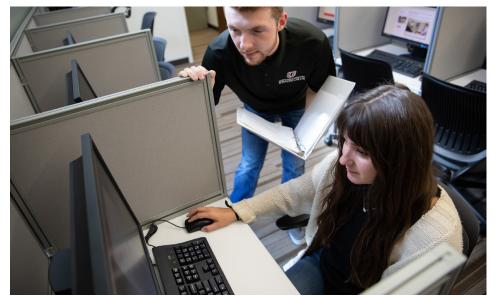# UNDERGRADUATE BUSINESS ANALYTICS

The availability of massive quantities of data has resulted in a need for special skills to analyze this data. To be an effective analyst, one must be able to extract, clean, and analyze data. Once the analysis is complete, results must be communicated to stakeholders in a clear and appropriate manner based on the underlying data source and audience.

Being an effective analyst isn't enough, though. The only way to address business problems is to understand business problems. This combination of business and technical expertise is in short supply within Omaha, across Nebraska, and in businesses across the country.

The UNO College of Business Administration has created a unique concentration to offer training that combines business expertise with the skills to be an excellent analyst.

LEARNING OBJECTIVES

You will gain skills necessary to excel in business analytics including —

- Programmatically clean, merge, extract, and manage data from raw files and databases.

- Use advanced algorithms to cleanse data.

- Analyze data using appropriate statistical methods.

- Visualize data and communicate with others using reporting software.

TO LEARN MORE CONTACT

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Increase your earning power with a career as a business analyst.

According to IBM there is a nation-wide shortage of available talent; year-over-year job growth in related positions ranges from 17 to 45 percent. Salaries for these positions reflect this demand. For example:

Data-Driven Decision Makers	$91,467
Functional Analysts	$69,162
Data Analysts	$69,949
Scientists/Advanced Analysts*	$94,576
Analytics Managers*	$105,909

While a master's degree and work experience are always desired, these positions in particular have a higher probability of requiring one or both.

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UNDERGRADUATE BUSINESS ANALYTICS CONCENTRATION

CORE REQUIREMENTS

Complete three courses (9 credit hours).
We recommend students enroll in ECON 3310 & 3300 in the spring and enroll in ECON 4350 the following fall.

ECON 3310 **SQL, Databases and Data Cleaning for Data Scientists**

DATA EXTRACTION, PROGRAMMING, AND CLEANING

Students who successfully complete the course will demonstrate the ability to extract data from business systems with SQL, and programmatically clean the results. In the business environment, information is almost always stored in databases that can understand Structured Query Language (SQL). Simply extracting the necessary data isn't enough, though. Often necessary data is spread across systems requiring the analyst to extract data from multiple independent systems and combine the sources with a programming language such as Python or R. This class will provide the necessary skills to perform these tasks.

ECON 3300 **Introduction to Econometrics**

ANALYSIS

By the end of the semester, students will demonstrate the ability to choose the appropriate estimation technique and perform the analysis. Focus is placed on reporting results. Specific topics include estimations of the basic linear regression model, hypothesis testing, correlation coefficients, analysis of variance, multicollinearity, dummy variables, specification error, auto-correlation, heteroscedasticity and unconditional forecasting. This class is taught in the R programming language.

ECON 4350 **Business Intelligence and Reporting**

TOOLS

The course will teach students to use state-of-the-art Business Intelligence (BI) software to generate reports and information from data. BI software is used to inform decision-making in industries from transportation to medicine, from marketing to government, and is facilitated by rapidly increasing access to data in all industries. Students will learn to employ best practices in visualization as they are trained in the software and concepts essential to creating valuable insights from data. Additionally, the course will aid students in preparing for certification in the use of state-of-the-art BI software.

ELECTIVES

Complete three courses (9 credit hours).

ACCT 3050	**Intermediate Managerial Accounting**
ACCT 4060	**Advanced Managerial Accounting**
ACCT 4080	**Principles of Auditing**
ECON 4300	**Quantitative Applications in Economics and Business**
ECON 4510	**Economics Internship** *(with an approved internship related to the concentration)*
FNBK 3400	**Investment Principles and Practices**
FNBK 4150	**Intermediate Financial Management**
FNBK 4610	**Portfolio Management**
MKT 4340	**Marketing Research**
MKT 4370	**Marketing Analytics**
SCMT 4370	**Supply Chain Analytics**

MINOR AND SECONDARY CONCENTRATION

The minor and secondary concentration require the same courses, together with just one of the elective courses.

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