

**Degree: Mathematics, B.S. 26-27**

Requirement Area	Course	Course Title	Prerequisites	Units
<b>First Semester (FALL)</b>				
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
			<b>Total:</b>	15
<b>Second Semester (SPRING)</b>				
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
			<b>Total:</b>	15
<b>Third Semester (FALL)</b>				
Free Elective				3
1B/Second Comp				3
Area 4/Code 2		U.S. Code/Social Science		3
LD Major	MATH 230	Calculus III	MATH 131 with grade C- or better.	3
Free Elective				3
			<b>Total:</b>	15
<b>Fourth Semester (SPRING)</b>				
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
			<b>Total:</b>	15
<b>Fifth Semester (FALL)</b>				
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
			<b>Total:</b>	15
<b>Sixth Semester (SPRING)</b>				
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
			<b>Total:</b>	15
<b>Seventh Semester (FALL)</b>				
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
			<b>Total:</b>	14
<b>Eighth Semester (SPRING)</b>				
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
			<b>Total:</b>	16
<b>Total Units:</b>				120

CSUEB General Breadth and Graduation Requirement Checklist	
<b>Area 1 (9 units): English Communication</b>	
<input type="checkbox"/>	1A - Lower Division English Composition
<input type="checkbox"/>	1B - Lower Division Critical Thinking and Composition
<input type="checkbox"/>	1C - Lower Division Oral Communication
<b>Area 2 (3 units): Mathematical Concepts and Quantitative Reasoning</b>	
<input type="checkbox"/>	Area 2 - Mathematical Concepts and Quantitative Reasoning
<b>Area 3 (6 units): Arts &amp; Humanities - Minimum of two different disciplines as designated by course prefix (e.g., ART, THEA, MUS)</b>	
<input type="checkbox"/>	3A - Arts and Humanities (Arts)
<input type="checkbox"/>	3B - Arts and Humanities (Humanities)
<b>Area 4 (6 units): Social and Behavioral Sciences - Minimum of two different disciplines as designated by course prefix (e.g., ANTH, ECON, POSC)</b>	
<input type="checkbox"/>	Area 4 - Lower Division Social and Behavioral Sciences
<input type="checkbox"/>	Area 4 - Lower Division Social and Behavioral Sciences
<b>Area 5 (7 units): Physical and Biological Sciences</b>	
<input type="checkbox"/>	5A - Lower Division Physical and Biological Sciences (Physical)
<input type="checkbox"/>	5B - Lower Division Physical and Biological Sciences (Biological)
<input type="checkbox"/>	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.
<b>Area 6 (3 units): Ethnic Studies</b>	
<input type="checkbox"/>	Area 6 - Ethnic Studies
<b>Second Composition : Second Composition (Required as part of 1B for 2025-26 or later catalog)</b>	
<input type="checkbox"/>	Second Composition
<b>University Writing Requirement (3-4 units)</b>	
<input type="checkbox"/>	UWR
<b>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 &amp; Local Government).</b>	
<input type="checkbox"/>	Code 1
<input type="checkbox"/>	Code 2
<b>Upper Division GE Requirements (9 units): Should be taken after completion of 1A, 1B, 1C, and Area 2 with a C- (CR)</b>	
<input type="checkbox"/>	UD- Area 3 - Upper Division Arts or Humanities
<input type="checkbox"/>	UD- Area 4 - Upper Division Social and Behavioral Sciences
<input type="checkbox"/>	UD- Area 5 - Upper Division Science or Mathematical Concepts/Quantitative Reasoning
<b>Overlay Requirements (9 units): Courses may be upper or lower division, and GE or major</b>	
<input type="checkbox"/>	Diversity (Div)
<input type="checkbox"/>	Social Justice (SJ)
<input type="checkbox"/>	Sustainability (S)
<b>Applied Mathematics Coursework</b>	
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 (*)	
<b>Theoretical Mathematics Coursework</b>	
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 (*)	
<b>Elective Courses</b>	
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.	
<b>**Students are required to take a minimum of 40 semester units as upper division (includes 9 units upper division GE)</b>	

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.