STAT 50: PROBABILITY AND STATISTICS

In Workflow

1. MATH Committee Chair (ricciotti@csus.edu)
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9. Registrar's Office (k.mcfarland@csus.edu)
10. PeopleSoft (PeopleSoft@csus.edu)

Approval Path

1. 2026-10-06T02:33:29Z
   Vincent Pigno (vincent.pigno): Approved for MATH Committee Chair
2. 2026-10-06T03:18:28Z
   Kimberly Elce (kelce): Approved for MATH Chair
3. 2026-10-08T01:14:15Z
   Mikkel Jensen (mikkel.jensen): Approved for NSM College Committee Chair
4. 2026-10-08T15:32:16Z
   Chris Taylor (ctaylor): Approved for NSM Dean

History

1. Apr 14, 2026 by Janett Torset (torsetj)

Date Submitted: 2026-10-05T22:04:35Z

Viewing: STAT 50 : Probability and Statistics

Last approved: 2026-04-14T14:01:37Z

Last edit: 2026-10-05T22:04:34Z

Changes proposed by: Clark Fitzgerald (223005263)

Contact(s):

Name (First Last)	Email	Phone 999-999-9999
Clark Fitzgerald	fitzgerald@csus.edu	(916) 278-4748

Catalog Title:
Probability and Statistics

Class Schedule Title:
Probability and Statistics

Academic Group: (College)
NSM - Natural Sciences & Mathematics

Academic Organization: (Department)
Mathematics & Statistics

Will this course be offered through the College of Continuing Education (CCE)?
No

Catalog Year Effective:
Spring 2027 (2026/2027 Catalog)

Subject Area: (prefix)
STAT - Statistics

Catalog Number: (course number)
50

Course ID: (For administrative use only.)
172681

Units:
4

Is the ONLY purpose of this change to update the term typically offered or the enforcement of existing requisites at registration?
No

In what term(s) will this course typically be offered?
Fall, Spring, Summer

Does this course require a room for its final exam?
Yes, final exam requires a room

This course complies with the credit hour policy:
Yes

Justification for course proposal:
This proposed change strengthens the prerequisite from MATH 30 (Calculus 1) to MATH 31 (Calculus 2), which may be taken concurrently. In MATH 31 students will learn the integration techniques required for calculations with probability density functions.

The Statistics BS and Statistics Minor are the two programs that require STAT 50, and both of these programs already require MATH 31, so no program change is necessary.

Course Description: (Not to exceed 90 words and language should conform to catalog copy.)
Probability, counting, Bayes theorem; discrete and continuous random variables; expectation, variance, and covariance; binomial, Poisson, negative binomial, hypergeometric, exponential, normal, uniform and t distributions; inference, confidence intervals, hypothesis tests, simulation and interpretation; descriptive statistics and graphics using technology.

Are one or more field trips required with this course?
No

Fee Course?
No

Is this course designated as Service Learning?
No

Is this course designated as Curricular Community Engaged Learning?
No

Does this course require safety training?
No

Does this course require personal protective equipment (PPE)?
No

Does this course have prerequisites?
Yes

Prerequisite:
MATH 31 (can be taken concurrently)

Prerequisites Enforced at Registration?
Yes

Does this course have corequisites?
No

Graded:
Letter

Approval required for enrollment?
No Approval Required

Course Component(s) and Classification(s):
Lecture

Lecture Classification
CS#02 - Lecture/Discussion (K-factor=1WTU per unit)
Lecture Units
4

Is this a paired course?
No

Is this course crosslisted?
No

Can this course be repeated for credit?
No

Can the course be taken for credit more than once during the same term?
No

Description of the Expected Learning Outcomes and Assessment Strategies:

List the Expected Learning Outcomes and their accompanying Assessment Strategies (e.g., portfolios, examinations, performances, pre-and post-tests, conferences with students, student papers). Click the plus sign to add a new row.

	Expected Learning Outcome	Assessment Strategies
1	Interpret data through summary statistics, scatterplots, histograms, boxplots, bar charts, simulation, and computation using professional statistical software such as R.	Assignments, quizzes, and exams
2	Solve probability problems by applying the axioms, definitions, basic theorems, conditional probability, counting techniques, and Bayes theorem.	Assignments, quizzes, and exams
3	Calculate expected values, probabilities, quantiles, standard deviation, and cumulative distribution functions for discrete and continuous random variables directly from a probability mass/ density function.	Assignments, quizzes, and exams
4	Determine marginal distributions, covariance, and correlation from joint discrete probability mass functions.	Assignments, quizzes, and exams
5	Solve applied problems by identifying and checking the assumptions behind common distributions including the binomial, exponential, hypergeometric, Poisson, negative binomial, normal, t, and uniform distributions	Assignments, quizzes, and exams
6	Use technology, standard notation, and formulas to calculate expected values, probabilities, and quantiles for common distributions.	Assignments, quizzes, and exams
7	Apply the central limit theorem to sampling distributions to construct confidence intervals and perform hypothesis tests for proportions and means.	Assignments, quizzes, and exams

Is this course required in a degree program (major, minor, graduate degree, certificate?)
Yes

Has a corresponding Program Change been submitted to Workflow?
No

Identify the program(s) in which this course is required:

Programs:
BS in Statistics
Minor in Statistics

Does the proposed change or addition cause a significant increase in the use of College or University resources (lab room, computer)?

No

Will there be any departments affected by this proposed course?

Yes

Indicate which department(s) will be affected by the proposed course:

Department(s)
Computer Science
Physics

Attach evidence of consultation with the affected department

RE_ Department consultation- revising STAT 50 - Fitzgerald, Clark - Outlook.pdf

I/we as the author(s) of this course proposal agree to provide a new or updated accessibility checklist to the Dean's office prior to the semester when this course is taught utilizing the changes proposed here.

I/we agree

University Learning Goals

Undergraduate Learning Goals:

Competence in the disciplines
Intellectual and practical skills

Is this course 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

Is this a General Education (GE) or Graduation Requirement (GR) course or is it being considered for GE/GR?

Is this a General Education (GE) course or is it being considered for GE?

No

Please attach any additional files not requested above:

stat50-2026-09-29.pdf

Key: 4337