

B.A. Mathematics - Preparation for Secondary Teaching

For students planning to apply to a Single Subject Credential Program to become a secondary school teacher, the following course work satisfies the California Commission on Teacher Credentialing (CTC) requirements for subject matter preparation in Mathematics and San José State University requirements for a B.A. in Mathematics. Minimum Grade Point Average (GPA) criteria may be required for verification of subject matter competency. Completion of the program will not guarantee admission to the credential program. Like all other applicants, students must meet credential program standards and undergo screening for admission. See "Teaching: How to Become a Teacher in California" (University Catalog, page 492) for information on application and admission to credential programs.

Support Courses (13-15 units)

One year of calculus-based physics.....	General Physics
Math 100W.....	Technical Writing Workshop
Math 50.....	Scientific Computing I
or Math 109.....	Mathematical Software
or Math 167.....	Programming in SAS
or CS 46A.....	Computer Science I
or CS 49C.....	Programming in C
or CS 49J.....	Programming in Java

Lower Division Core (13-15 units)

Math 30 or 30P.....	Calculus I
Math 31.....	Calculus II
Math 32.....	Calculus III
Math 42.....	Discrete Math

Upper Division Core (18 - 21 units)

Math 104.....	History of Math
Math 108.....	Intro to Proofs
Math 115.....	Modern Geometry & Transformations
Math 128A.....	Abstract Algebra I
Math 129A.....	Linear Algebra I
Math 131A.....	Intro to Analysis
Math 201A*.....	Math for Secondary Teachers

Additional Upper Division Requirements (15 units)

Math 126.....	Theory of Numbers
or 201B.....	Math for Secondary Teachers
Math 161A.....	Applied Statistics I
Math 161B.....	Applied Statistics II
Math 128B.....	Abstract Algebra II
or 129B.....	Linear Algebra II
or 131B.....	Intro to Real Variables
or 175.....	Intro to Topology
Math 133A.....	Ordinary Differential Equations
or 142.....	Intro to Combinatorics
or 143C.....	Numerical Analysis & Scientific Computing
or 143M.....	Numerical Analysis & Scientific Computing
or 177.....	Linear & Non-Linear Optimization
or 178.....	Mathematical Modeling

*Math 201A is not required for the BA Math degree, but taking Math 201A before graduating is strongly recommended for those planning on entering the credential program. If Math 201A is not taken before beginning the credential program, then passing the CSET Mathematics I, II, and III exams will be required to demonstrate subject matter competency before you can enter the credential program.

Total units required for degree.....120

Notes

1. To enroll in a mathematics course, a student must have obtained a **C-** or better in each of its prerequisite courses. A grade of **C-** or better is required in all courses counted toward the major.
2. Transfer students should see an advisor to file a course equivalency form for courses being used to satisfy the math major. This major requires 33 units of upper division math. All courses taken at a community college transfer to SJSU as lower division units. If linear algebra and/or differential equations were taken at a community college, then additional approved upper division math courses will be needed to obtain the required 33 units of upper division math. Math 101, 105, 106, 107A, 107B, 110L, and certain Math 196 courses cannot be used.
3. BA Mathematics majors only need to take a life science course to complete GE Area B - Science and Mathematical Concepts.
4. Students are expected to consult the SJSU Catalog for course descriptions, prerequisites, restrictions on enrollments for credit, and other university policies.
5. If a student wishes to pursue this degree but is not enrolled in this major, the student must submit a Change of Major Form with the Department Office (MH 308). The approved form must then be filed with the Student Services Center.
6. Students planning to pursue a teaching credential should consult the website <http://www.sjsu.edu/secondaryed/>. In particular, use the quick link to see the Applicant Requirements. Students who wish to complete or have completed another major and plan to obtain a teaching credential should consult with a Mathematics Department advisor who specializes in teacher preparation to determine requirements for Single Subject Matter competency certification in Mathematics.

For More Information
Department of Mathematics
San Jose State University
One Washington Square
San Jose, CA 95192-0103
www.sjsu.edu/math/

Sample Program for BA Mathematics – Preparation for Teaching

Freshman Year

Fall	Units	Spring	Units
GE Area E or MUSE	3	Math 31	4
GE A2 English 1A *	3	Math 42	3
GE A3 Philosophy 57 (rec.)	3	GE C3 English 1B	3
GE B4 Math 30 or 30P/30W *+	3 – 6	GE B2 Life Science	3
Physical Education	1	GE A1 Oral Communication	3
	————		————
	13-16		16

Sophomore Year

Fall	Units	Spring	Units
Math 32	3	Math 131A	3
Math 108	3	Math 50 or Math 109 or Math 167 ⁺⁺	2 – 4
Math 129A	3	or CS 46A or CS 49C or CS 49J	
GE B1 & B3 Physics 50	4	Physics 51 or 52	4
GE Areas D2 & F	3	GE Area C1	3
	————	GE Areas D3 & F	3
	16		————
			15-17

Junior Year

Fall	Units	Spring	Units
Math 128A	3	Math 128B, 129B, 131B ^{**} or 175 [‡]	3
Math 115	3	Math 133A, 142, 143C, 143M ^{**} ,	3
GE Area C2	3	177 [‡] , or 178	
GE Area D1	3	GE Area Z Math 100W *	3
Free elective	3	Physical Education	1
	————	Free elective	3
	15		————
			13

Senior Year

Fall	Units	Spring	Units
Math 104	3	Math 161B	3
Math 161A	3	Math 126 ^{**} or 201B	3
Math 201A or Free Elective	3	GE Area S	3
GE Area R	3	GE Area V	3
Free elective	3	Free electives	1 – 5
	————		————
	15		12-17

* Requires a placement exam. See the Schedule of Classes for test dates and further explanation.

+ Requires satisfaction of the ELM requirement.

++ Math 161A is a prerequisite for Math 167. Math 167 is offered only in the fall.

‡ Only offered alternate Fall semesters and therefore would need to be taken during a Fall semester.

** Offered only in the Fall semester.