

# MINOR IN DATA SCIENCE

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## SACRAMENTO STATE

### In Workflow

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### Approval Path

1. 2026-02-26T00:15:33Z  
Vincent Pigno (vincent.pigno): Approved for MATH Committee Chair
2. 2026-02-26T00:27:00Z  
Kimberly Elce (kelce): Approved for MATH Chair
3. 2026-03-04T23:56:12Z  
Mikkel Jensen (mikkel.jensen): Approved for NSM College Committee Chair
4. 2026-03-05T00:03:28Z  
Chris Taylor (ctaylor): Approved for NSM Dean

### New Program Proposal

Date Submitted: 2026-02-25T23:32:39Z

### Viewing: Minor in Data Science

Last edit: 2026-02-25T23:32:38Z

Changes proposed by: Gabriel Martins (223005419)

#### Academic Group: (College)

Natural Sciences & Mathematics

#### Academic Organization: (Department)

Mathematics & Statistics

#### Catalog Year Effective:

2026-2027 Catalog

NOTE: This degree major program will be subject to program review evaluation within six years after implementation.

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

Name (First Last)	Email	Phone 999-999-9999
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**Type of Program:**

Minor

**Is this a pilot program?**

No

**Delivery Format:**

Fully Face to Face

**Title of the Program:**

Minor in Data Science

**Designation: (degree terminology)**

Minor

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

The rapid growth of data across all sectors has created a strong and sustained demand for graduates with data science skills. This minor responds to workforce needs by equipping students with core competencies in data analysis, statistical modeling, computational thinking, and data-driven decision-making.

The proposed Data Science Minor leverages existing courses in Mathematics, Statistics, and Computer Science, making it a cost-effective and timely addition to the curriculum. It provides students—particularly those in non-technical majors—with structured access to data science training without requiring a full major.

By focusing on real-world data, communication of results to non-technical audiences, and independent problem formulation, the minor supports institutional goals related to career readiness, interdisciplinary learning, and quantitative literacy. The program also serves as a pathway for students interested in graduate study or careers in data science, analytics, and related fields.

This program will provide an opportunity for CSU students who wouldn't otherwise have access to a data science program in the Sacramento Area.

**University Learning Goals****Undergraduate Learning Goals:**

Competence in the disciplines  
Intellectual and practical skills

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

Analyze and visualize real-world datasets in multiple formats, including tabular, text, and hierarchical data.

Communicate analytical results through professional-quality reports and visualizations for both technical and non-technical audiences.

Formulate data-driven, client-specific questions, and justify decisions effectively and ethically using quantitative evidence and logical reasoning.

Implement data analysis workflows using professional-grade programming languages and software, for example, R, Python, and SQL.

**Learning Outcomes Display**

Course Code	PLO 1	PLO 2	PLO 3	PLO 4
MATH 30				
STAT 50				
MATH 64				
CSC 20				

STAT 128				
STAT 129				

**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**

Minor-NotApplicable.txt

**Please attach a Curriculum Map Matrix**

Data-Science-Minor-2026-Program-Matrix.xlsx

**Please attach a five-year budget projection**

Minor-NotApplicable.txt

**Catalog Description:**

The Data Science Minor provides students with a structured introduction to data analysis, statistical reasoning, and computational methods used to extract insight from data. The program consists of 17 units, combining lower-division coursework in calculus, introductory statistics, and programming with upper-division coursework in statistical computing and professional technologies for data analysis.

Students in the program develop practical skills in analyzing, visualizing, and interpreting real-world datasets across multiple formats. Emphasis is placed on implementing data analysis workflows using professional programming languages, and applying existing software libraries for statistical modeling and machine learning. Coursework includes hands-on projects that develop students' ability to communicate data-driven findings to a wide variety of audiences.

The Data Science Minor is designed to complement a wide range of majors and prepares students to apply data science techniques ethically and effectively in academic and professional settings.

**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
<b>Lower Division Core Courses (11 Units)</b>		
MATH 30	Calculus I	4
STAT 50	Introduction to Probability and Statistics	4
Select one of the following:		3
MATH 64	Mathematical Programming	
CSC 20	Programming Concepts and Methodology II	
<b>Upper Division Core Courses (6 Units)</b>		
STAT 128	Statistical Computing	3
STAT 129	Analyzing and Processing Big Data	3
<b>Total Units</b>		<b>17</b>

**For graduate programs, the number of declared undergraduate major and the degree production over the preceding years of the corresponding baccalaureate program:**

Not applicable

**Professional uses of the proposed degree major program:**

Not applicable

Key: 630