CSUSB Department of Mathematics
BA in Mathematics Program

BA Requirements	Units (52 – 55)	Quarter Equivalent
Lower Division Requirements	22 – 23 total	
Select one of: CSE 1100 - Critical Thinking through Computer Programming CSE 1250 - Programming Basics CSE 2010 - Computer Science I	3 – 4	CSE 201
MATH 2210 - Calculus I	4	Math 211/212
MATH 2220 - Calculus II	4	Math 212/213
MATH 2265 - Statistics with Applications	3	Math 262
MATH 2270 - Differential Equations with Dynamical Systems I	3	Math 270
MATH 2310 - Applied Linear Algebra	4	Math 251/ 331
MATH 2320 - Multivariable Calculus	4	Math 252
Upper Division Requirements	15 total	
MATH 3100 - Mathematical Thinking: Communication and Proof	4	None
MATH 3329 - Euclidean Geometry with Transformations	3	Math 329
MATH 4300 - Real Analysis	4	Math 553
MATH 4600 - Theory of Rings and Fields	4	Math 546*
Electives	15 total	
Five courses (15 units) selected from the following courses with at least one course from each of Group A, Group B, and Group C. **At least two of the five elective courses must be at the 4000-level or above.**	15-17 total	
Group A		
MATH 3345 - Number Theory MATH 3372 - Combinatorics MATH 3770 - Introduction to Graph Theory		Math 345 Math 372 None
Group B		
MATH 3320 - Mathematical Interest Theory MATH 3460 - Probability Theory MATH 4270 - Differential Equations with Dynamical Systems II MATH 4455 - Partial Differential Equations & Fourier Analysis		Math 320 Math 465 Math 470 Math 570/455
Group C		
MATH 4485 - Differential Geometry MATH 5170 - Complex Analysis MATH 5310 - Advanced Linear Algebra MATH 5529 - Advanced Topics in Geometry MATH 5550 - Introduction to Topology		Math 485 Math 557 Math 531 Math 529 Math 555
Group D		
Math 2900 - Problem Solving and Mathematical Reasoning for Teachers I Math 4900 - Problem Solving and Mathematical Reasoning for Teachers II MATH 3480 - Topics in History of Mathematics MATH 4320 - Introduction to Actuarial Modeling MATH 4360 - Linear Statistical Models MATH 5510 - Topics in Advanced Mathematics MATH 5300 - Advanced Real Analysis MATH 5565 - Mathematical Statistics MATH 5600 - Group Theory MATH 5953 - Independent Study PHIL 3560 - Philosophy of Logic and Mathematics		Math 199/299 Math 399/499 Math 480 None None Math 510 Math 554 Math 565 Math 545 Math 595 Phil 383

*Note 1: Students pursuing a career in education are strongly encouraged to consult a faculty advisor when selecting their elective coursework (Math 3345, Math 3460, Math 2900, and Math 4900 should be included).

*Note 2: Students completing quarter catalog requirements under semesters who need Math 545 should complete Math 4600 to substitute for Math 545. They can then take Math 5600 as an elective. If a student has completed Math 545 on quarters and needs an elective, they can take Math 4600 to substitute for the Math 546 elective.

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