

MINOR IN STATISTICS



SACRAMENTO STATE

In Workflow

1. MATH Committee Chair (vincent.pigno@csus.edu)
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Approval Path

1. 2025-09-24T17:10:56Z
Vincent Pigno (vincent.pigno): Rollback to Initiator
2. 2025-10-08T15:20:35Z
Vincent Pigno (vincent.pigno): Approved for MATH Committee Chair
3. 2025-10-08T16:32:18Z
Kimberly Elce (kelce): Approved for MATH Chair
4. 2025-10-15T22:53:55Z
Mikkel Jensen (mikkel.jensen): Approved for NSM College Committee Chair
5. 2025-10-15T23:24:32Z
Chris Taylor (ctaylor): Approved for NSM Dean

History

1. May 1, 2018 by clmig-jwehrheim

Date Submitted: 2025-10-02T20:49:20Z

Viewing: Minor in Statistics

Last approved: Tue, 01 May 2018 13:52:57 GMT

Last edit: 2025-10-02T20:49:19Z

Changes proposed by: Kimberly Elce (101052896)

Academic Group: (College)

Natural Sciences & Mathematics

Academic Organization: (Department)

Mathematics & Statistics

Catalog Year Effective:

2020-2021 Catalog

Individual(s) primarily responsible for drafting the proposed degree major program:

Name (First Last)	Email	Phone 999-999-9999
Kimberly Elce	kelce@csus.edu	916-278-5641

Type of Program:

Minor

Program Change Type:

Substantive

Delivery Format:

Fully Face to Face

Title of the Program:

Minor in Statistics

Designation: (degree terminology)

Minor

Briefly describe the program proposal (new or change) and provide a justification:

The upper division required courses have been edited to provide students with data analysis experience. In addition, the requirement of both Math 32 and (Stat 50 or Stat 1) has been added, rather than selecting only one of Math 32 or Stat 50. It has become clear that prior exposure to multivariable calculus (Math 32 content) greatly enhances student success in upper division statistics courses. Moreover in real world applications, more than one variable is the norm, so a statistics minor should have exposure to that. This change ensures lower division exposure to both statistics AND multivariable calculus, while also allowing some flexibility in the statistics choice.

University Learning Goals**Undergraduate Learning Goals:**

Competence in the disciplines

Program Learning Outcomes**Program Learning Outcomes****Learning Outcome**

Apply fundamental techniques of mathematical statistics by solving problems in probability, estimation, and inference.

Communicate statistical results in written reports using professional technology, data visualizations, or mathematical arguments.

Critically evaluate raw data and transform it into a form that's appropriate for statistical analysis using professional technology.

Learning Outcomes Display

Course Code	PLO 1	PLO 2	PLO 3
MATH 30			
MATH 31			
MATH 32			
STAT 50			
STAT 1			
STAT 115A			
STAT 128			
STAT 129			
STAT 115B			
STAT 140A			
STAT 140B			
STAT 155			
MATH 100			

MATH 101			
MATH 108			
MATH 110A			
MATH 117			
MATH 130A			
MATH 150			
MATH 170			

Will this program be required as part of a teaching credential program, a single subject, or multiple subject waiver program (e.g., Liberal Studies, Biology) or other school personnel preparation program (e.g., School of Nursing)?

No

Please attach a Comprehensive Program Assessment Plan

StatMinorAssessmentPlan.xlsx

Please attach a Curriculum Map Matrix

StatMinorCurrMap.xlsx

Please attach a five-year budget projection

BudgetNeedsStatMinor.docx

Catalog Description:

Units required for Minor: 24-25

Program Description

Statistics is the science and art of creating meaning from data. The statistics minor provides students with a foundation in the theory, methods, and applications of statistical analysis. Students will analyze real world data sets, model complex phenomena, use professional software, and produce a portfolio of meaningful projects. Graduates will have the skills and knowledge to succeed in a data-driven world.

Admission Requirements: Course prerequisites and other criteria for admission of students to the degree major program, and for their continuation in it.

Minimum Grade Requirements

- Prerequisites must be completed with grade of "C-" or better.
- Grade of "C-" or better is required in all courses applied to the Statistics minor.

As defined by policy <http://www.csus.edu/umannual/acadaff/fsm00010.htm>, a change in units constitutes a substantive change to the program. If your changes constitute a substantive change, please refer back to the "Program Change Type" field above to ensure that "Substantive" is selected.

Program Requirements: (If new courses are being created as part of a new program, it will be useful to propose courses first.)

Program Requirements

Code	Title	Units
MATH 30	Calculus I	4
MATH 31	Calculus II	4
MATH 32	Calculus III	4
STAT 50 or STAT 1	Introduction to Probability and Statistics (preferred) Introduction to Statistics	4 - 3
STAT 115A	Introduction to Probability Theory	3
STAT 128 or STAT 129	Statistical Computing Analyzing and Processing Big Data	3
Select one of the following.		3
STAT 115B	Introduction to Mathematical Statistics	
STAT 129 or STAT 128	Analyzing and Processing Big Data Statistical Computing	
STAT 140A	Linear Models	

STAT 140B	Statistical Learning
STAT 155	Introduction to Techniques of Operations Research
MATH 100	Applied Linear Algebra
MATH 101	Combinatorics
MATH 108	Introduction to Formal Mathematics
MATH 110A	Modern Algebra
MATH 117	Linear Algebra
MATH 130A	Functions of a Real Variable
MATH 150	Introduction to Numerical Analysis
MATH 152	Computational Linear Algebra
MATH 170	Linear Programming

Total Units**25-24**

Students that are majoring in mathematics with a statistics emphasis may not obtain a statistics minor.

Fiscal Impact to Change an Existing Program

Indicate programmatic or fiscal impact which this change will have on other academic units' programs, and describe the consultation that has occurred with affected units:

No programmatic impact expected. These courses are already offered in the department.

Provide a fiscal analysis of the proposed changes:

No fiscal impact expected. These courses are already offered in the department.

How will the above changes be accommodated within the department/College existing fiscal resources?

No changes are expected.

Will the proposed changes require additional resources?

No

What additional space, equipment, operating expenses, library, computer, or media resources, clerical/technical support, or other resources will be needed?

None.

Estimate the cost and indicate how these resource needs will be accommodated:

n/a

Reviewer Comments:

Vincent Pigno (vincent.pigno) (Wed, 24 Sep 2025 17:10:56 GMT): Rollback: Adjustment to the course description.

Key: 316