DATA ANALYTICS

Program Co-Chairs: Bob Hesse (Mathematics), Imad Rahal (Computer Science), and Parker Wheatley (Economics)

The Data Analytics (DATA) minor, rooted in the liberal arts and interdisciplinary in nature, provides opportunities for students to discover new knowledge and explore problems through the ethical acquisition and analysis of data. Data Analytics provides students with the opportunity to acquire the tools of data visualization, statistical analysis, and programming and to use those tools to answer meaningful questions related to problems and topics in a wide variety of fields. Depending on the student, data analytics will allow students to think of ways to shape policy, direct business, manage finance, understand health outcomes, assess biological and ecological systems, and even understand language and history. Upon completing the Data Analytics minor.

- Our students will be able to ask meaningful questions of data relevant to their primary disciplinary interest.
- Our students will prioritize the ethics of the collection, communication, and curation of the data they analyze.
- Our students will effectively visualize and analyze data and communicate their findings persuasively.
- Our students will be prepared to take the questions, ethics, and tools they acquire in this program to their future careers and academic studies.

Majors

(None)

Minors

- Data Analytics Minor (https://catalog.csbsju.edu/catalog/academic-departments/data-analytics/data-analytics-minor/)

DATA 162 Data Analysis and Visualization (2 Credits)
Grounded in the liberal arts, students will learn how data can be used to understand the world through multiple disciplinary lenses (e.g., business, economics, history, music, political science, et cetera). Students will learn introductory data organization and visualization skills. Students will pose interesting questions about real-world data, learn the computational tools needed to organize and visualize data related to the question, draw meaningful conclusions from such analyses, and communicate their findings. One college-level statistics course recommended
Prerequisites: None

DATA 271 INDEPT STUDY (1-4 Credits)
Prerequisites: None

DATA 272 Intermediate Data Analysis and Visualization (2 Credits)
This course provides students an opportunity to gain greater proficiency in computer programming, data management, and visualization. The emphasis will be on leveraging the skills acquired in earlier courses and providing students with the opportunity to more fully develop their abilities to organize, visualize, and analyze real-world data as well as communicate findings.
Prerequisites: CSCI 150 and DATA 162 and (MATH 124 or MATH 345 or MATH 124Z or PSYC 221 or HONR 260A)

DATA 314 DATA ANALYTICS PROJECT (2 Credits)
This course will provide an integrative experience where students use computing, statistics, and disciplinary skills to explore a particular data-related project. The final project should demonstrate satisfaction of the learning goals of the minor. Students complete a standalone activity distinct from their major under the supervision of a faculty member outside of their major.
Prerequisites: DATA 272 and (ACFN 340 or BIOL 316 or BIOL 373F or BIOL 373L or CSCI 160 or CSCI 200 or CSCI 317D or CSCI 331 or CSCI 332 or CSCI 351 or ECON 314 or ECON 334 or ECON 350 or ECON 353 or ECON 376 or ENVR 311 or GBUS 342 or GBUS 343 or MATH 318 or MATH 339 or PHYS 222 or POLS 222 or POLS 223 or POLS 343 or POLS 355 or POLS 356 or POLS 358 or PSYC 235 or PSYC 347)

DATA 371 INDEPT STUDY (1-4 Credits)
Prerequisites: None