DATA SCIENCE

Data Science

Over the last several decades there has been an explosion of data in nearly every field imaginable including business, marketing, sports, and scientific fields such as medicine, genetics, and neuroscience. As a result of this deluge of data, the demand for individuals with the skills to manage, analyze, and communicate results based on large amounts of data are as high as they have ever been.

Become a data scientist and shape the future of the world!

Data Science is a multi-disciplinary field combining techniques from mathematics, computer science, and statistics to organize, analyze, visualize, and extract useful information from data. The field developed in response to the deluge of data present in our daily lives in the 21st century, and the high demand for workers and researchers who understand all parts of the data analysis cycle from managing, storing, and cleaning data, to statistical analysis, machine learning, and big data techniques, and the ability to communicate their results effectively to others.

At Loyola University Chicago, there are many options for you for your Data Science education. At the undergraduate level students can choose to major or minor in Data Science, and at the graduate level students can pursue a Master's Degree (M.S.) in Data Science with an option between thesis track and non-thesis track. In addition, undergraduate students have the option to pursue a Bachelor's and Master's degree in five total years through the 4+1 program.

Engage in innovative graduate research

Students on the thesis track or who are funded will engage in research while in our MS in Data Science program. Graduates will engage in research with faculty and other graduate students from Data Science and across other disciplines such as applied statistics and computer science. Learn more on our Graduate Research (https://www.luc.edu/math/msappliedstat/outcomesjobswithstatisticsdegreefromloyola/graduateresearch/) page.

Undergraduate Programs

- Data Science (BS) (https://catalog.luc.edu/undergraduate/arts-sciences/data-science/data-science-bs/)
- Data Science (BS/MS) (https://catalog.luc.edu/undergraduate/accelerated-bachelors-masters-program/data-science-bsms/)
- Data Science/Applied Statistics (BS/MS) (https://catalog.luc.edu/undergraduate/accelerated-bachelors-masters-program/data-science-applied-statistics-bs-ms/)
- Data Science/Mathematics (BS/MS) (https://catalog.luc.edu/undergraduate/accelerated-bachelors-masters-program/data-science-mathematics-bs-ms/)
- Data Science Minor (https://catalog.luc.edu/undergraduate/arts-sciences/data-science/data-science-minor/)

Undergraduate Policies and Procedures

Please see Undergraduate Policies and Procedures (https://catalog.luc.edu/academic-standards-regulations/undergraduate/) for academic policies that supersede those of academic units within the University.

Data Science (DSCI)

DSCI 101 Fundamentals of Modern Data Science with R (3 Credit Hours)
This course is designed to be an introduction to the basics of data science with R. Students will learn the very basics of data science and introductory programming skills for working with data.
Outcomes:
Students will learn basic programming skills for working with different types of data as well as data visualization, data wrangling, and data management practices

DSCI 399 Data Science Internship (1-3 Credit Hours)
Pre-requisites: DSCI internship coordinator and DSCI program director consent required
This course provides data science students with an opportunity to apply the knowledge obtained through their previous coursework as well as obtain course credits by working on data science projects through paid or unpaid internships. All projects for this course must be accompanied by a written form to be filled out by the student and their internship supervisor, and approved by the data science internship coordinator (DSIC). Students will receive 1 credit hour for every 50 hours worked at the approved internship for a maximum of 3 credit hours. Students taking this course will fulfill their data science capstone requirement.
This course satisfies the Engaged Learning requirement.
Outcomes:
The ability to manage large data sets in preparation for data science analysis; The ability to perform a data science analysis from beginning to end while adhering to the principles of reproducible research; The ability to program in both the R and Python programming languages