

Applied Analytics Degree

Applied Analytics is a multidisciplinary degree that educates students in applying computational methods to solve problems in areas related to people analytics, consumer behavior, workplace and society. Students pursuing a Bachelor of Science in Applied Analytics will develop an understanding of:

- How to collect, curate, and analyze data
- How to manage, organize and utilize databases for large data sets
- How to communicate the implications of data to various audiences and applications
- How to apply the aforementioned skills with respect to people in the workplace, consumers, and market research

Students majoring in applied analytics must complete core courses in statistics and theory, computer science, and communication. Through free electives and proper advising, students will be able to tailor their focus around topics including but not limited to advanced statistics, data mining, information management systems, geographic information systems, online social networks, and psychological testing. The required capstone project will be based on these core courses and electives, highlighting students' skills as well as their personal interests.

Successful completion of the applied analytics degree ensures students will be able to manage and analyze data using an array of statistical approaches. They will be well prepared for the workplace and/or advanced research in statistics or fields in which knowledge of statistics is required, particularly careers in data science, market analysis, business analysis, bioinformatics, psychometrics, and public relations. Our career advising is based on the close monitoring of the types of analytics needed today and in the future.

Major Changes

1. Increase in number of required fundamental quantitative methods from 7 to 16-17 credit hours.
2. Increase in number of data structure and management courses from 9 to 15 credit hours.
3. Number of hours for communicating about data remained the same but added an ethics requirement within this section so that students are now required to take one ethics course.
4. Changed specializations to focus more on content and less on quantitative methods. Added two specializations (people analytics, consumer research) and redesigned the social sciences specialization.

Proposed APAN Degree

Course	Title	Credits
Introduction to the Professions		2
LCCHS 100 or BUS 100	Introduction to the Professions	2
Fundamental Statistics		16-17
MATH 251	Multivariate Calculus	4
PSYC 203/BUS 221/MATH 225	Introduction to Statistics	3-4
PSYC 320	Applied Correlation/Regression	3
PSYC 204 or SSCI 209	Research Methods	3
MATH 474	Prob and Statistics	3
Specialization	(select one specialization, see below)	15
Communicating about Data	(choose 4 courses, select at least one design course designated by**, select at least one ethics course, designated by *)	12
COM 421**	Tech Comm	3
COM 424**	Document Design	3
COM 428**	Verbal Visual Comm	3

ITM 300	Comm in Workplace	3
ITM 301	Intro OS and Hardware	3
ITMD 361	Web Development	3
ITMD 362	HCI and Web Design	3
ITMD 460	Multimedia	3
PHIL 351*	Science and Values	3
PHIL 360*	Ethics	3
PHIL 373*	Business Ethics	3
PHIL 374*	Ethics in Computer Science	3
PHIL 377*	Communication Law and Ethics	3
CS Minor (replaces the DSM requirement)		16-18
CS 115/116 or CS 105/201		4 or 6
CS 331	Data Structures and Algorithms	3
Three additional CS courses 300+		9
Capstone Project		3

Mathematics		10
MATH 151		5
MATH 152		5
Natural Science		11-12

Hum/SSCI		21
I PRO		6
Free electives		13-17
Total Credits		127

Specialization Proposals

Select one specialization and take 5 courses within that specialization for a total of 15 hours

Consumer Research

ECON 151*	Microeconomics
ECON 152*	Global Economics
BUS 371	Marketing Fundamentals
BUS 473	Market Research
BUS 476	Consumer Behavior
PSYC 310	Social Psychology
PSYC 406	Measurement and Testing

*Note that students can elect to take ECON 211 in place of ECON 151/152

People Analytics -- must take PSYC 301 + 4 additional courses

COM 383	Social Networks
PSYC 301	Industrial Psychology
PSYC 310	Social Psychology
PSYC 355	Cross-Cultural Psychology
PSYC 370	Health and Safety at Work
PSYC 409	Psychological Testing
PSYC 455	Development and Evaluation of Training in Organizations

Social Science

SSCI 204	States, Markets and Society
SSCI 321	Social Inequality
PS 360	Global Political Economy
SSCI 335	Regional Economic Development
SSCI 225	GIS

COM 383	Social Networks
SSCI 385	Computational Social Science
SSCI 388	Economic Impact Analysis

CS Minor (15 credits)

Pick one

AI Minor

CS 201	Accelerated Intro to Computer Science
CS 330	Discrete Structures
CS 331	Data Structures and Algorithms
CS 430	Introduction to Algorithms
CS 480	Introduction to AI

Database Management

CS 201	Accelerated Intro to Computer Science
CS 331	Data Structures and Algorithms
CS 422	Data Mining
OR CS 429	Information Retrieval
CS 425	Database Organization
CS 445	Object Oriented Design Programming

Computer Science

CS 201	Accelerated Intro to Computer Science
CS 331	Data Structures and Algorithms

3 300-level or 400-level CS courses