Articulation Agreement by Major

Effective during the 2022-2023 Academic Year

To: University of California, Santa Cruz 2022-2023 General Catalog, Quarter	From: De Anza College 2022-2023 General Catalog, Quarter

Statistics Minor

GENERAL INFORMATION FOR ALL MINORS

UC Santa Cruz students have the option to complete one or more minors, provided they complete all of the required coursework for the minor(s). The sponsoring department establishes the course requirements for a minor. The minor involves substantial work in the discipline and requires no fewer than 25 upper-division or graduate credits. The minor appears on the student's official transcript but not on the diploma.

Students do not apply for admission into a minor when applying to UC Santa Cruz. If interested in completing a minor, transfer students must contact the department sponsoring the minor after enrolling at UCSC.

STATISTICS MINOR

The statistics minor is available for students who wish to gain a quantitative understanding of how to (a) measure uncertainty and (b) make good decisions on the basis of incomplete or imperfect information, and to apply these skills to their interests in another field. This minor could also be combined with a major in mathematics as preparation for a graduate degree in statistics or biostatistics.

Please visit the department's website for more information about this minor: https://engineering.ucsc.edu/departments/statistics

PREPARATION FOR THE MINOR

One of the following calculus sequences:

AM 11A/ECON 11A: Mathematical Methods for Economists I **AND**

AM 11B/ECON 11B: Mathematical Methods for Economists II

OR

MATH 11A: Calculus with Applications **AND**

MATH 11B: Calculus with Applications

OR

MATH 19A: Calculus for Science, Engineering, and Mathematics **AND**

MATH 19B: Calculus for Science, Engineering, and Mathematics

Plus one course from each of the following four categories:

Statistical Concepts:

STAT 5: Statistics **OR**

STAT 7: Statistical Methods for the Biological, Environmental, and Health Sciences **AND** STAT 7L: Statistical Methods for the Biological, Environmental, and Health Sciences

Computer Programming:

CSE 20: Beginning Programming in Python **OR**

CSE 30: Programming Abstractions: Python

Linear Algebra:

AM 10: Mathematical Methods for Engineers I **OR**

MATH 21: Linear Algebra

Multivariate Calculus:

MATH 22: Introduction to Calculus of Several Variables **OR**

AM 30: Multivariate Calculus for Engineers **OR**

MATH 23A: Vector Calculus **AND** MATH 23B: Vector Calculus

PREPARATION FOR THE MINOR

Select 1 Sequence(s) from the following

AM 11A - Mathematical Methods for Economists I (5.00)
Same-As: ECON 11A
← **MATH 12** - Introductory Calculus for Business and Social Science (5.00)

--- And ---

AM 11B - Mathematical Methods for Economists II (5.00)
Same-As: ECON 11B
← No Course Articulated

--- Or ---

MATH 11A - Calculus with Applications (5.00)
← **MATH 1A** - Calculus (5.00)
--- Or ---
MATH 1AH - Calculus - HONORS (5.00)

--- And ---

MATH 11B - Calculus with Applications (5.00)
←
MATH 1B - Calculus (5.00)
--- And ---
MATH 1C - Calculus (5.00)

--- Or ---

MATH 1BH - Calculus - HONORS (5.00)
--- And ---
MATH 1CH - Calculus - HONORS (5.00)

--- Or ---

MATH 19A - Calculus for Science, Engineering, and Mathematics (5.00)
← **MATH 1A** - Calculus (5.00)
--- Or ---
MATH 1AH - Calculus - HONORS (5.00)

--- And ---

MATH 19B - Calculus for Science, Engineering, and Mathematics (5.00)
←
MATH 1B - Calculus (5.00)
--- And ---
MATH 1C - Calculus (5.00)

--- Or ---

MATH 1BH - Calculus - HONORS (5.00)
--- And ---
MATH 1CH - Calculus - HONORS (5.00)

Select 1 Course or Combination from the following

STAT 5 - Statistics (5.00)
← **MATH 10** - Introductory Statistics (5.00)
--- Or ---
MATH 10H - Introductory Statistics - HONORS (5.00)
--- Or ---
PSYC 15 - Statistics and Research Methods in Social Science (4.00)
Same-As: SOC 15
--- Or ---
SOC 15 - Statistics and Research Methods in Social Science (4.00)
Same-As: PSYC 15

--- Or ---

STAT 7 - Statistical Methods for the Biological, Environmental, and Health Sciences (5.00)
← No Course Articulated

--- And ---

STAT 7L - Statistical Methods for the Biological, Environmental, and Health Sciences Laboratory (2.00)
← No Course Articulated

Select 1 Course from the following

CSE 20 - Beginning Programming in Python (5.00) ← **CIS 40** - Introduction to Programming in Python (4.50)

--- Or ---

CIS 41A - Python Programming (4.50)

--- Or ---

CSE 30 - Programming Abstractions: Python (7.00) ← **CIS 22C** - Data Abstraction and Structures (4.50)

- *Minimum grade required: B or better*

--- Or ---

CIS 22CH - Data Abstraction and Structures - HONORS (4.50)

- *Minimum grade required: B or better*

Select 1 Course from the following

AM 10 - Mathematical Methods for Engineers I (5.00) ← **MATH 2B** - Linear Algebra (5.00)

--- Or ---

MATH 2BH - Linear Algebra - HONORS (5.00)

--- Or ---

MATH 21 - Linear Algebra (5.00) ← **MATH 2B** - Linear Algebra (5.00)

--- Or ---

MATH 2BH - Linear Algebra - HONORS (5.00)

Select 1 Course or Combination from the following

MATH 22 - Introduction to Calculus of Several Variables (5.00) ←

MATH 1C - Calculus (5.00)

--- And ---

MATH 1D - Calculus (5.00)

--- Or ---

MATH 1CH - Calculus - HONORS (5.00)

--- And ---

MATH 1DH - Calculus - HONORS (5.00)

--- Or ---

AM 30 - Multivariate Calculus for Engineers (5.00) ← **MATH 1D** - Calculus (5.00)

--- Or ---

MATH 1DH - Calculus - HONORS (5.00)

--- Or ---

MATH 23A - Vector Calculus (5.00) ← **MATH 1D** - Calculus (5.00)

--- Or ---

MATH 1DH - Calculus - HONORS (5.00)

--- And ---

MATH 23B - Vector Calculus (5.00) ← **MATH 1D** - Calculus (5.00)

--- Or ---

MATH 1DH - Calculus - HONORS (5.00)

END OF AGREEMENT