CSUSB Department of Mathematics

BS in Mathematics - General Mathematics Concentration

BS - General Mathematics Concentration Requirements	Units (64 - 67)	Quarter Equivalent
Lower Division Requirements	28 – 31 total	
Select one of the following: 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
In addition to the lower-division CSE requirement, select one 2000-level course from the list on page 2	3 - 5	
Upper Division Requirements	21 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*
MATH 5300 - Advanced Real Analysis	3	Math 554
MATH 5600 - Group theory	3	Math 545
Electives	15 total	
Five courses (15 units) selected from the following with at least one course from each of Group A, Group B, and Group C		
Group A		
MATH 3345 - Number Theory MATH 3372 - Combinatorics MATH 3770 - Introduction to Graph Theory		Math 345 Math 372 None
Group B		
MATH 4270 - Differential Equations with Dynamical Systems II MATH 4455 - Partial Differential Equations & Fourier Analysis		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 3320 - Mathematical Interest Theory MATH 3460 - Probability Theory 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 5565 - Mathematical Statistics MATH 5953 - Independent Study PHIL 3560 - Philosophy of Logic and Mathematics		Math 320 Math 465 Math 480 None None Math 510 Math 565 Math 595 Phil 383

*Note: Students completing quarter 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.

Lower Division Requirements

In addition to the lower-division CSE requirement, select one 2000-level course from the following:

BIOL 2010*, BIOL 2160, BIOL 2170, BIOL 2180, CHEM 2050, CHEM 2070, CHEM 2100, CSE 2010*, ECON 2201, ECON 2202, GEOL 2040, GEOG 2040, GEOG 2249, GEOG 2250, PHIL 2100, PHYS 2000, or PHYS 2500
*Note course has prerequisite(s)