Degree: Mathematics, B.S. 25-26

Requirement Area	Course	Course Title	Prerequisites	Units
First Semester (FALL)				
Recommended	SCI 130	Connecting to STEM Majors		2
1C	COMM 100	Communication		3
5A/5C		Physical Science/Laboratory Activity		3
3A		Arts		3
Area 2/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:	15
Second Semester (SPRING)				
1A		Written Communication		3
3B		Humanities		3
Area 4/Code 1		Social Science		3
5B/5C		Life Science/Laboratory Activity		3
LD Major	MATH 131	Calculus II	MATH 130 with grade C- or better.	3
			Total:	15
Third Semester (FALL)				
Free Elective				3
1B/Second Comp				3
Area 4/Code 2		U.S. Code/Socical Science		3
LD Major	MATH 230	Calculus III	MATH 131 with grade C- or better.	3
Free Elective				3
			Total:	15
Fourth Semester (SPRING)				
LD Major	MATH 215	Introduction to Linear Algebra	MATH 130.	3
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
Area 6		Ethnic Studies		3
			Total:	15
Fifth Semester (FALL)				
UD Major	MATH 320	Abstract Algebra I	MATH 210/215, MATH 300 with grade C- or better.	3
UD Major	MATH	Applied Mathematics Coursework		3
UD Major	MATH	Math Elective		3
UD-Area 3/overlay		UD Arts/Humanities	Completion of GE Areas 1A, 1B, 1C and GE-2 with grade C- (CR) or better	3
UWR				3
			Total:	15
Sixth Semester (SPRING)				
UD Major	MATH 330	Analysis I	MATH 300	3
UD Major	MATH	Math Elective		3
UD Major	MATH	Applied Mathematics Coursework		3
UD-Area 4/Overlay		UD Social Science	Completion of GE Areas 1A, 1B, 1C and GE-2 with grade C- (CR) or better	3
Free Elective				3
			Total:	15
Seventh Semester (FALL)				
UD Major	MATH	Theoretical Mathematics Coursework		3
UD Major	MATH	Math Elective		3
UD-Area 5/Overlay		UD Science Inquiry and Quantitative Reasoning	Completion of GE Areas 1A, 1B, 1C and GE-2 with grade C- (CR) or better	3
Free Elective				3
Free Elective				2
			Total:	14
Eighth Semester (SPRING)				
UD Major	MATH	Theoretical Mathematics Coursework		3
UD Major	MATH 493	Senior Seminar	Department consent.	3
Free Elective				4
Free Elective				3
Free Elective				3
			Total:	16
Total Units:				120

CSUEB General Breadth and Graduation Requirement Checklist
Area 1 (9 units): English Communication
☐ 1A - Lower Division English Composition
☐ 1B - Lower Division Critical Thinking and Composition
☐ 1C - Lower Division Oral Communication
Area 2 (3 units) : Mathematical Concepts and Quantitative Reasoning
☐ Area 2 - Mathematical Concepts and Quantitative Reasoning
Area 3 (6 units): Arts & Humanities - Minimum of two different disciplines as designated by course prefix (e.g., ART, THEA, MUS)
☐ 3A - Arts and Humanities (Arts)
☐ 3B - Arts and Humanities (Humanities)
Area 4 (6 units) : Social and Behavioral Sciences - Minimum of two different disciplines as designated by course prefix (e.g., ANTH, ECON, POSC)
☐ Area 4 - Lower Division Social and Behavioral Sciences
☐ Area 4 - Lower Division Social and Behavioral Sciences
Area 5 (7 units): Physical and Biological Sciences
☐ 5A - Lower Division Physical and Biological Sciences (Physical)
☐ 5B - Lower Division Physical and Biological Sciences (Biological)
☐ 5C - Lower Division Physical and Biological Sciences (Laboratory) -- May be embedded in 5A or 5B course, as long as 7 units met for lower-division Subject Area 5.
Area 6 (3 units): Ethnic Studies
☐ Area 6 - Ethnic Studies
Second Composition : Second Composition (Required as part of 1B for 2025-26 or later catalog)
☐ Second Composition
University Writing Requirement (3-4 units)
☐ UWR
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 1A, 1B, 1C, and Area 2 with a C- (CR)
☐UD- Area 3 - Upper Division Arts or Humanities
☐ UD- Area 4 - Upper Division Social and Behavioral Sciences
☐ UD- Area 5 - Upper Division Science or Mathematical Concepts/Quantitative Reasoning
Overlay Requirements (9 units): Courses may be upper or lower division, and GE or major
☐ 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 three (3) elective courses from the following for 9 units:
MATH 310 - Linear Algebra Theory
MATH 360 - Number Theory Units: 3 (*)
MATH 450 - Combinatorics Units: 3
MATH 497 - Topics in Advanced Mathematics Units: 3
Or any upper-division mathematics course(s) NOT used to fulfill other major requirements, except MATH 318.
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)**

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.