Degree: Mathematics, B.S. 22-23

Requirement Area	Course	Course Title	Prerequisites	Units
First Semester (FALL)				
E	GS 101A	Foundations of Success I		1
A1	COMM 100	Communication		3
B1/B3		Physical Science/Laboratory Activity		3
C1		Arts		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
			Total:	14
Second Semester (SPRING)				
E	GS 101B	Foundations of Success II		1
A2		Written Communication		3
C2		Humanities		3
D1		Social Science		3
B2/B3		Life Science/Laboratory Activity		3
LD Major	MATH 131	Calculus II	MATH 130 with grade C- or better.	3
			Total:	16
Third Semester (FALL)				
E		Life Long Learning and Self-Development		1
Second Composition	ENGL 200 or PHYS 230	Writing II		3
A3	PHIL 100	Workshop in Critical Thinking		3
Code 1/D2		U.S. Code/Socical Science		3
LD Major	MATH 230	Calculus III	MATH 131 with grade C- or better.	3
LD Major	MATH 215	Introduction to Linear Algebra	MATH 130.	3
			Total:	#REF!
Fourth Semester (SPRING)				
LD Major	MATH 285	Introduction to Differential Equations		3
UD Major	MATH 300	Introduction to Mathematical Proof	MATH 131 with grade C- or better.	3
UD Major	MATH 305	Math Software	MATH 131 with grade C- or better.	3
Code 2		U.S. Code		3
Add'l C1 or C2*		Arts/Humanities		3
F		Ethnic Studies		3
			Total:	15
Fifth Semester (FALL)				
UD Major	MATH 320	Abstract Algebra I	MATH 215 with grade C- or better.	3
UD Major	MATH	Applied Mathematics Coursework		3
UD Major	MATH	Math Elective		3
UD-C/overlay		UD Arts/Humanities		3
UD Free Elective				
			Total:	15
Sixth Semester (SPRING)				
UD Major	MATH 330	Analysis I		3
UD Major	MATH	Math Elective		3
UD Major	MATH	Applied Mathematics Coursework		3
UD-D/Overlay		UD Social Science		3
Elective				3
			Total:	15
Seventh Semester (FALL)				
UD Major	MATH	Theoretical Mathematics Coursework		3
UD Major	MATH 310	Linear Algebra Theory	MATH 215, MATH 300 and MATH 305, all with grade C- or better.	3
UD-B/Overlay		UD Science Inquiry and Quantitative Reasoning		3
Elective				3
Elective				2
			Total:	14
Eighth Semester (SPRING)				
UD Major		Theoretical Mathematics Coursework		3
UD Major	MATH 493	Senior Seminar	Department consent.	3
Elective				3
Elective				3
Elective				3
			Total:	15
Total Units:				#REF!

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
☐ Code 1.
☐ Code 2.
Upper Division GE Requirements (9 units): Should be taken after completion of
☐ 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
☐ Diversity (Div)
☐ Social Justice (SJ)
☐ Sustainability (S)
Applied Mathematics Coursework
Choose two (2) courses from the following for 6 units:
MATH 370 - Numerical Analysis I Units: 3
MATH 380 - Linear Programming Units: 3
MATH 385 - Linear and Nonlinear Systems of Differential Equations Units: 3 (*)
Theoretical Mathematics Coursework
Choose two (2) courses from the following for 6 units:
MATH 321 - Abstract Algebra II Units: 3 (*)
MATH 331 - Analysis II Units: 3
MATH 340 - Modern Geometry Units: 3 (*)
Elective Courses
Choose two (2) elective courses from the following for 6 units:
MATH 360 - Number Theory Units: 3 (*)
MATH 440 - Topics in Geometry Units: 3
MATH 450 - Combinatorics Units: 3
MATH 470 - Numerical Analysis II Units: 3
MATH 497 - Topics in Advanced Mathematics Units: 3
Or any upper-division mathematics course(s) NOT used to fulfill other major
Or any graduate level Math course.
STAT 316 - Statistics and Probability for Science and Engineering Units: 3 (*)

Making specific course choices within the Math B.S. leads to a certification for students applying for a credential program to teach high school mathematics. The certification, when accompanied by 45 hours of specific service requirements (which also fulfills a state requirement for admission into a teacher credential program), allows a student to waive taking the three required math California Subject Examinations for Teachers (CSETs). This major pathway is indicated throughout by asterisks (*) for each required course. Students should see the Single Subject Math Advisor when ready to plan for upper division courses.

***Students are required to take a minimum of 40 semester units as upper division (includes 9 units upper division GE)**