De Anza College

Course Outline of Record Report

09/05/2024

CISD211X : Support for Foundations of Data Science for All

General Information

Faculty Initiator:	• Clare Nguyen • Pape, Mary
Attachments:	ProgrammingPython_COA_CIS_211X_2025F.pdf ReqAdv_G_CIS_211X_2025F.pdf Online_CIS_211X_2025F.pdf Hybrid_CIS_211X_2025F.pdf
Course ID (CB01A and CB01B) :	CISD211X
Short Course Title:	No value
Course Title (CB02) :	Support for Foundations of Data Science for All
Department:	CIS - Computer Sci and Info Systems
Effective Term:	Fall 2025
TOP Code (CB03) :	
CIP Code:	No value
SAM Priority Code (CB09) :	No value
Distance Education Approved:	Yes
Course Control Number:	No value
Curriculum Committee Approval Date:	06/18/2024
Board of Trustees Approval Date:	Pending
External Review Approval Date:	09/01/2025
Course Description:	This course is a review of core prerequisite skills, competencies, and concepts needed when studying data science, intended for students who are concurrently enrolled in Data Science for All.
Course Type (CB27) :	• Lower Division
Mode of Delivery:	• Online • Hybrid
Faculty Initiator:	No value
Course Family:	Not Applicable

Associated Programs

☐ Course is part of a program

Associated Program	Award Type	Active
No value	No value	

Units and Hours

Summary

Minimum Credit Units	2
Maximum Credit Units	2
Total Course In-Class (Contact) Hours	24
Total Course Out-of-Class Hours	48
Total Student Learning Hours	72

Credit / Non-Credit Options

Course Credit Status (CB04)

Credit - Degree Applicable

Course Non Credit Category (CB22)

Credit Course.

Course Classification Code (CB11)

Credit Course.

Funding Agency Category (CB23)

No value

☐ Cooperative Work Experience Education Status (CB10)

☐ Variable Credit Course

Weekly Student Hours

	In Class	Out of Class
Lecture Hours	2	4
Laboratory Hours	0	0
NA Hours	0	0

Course Student Hours

Course Duration (Weeks)	12
Hours per unit divisor	36
Course In-Class (Contact) Hours	
Lecture	24
Laboratory	0
NA	0
Total	24
Course Out-of-Class Hours	
Lecture	48
Laboratory	0
NA	0
Total	48

Learning Outcomes and Objectives

Course Objectives

Develop skills to work with Python and Jupyter Notebook

Develop skills to select the proper data types

Develop skills to manipulate data in tables

Develop skills to plot and interpret data with plots

Develop skills to use conditionals and iterations

Develop skills in sampling data and observing distributions

Develop skills to examine inference, prediction, and models

CSLOs

Develop skills to collect data, apply statistical concepts, visualize, and analyze data Expected SLO Performance: 0.0

Develop skills to calculate and interpret basic statistics in a dataset and apply basic regression and classification techniques for predictions Expected SLO Performance: 0.0

Outline

Course Outline

A. Develop skills to work with Python and Jupyter Notebook
    1. Open, modify, delete, save, and run notebook cells
    2. Write and run basic Python command lines
    3. Recognize and debug errors
B. Develop skills to select the proper data types
    1. Numbers, expressions, functions
    2. Strings, arrays
    3. Tables
C. Develop skills to manipulate data in tables
    1. Arithmetic calculations
    2. Create and combine tables
    3. Extract data from tables
D. Develop skills to plot and interpret data with plots
    1. Line plot
    2. Bar graph
    3. Scatter plot
    4. Histogram
E. Develop skills to use conditionals and iterations
    1. Boolean and conditional statements
    2. Repetition / iteration statements
    3. Randomness
F. Develop skills in sampling data and observing distributions

1. Chance, iteration, and probability
2. Sampling and empirical distributions
3. Comparing two samples
4. Percentiles, confidence intervals
5. Mean, standard deviation

G. Develop skills to examine inference, prediction, and models
1. Correlation
2. Regression
3. Classification