital Media Analytics		3
MKTG 435	Consumer Analytics		3
MKTG 436	Marketing Data Visualization		3
MKTG 437	Mobile Marketing and AI		3
		Total Units	9

ADDITIONAL COURSE(S) to MEET 60 UNITS

		GE/Overlay	Units
Free Elective			
Elective	6		6
		Total Units	6
		Grand Total:	60

These courses may be additional major courses or prerequisites taken at the Community College.

FIRST SEMESTER (FALL)			
Free Elective			
UD Major	BAN 310	Data Analysis with Python I	3
UD Major	MKTG 300	Marketing Principles	3
UD Major/UWR	MKTG 305W	Business Communication	3
UD-Area 4/Overlay			3
		Total:	15
SECOND SEMESTER (SPRING)			
UD Major	BAN 315	Data Analysis with Python II	3
UD-Area 5/S/UD Major	BAN 320	Optimization and Simulation	3
UD Major	BAN 331	Database Management and SQL	3
UD Major	BAN 350	Data Wrangling and Data Pipeline	3
UD Major		Concentration Elective	3
		Total :	15
THIRD SEMESTER (FALL)			
UD Major	MKTG 310	Marketing Research	3
UD Major	MKTG 312	Marketing Analytics	3
UD Major/SJ	BAN 441	Business Data Visualization and Reporting	3
UD Major	BAN 449	Big Data Technology and Business Applications	3
UD Major	BAN 340	Machine Learning for Business Applications	3
		Total:	15
FOURTH SEMESTER (SPRING)			
Free Elective			3
UD-Area 3/Overlay			3
UD Major	BAN 499	Capstone Seminar	3
UD Major		Concentration Elective	3
UD Major		Concentration Elective	3
		Total:	15
		Grand Total:	60