INFORMATICS AND ANALYTICS FOUNDATIONS (IAF)

IAF 601 Introduction to Data Analytics-Methods and Approaches 3
Managing, manipulating, and analyzing structured/unstructured data to understand relationships and generate useful insights. Principles such as programming for analytics, data visualization, statistical modeling, database design, high performance computing are discussed.
Prerequisites: Programming and statistics experience. M.S. in Informatics and Analytics student or permission of instructor required.

IAF 602 Statistical Methods for Data Analytics 3
Introduction to fundamental statistical techniques for data analytics such as hypothesis testing, data transformation, estimation, confidence intervals, regressions models, ANOVA, multivariate analysis, non-parametric methods, and design of experiments.
Notes: Same as STA 602. Prerequisite: Student in the M.S. in Informatics and Analytics or the M.S. in Applied Statistics program or permission of instructor.

IAF 603 Preparing Data for Analytics 3
Students are exposed to current approaches, techniques and best practices for collecting, cleaning and normalizing data, processing, storing, managing, securing and preparing structured and unstructured big data sets for analytics.
Prerequisites: Programming and statistics experience. M.S. in Informatics and Analytics student or permission of instructor required.

IAF 604 Machine Learning and Predictive Analytics 3
Introduction to machine learning and predictive analytics for Big Data. Some key components include deep learning, supervised, unsupervised models, regression, inductive learning, and time series analysis.
Prerequisites: M.S. in Informatics and Analytics student with a grade of C or better in IAF 601 and IAF 603 or permission of instructor.

IAF 605 Data Visualization 3
Data are analyzed to answer questions. Students are exposed to concepts and techniques to understand analytics results and appropriately infer relationships to answer questions and visualize results using contemporary techniques.
Prerequisites: M.S. in Informatics and Analytics student or permission of instructor required.

IAF 606 Solving Problems with Data Analytics 3
How data analytics is used to solve applied problems in varied contexts. Students will learn how to choose appropriate methodologies, manage data, conduct analyses and report results.
Prerequisites: Student in the M.S. in Informatics and Analytics or the M.S. in Applied Statistics program with a grade of C or better in IAF 601 and IAF 602 or permission of instructor.
Notes: Same as STA 606.

IAF 690 Directed Study in Informatics and Analytics 1-3
Directed study in a topic related to Informatics and Analytics.

IAF 695 Practicum 3
Directed practical experience in a professional setting in the student's area of interest within Informatics and Analytics.
Prerequisites: At least 15 credit hours of IAF courses.