

# ANLY - ANALYTICS

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## ANLY 601 Advanced Coding for Data Analytics

**Credits 1 to 4. 1 to 4 Lecture Hours.** Advanced coding libraries used for data science; coding the data analysis pipeline; data munging, visualization, modeling, model validation and machine learning.

**Prerequisite:** Enrollment in Masters of Science in Analytics Program.

## ANLY 605 Visualizing and Understanding Data with Modern Tools

**Credits 1 to 4. 1 to 4 Lecture Hours.** Navigation and use of various features of modern tools; assessment of data quality and performance of diagnostic analysis; creation and design of visualizations and dashboards for target audiences; data-driven business decision-making based on concepts and models from statistics, econometrics and machine learning. **Prerequisite:** Enrollment in Masters of Science in Analytics Program.

## ANLY 608 Linear and Logistic Regression and Visualization

**Credits 1 to 4. 1 to 4 Lecture Hours.** Application and validation of linear and logistic regression in machine learning; regression visualization; identification of outliers; identification of model shortcomings; missing value imputation; data transformations; making valid inferences and drawing business conclusions to recommend business actions on basis of fitted models. **Prerequisite:** Enrollment in Masters of Science in Analytics Program.

## ANLY 610 Deploying Enterprise Data Models and Building Optimization Models

**Credits 1 to 4. 1 to 4 Lecture Hours.** Formulating and solving mathematical optimization models for business problems; modern methods to deploy and maintain models in production in complex existing infrastructures. **Prerequisite:** Enrollment in Masters of Science in Analytics Program.

## ANLY 615 Data Wrangling Tools and Techniques

**Credits 1 to 4. 1 to 4 Lecture Hours.** Information processing and management involving applications and user orientation in a business environment using commercially available database management systems. **Prerequisite:** Enrollment in Masters of Science in Analytics Program.

## ANLY 620 Strategic Analytics

**Credits 1 to 4. 1 to 4 Lecture Hours.** The role of analytics and analytical approaches in the broader organization from a senior management perspective; case-based approach to business strategy including external analysis, competitor analysis and opportunity analysis; strategic decisions including the introduction of new products or acquisition of another firm; data informed strategic decision-making process and implementation within organizations. **Prerequisite:** Enrollment in Masters of Science in Analytics Program.

## ANLY 626 Time Series, Machine Learning and Visualization

**Credits 1 to 4. 1 to 4 Lecture Hours.** Integrating time series data into analytics and machine learning; visualization methods for temporal data in business and engineering; incorporating ARIMA modeling techniques into machine learning models; interpreting and validating time series models for recommending business and engineering recommendations and actions. **Prerequisite:** Enrollment in Masters of Science in Analytics Program.

## ANLY 630 Analytics for Financial Reporting

**Credits 1 to 4. 1 to 4 Lecture Hours.** Collecting and synthesizing data from multiple sources, including financial documents; textual extraction and analysis; model building, accounting, financial analysis and presentation; understand and create earnings, including line item and cross-sectional models, fraud, bankruptcy, earnings manipulation and growth predictions; creating measures of earnings quality. **Prerequisite:** Enrollment in Masters of Science in Analytics Program.

## ANLY 656 Machine Learning and Advanced Analytics Applications

**Credits 1 to 4. 1 to 4 Lecture Hours.** Introduction to machine learning concepts in analytics; data preprocessing and visualization; quality metrics in machine learning; construction, applications and validation of regression, decision tree, random forest, ensemble and text analytics; internet programming using Python. **Prerequisite:** Enrollment in Masters of Science in Analytics Program.