Articulation Agreement by Major

Effective during the 2022-2023 Academic Year

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

Data Science B.S.

GENERAL INFORMATION

DATED MATERIAL, SUBJECT TO CHANGE. PLEASE CONSULT CURRENT UCSD GENERAL CATALOG FOR ANY ADDITIONAL INFORMATION.

Effective Fall 2021, transfer major preparation will be required for this major. or details, visit: http://admissions.ucsd.edu/MajorPrep.

Special Advising Note:
Transfer students are strongly advised to complete as many preparatory courses as soon as possible for their major before enrolling at UC San Diego. Preparing well for the major helps students move efficiently toward graduation.

Data Science Major Requirements

The major consists of 112 units with fifty-two units from lower-division courses and sixty units from upper-division courses. The lower-division curriculum includes calculus and linear algebra courses for sixteen units, data science courses for twenty-eight units, and subject domain courses for eight units. The program includes twenty units of elective courses that will enable students to embark upon an in-depth exploration of one or more areas in which data science can profitably be applied. Alternatively, students can choose to explore the mathematical, statistical, and computational foundations of data science in even greater depth.

All majors will be required to undertake a senior project that will give them an opportunity to creatively synthesize much of what they have learned in the data science courses for addressing problems in chosen domains.

Lower-division requirements (52 units)

All lower-division courses must be taken for a letter grade. A minimum grade of C- is required.

- Mathematics (16 units): Math 18 , Math 20A, Math 20B, Math 20C
- Data Science (28 units):
  - COGS 9: Introduction to Data Science
  - DSC 10: Principles of Data Science
  - DSC 20: Algorithms, Programming and Data Structures for Data Science I
  - DSC 30: Algorithms, Programming and Data Structures for Data Science II
  - DSC 40A: Theoretical Foundations of Data Science I
  - DSC 40B: Theoretical Foundations of Data Science II
  - DSC 80: The Practice and Application of Data Science
- Subject Domain Courses (8 units): Students must choose one of the following two-course sequences (8 units)
  - Business Analytics and Econometrics: ECON 1 and ECON 3
  - Machine Learning and Artificial Intelligence: COGS 14A-B
  - Science: BILD 1 and BILD 3
  - Social Sciences: (POLI 5 and POLI 30) or (SOCI 60 and USP 4)

UC San Diego Advanced Placement (AP) and International Baccalaureate (IB) credit policies are detailed in the links below:

Advanced Placement (AP) https://www.ucsd.edu/catalog/pdf/APC-chart.pdf

International Baccalaureate (IB) https://catalog.ucsd.edu/_files/international-baccalaureate-credits-chart.pdf

LOWER DIVISION REQUIREMENTS

MATH 18 - Linear Algebra (4.00)	←	**MATH 2B** - Linear Algebra (5.00) **--- Or ---** **MATH 2BH** - Linear Algebra - HONORS (5.00)
MATH 20A - Calculus for Science and Engineering (4.00)	←	**MATH 1A** - Calculus (5.00) **--- Or ---** **MATH 1AH** - Calculus - HONORS (5.00)
MATH 20B - Calculus for Science and Engineering (4.00)	←	**MATH 1B** - Calculus (5.00) **--- Or ---** **MATH 1BH** - Calculus - HONORS (5.00)
MATH 20C - Calculus and Analytic Geometry for Science and Engineering (4.00)	←	**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)

COGS 9 - Introduction to Data Science (4.00)	←	No Course Articulated
DSC 10 - Principles of Data Science (4.00)	←	No Course Articulated
DSC 20 - Programming and Basic Data Structures for Data Science (4.00)	←	No Course Articulated
DSC 30 - Data Structures and Algorithms for Data Science (4.00)	←	No Course Articulated
DSC 40A - Theoretical Foundations of Data Science I (4.00)	←	No Course Articulated
DSC 40B - Theoretical Foundations of Data Science II (4.00)	←	No Course Articulated
DSC 80 - The Practice and Application of Data Science (4.00)	←	No Course Articulated

STUDENTS MUST CHOOSE ONE OF THE FOLLOWING TWO-COURSE SEQUENCES (EIGHT UNITS)

BILD 1 - The Cell (4.00)	←	**BIOL 6A** - Form and Function in the Biological World (6.00) **--- And ---** **BIOL 6B** - Cell and Molecular Biology (6.00) **--- And ---** **BIOL 6C** - Ecology and Evolution (6.00) **--- Or ---** **BIOL 6AH** - Form and Function in the Biological World - HONORS (6.00) **--- And ---** **BIOL 6B** - Cell and Molecular Biology (6.00) **--- And ---** **BIOL 6CH** - Ecology and Evolution - HONORS (6.00)

BILD 3 - Organismic and Evolutionary Biology (4.00)	←	**BIOL 6A** - Form and Function in the Biological World (6.00) **--- And ---** **BIOL 6B** - Cell and Molecular Biology (6.00) **--- And ---** **BIOL 6C** - Ecology and Evolution (6.00) **--- Or ---** **BIOL 6AH** - Form and Function in the Biological World - HONORS (6.00) **--- And ---** **BIOL 6B** - Cell and Molecular Biology (6.00) **--- And ---** **BIOL 6CH** - Ecology and Evolution - HONORS (6.00)

--- Or ---

ECON 1 - Principles of Microeconomics (4.00)	←	**ECON 2** - Principles of Microeconomics (4.00) **--- Or ---** **ECON 2H** - Principles of Microeconomics - HONORS (4.00)
ECON 3 - Principles of Macroeconomics (4.00)	←	**ECON 1** - Principles of Macroeconomics (4.00) **--- Or ---** **ECON 1H** - Principles of Macroeconomics - HONORS (4.00)

--- Or ---

COGS 14A - Introduction to Research Methods (4.00)	←	**PSYC 2** - Research Methods in Psychology (6.00)
COGS 14B - Introduction to Statistical Analysis (4.00)	←	**MATH 10** - Introductory Statistics (5.00) **--- Or ---** **PSYC 15** - Statistics and Research Methods in Social Science (4.00) Same-As: SOC 15

--- Or ---

POLI 5 - Data Analytics for the Social Sciences (4.00)	←	This course must be taken at the university after transfer
POLI 30 - Political Inquiry (4.00)	←	This course must be taken at the university after transfer

--- Or ---

SOCI 60 - Practice of Social Research (4.00)	←	**SOC 14** - The Process of Social Research (4.00)
USP 4 - – Introduction to Geographic Information Systems (4.00)	←	No Course Articulated

END OF AGREEMENT