DATA SCIENCE (DATASCI)

DATASCI 220  Data Science Program Seminar I (1 Units) Fall, Winter, Spring
Instructor(s): Gilmer Valdes, Isabel Elaine Allen
Prerequisite(s): BIOSTAT 202 and BIOSTAT 213

Restrictions: This course is restricted to students enrolled in the Certificate in Health Data Science and the Master's degree in Health Data Science (first year students).

Activities: Seminar, Independent Study

This seminar series covers topics in data science algorithms, ethics, biases, and applications. Students will be exposed to current topics on Data Science and Machine Learning/Biostatistics and Health Data applications, discuss issues in data science, present their work, and learn how to critically evaluate research literature. External speakers will be invited to give presentations on potential careers in health data science across the biotech industry, government and academia.

School: Graduate Division
Department: Health Data Science Program
May the student choose the instructor for this course? No
Does enrollment in this course require instructor approval? No
Course Grading Convention: P/NP (Pass/Not Pass) or S/U (Satisfactory/ Unsatisfactory)
Graduate Division course: Yes
Is this a web-based online course? No
Is this an Interprofessional Education (IPE) course? No
May students in the Graduate Division (i.e. pursuing Master or PhD) enroll in this course? Yes
Repeat course for credit? Yes

DATASCI 221  Data Science Program Seminar II (1 Units) Fall, Winter, Spring
Instructor(s): Gilmer Valdes, Isabel Elaine Allen
Prerequisite(s): DATASCI 220

Restrictions: This course is restricted to students enrolled in year 2 of the Master's in Health Data Science program.

Activities: Seminar, Independent Study

This course covers advanced topics of data science methods, ethics and biases. The focus in this second year of the seminar program will be on students presenting their research work progress from their Capstone projects. Additionally, students will also learn how to critically evaluate research literature.

School: Graduate Division
Department: Health Data Science Program
May the student choose the instructor for this course? No
Does enrollment in this course require instructor approval? No
Course Grading Convention: P/NP (Pass/Not Pass) or S/U (Satisfactory/ Unsatisfactory)
Graduate Division course: Yes
Is this a web-based online course? No
Is this an Interprofessional Education (IPE) course? No
May students in the Graduate Division (i.e. pursuing Master or PhD) enroll in this course? Yes
Repeat course for credit? Yes

DATASCI 222  Data Science Capstone Project (1 Units) Fall, Winter, Spring
Instructor(s): John Kornak, Isabel Elaine Allen
Prerequisite(s): BIOSTAT 202, BIOSTAT 213, BIOSTAT 214, BIOSTAT 216, DATASCI 220, DATASCI 225

Restrictions: This course is restricted to 2nd year students in the Master's in Health Data Science program.

Activities: Project

Capstone project requirement for students in the Master's in Health Data Science program. Students will write a first author paper researching a problem in health data science and analyzing data using appropriate data science methodology; present their work at a scientific conference; generate a portfolio of code, analyses and data products; and write a detailed report on the background methodology and technical issues that were considered as well as implemented for the submitted publication.

School: Graduate Division
Department: Health Data Science Program
May the student choose the instructor for this course? No
Does enrollment in this course require instructor approval? No
Course Grading Convention: P/NP (Pass/Not Pass) or S/U (Satisfactory/ Unsatisfactory)
Graduate Division course: Yes
Is this a web-based online course? No
Is this an Interprofessional Education (IPE) course? No
May students in the Graduate Division (i.e. pursuing Master or PhD) enroll in this course? Yes
Repeat course for credit? Yes
DATASCI 225 Advanced Machine Learning for the Biomedical Sciences II (3 Units) Spring

Instructor(s): Gilmer Valdes

Prerequisite(s): Biostats 213 or equivalent. Biostat 216 and Biostat 208 or equivalent

Restrictions: This course is part of the Training in Clinical Research (TICR) Program and may have space limitations. Auditing is not permitted.

Activities: Lecture, Project

This course covers the underlying formulation of machine learning algorithms. Its focus is on providing deep understanding of machine learning methodology. This is an advanced course in machine learning and its objective is to provide students with a strong foundation so that they can properly manipulate and customize black box machine learning library packages. Students will implement popular machine learning algorithms and customize them to best satisfy specific needs in medicine.

School: Graduate Division
Department: Clinical Research Program

May the student choose the instructor for this course? No

Does enrollment in this course require instructor approval? No

Course Grading Convention: Letter Grade, P/NP (Pass/Not Pass) or S/U (Satisfactory/Unsatisfactory)

Graduate Division course: Yes

Is this a web-based online course? Yes

Is this an Interprofessional Education (IPE) course? No

May students in the Graduate Division (i.e. pursuing Master or PhD) enroll in this course? Yes

Repeat course for credit? No