Articulation Agreement by Major

Effective during the 2022-2023 Academic Year

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

Data Science, B.S.

GENERAL INFORMATION

Admission to the Donald Bren School of Information and Computer Science is highly competitive. The most important selection criteria are completion of the required preparatory courses and academic performance. *This major does not participate in the TAG program.*

Required for admission:

Students must have a cumulative GPA of 3.0 and grade of B or higher in all required courses below:

- **One year of computer programming courses* in a single object–language (Python, Java, or C++). Object-oriented programming language courses that do not directly articulate to I&C SCI 31-33 can be used to satisfy the admissions requirements. Introduction to computer science courses do not meet this requirement.**
- Two semesters/two quarters of approved first-year Calculus
- One course equivalent to UCI's Stats 7
- One additional approved transferable course for the major (an approved Math or CS course – see below)

Additional Approved Courses:

- One course in advanced data structures
- One course in machine organization and assembly language (both topics must be covered)
- One course in software engineering
- One course in discrete mathematics
- One course in Boolean algebra
- One course in linear algebra
- One course in multivariable calculus

***NOTE:** Additional computer science and statistics courses beyond the two required are strongly recommended, particularly those that align with the major of interest. Our first year of object-oriented programming is taught in Python. C++ and Java are used extensively in the curriculum; therefore, transfer students should plan to learn it by studying on their own or by completing related programming courses prior to their first quarter at UCI.

Courses in Visual Basic, C, and C# are not approved preparation for this major.

Additional courses beyond those required for admission must be taken to fulfill the lower-division degree requirements, as many are prerequisites for upper-division courses. For some transfer students, this may mean that it will take longer than two years to complete their degree.

Students should have I&C SCI 31-33 credit first in order to move further into the program here at UCI.

In fulfillment of the requirements below, a single course may be used only once.

For information regarding the AP and IB examination credit policies refer to the UCI General Catalogue.

MAJOR PREPARATION COURSES REQUIRED FOR TRANSFER

I&C SCI 31 - Introduction to Programming (4.00) **--- And ---** **I&C SCI 32** - Programming with Software Libraries (4.00) **--- And ---** **I&C SCI 33** - Intermediate Programming (4.00) • *Please refer to additional important General Information section above*	←	**CIS 40** - Introduction to Programming in Python (4.50) **--- And ---** **CIS 41A** - Python Programming (4.50) **--- And ---** **CIS 41B** - Advanced Python Programming (4.50)
MATH 2A - Single-Variable Calculus (4.00)	←	**MATH 1A** - Calculus (5.00) **--- Or ---** **MATH 1AH** - Calculus - HONORS (5.00)
MATH 2B - Single-Variable Calculus (4.00)	←	**MATH 1B** - Calculus (5.00) **--- Or ---** **MATH 1BH** - Calculus - HONORS (5.00)

STATS 7 - Basic Statistics (4.00)	←	**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
One additional approved transferable course for the major (an approved Math, Science, or CSE course): • *Please refer to additional important General Information section above*	←	No Course Articulated

ADDITIONAL APPROVED COURSES FOR THE MAJOR

MATH 3A - Introduction to Linear Algebra (4.00)	←	**MATH 2B** - Linear Algebra (5.00) **--- Or ---** **MATH 2BH** - Linear Algebra - HONORS (5.00)
--- Or ---		
I&C SCI 6N - Computational Linear Algebra (4.00)	←	No Course Articulated
MATH 2D - Multivariable Calculus (4.00)	←	**MATH 1D** - Calculus (5.00) **--- Or ---** **MATH 1DH** - Calculus - HONORS (5.00)
I&C SCI 6D - Discrete Mathematics for Computer Science (4.00)	←	**MATH 22** - Discrete Mathematics (5.00)
I&C SCI 6B - Boolean Logic and Discrete Structures (4.00)	←	No Course Articulated
I&C SCI 45C - Programming in C/C++ as a Second Language (4.00)	←	**CIS 22A** - Beginning Programming Methodologies in C++ (4.50) **--- And ---** **CIS 22B** - Intermediate Programming Methodologies in C++ (4.50) **--- Or ---** **CIS 26A** - C as a Second Programming Language (4.50) **--- And ---** **CIS 29** - Advanced C++ Programming (4.50)
I&C SCI 46 - Data Structure Implementation and Analysis (4.00)	←	**CIS 22C** - Data Abstraction and Structures (4.50)
I&C SCI 51 - Introductory Computer Organization (6.00)	←	No Course Articulated
IN4MATX 43 - Introduction to Software Engineering (4.00)	←	No Course Articulated
STATS 68 - Statistical Computing and Exploratory Data Analysis (4.00)	←	No Course Articulated

END OF AGREEMENT