APPLIED ANALYTICS, MASTER OF SCIENCE

The M.S. in Applied Analytics is a 30-credit, fully online program designed for professionals who are interested in enhancing their knowledge and skills within the field of data science and applied analytics. The program dives into the core concepts and principles of data analytics, providing a solid foundation in statistical methods, artificial intelligence, and machine learning to understand, analyze, and interpret massive amounts of data. Throughout the program, students will not only acquire theoretical knowledge in the field but also develop and improve essential skills in critical thinking and problem-solving, leadership, managerial communication, teamwork and collaboration, and ethical decision-making.

Program Design

The program is designed with six core courses (18 credits), three concentration courses (9 credits), and the experiential learning capstone course (3 credits). The six core courses will enhance students' data analytics and technology skills. This core curriculum is supplemented by three concentration courses in decision-making and management, in which students will apply the knowledge and skills learned in the core courses to their concentration of choice: management or education. The experiential learning capstone allows students to integrate their learning throughout the program and apply it in a real-world setting.

Program Delivery and Tuition Rate

This program is delivered through online instruction, providing flexibility and convenience for working professionals and adult learners. Students may complete the program on a full-time or part-time schedule. It is billed at the non-MBA rate.

Admission

Admission to this program is selective. This program enrolls new students in the fall and spring terms. To be considered for admission candidates should possess a bachelors degree and the following prerequisites or the equivalent of:

- statistics
- information technology

A candidate who has not completed these prerequisites may be accepted into the program but acceptance will be contingent upon completing the courses within the first year.

Application

Please see the Graduate Admission (http://catalog.sunyempire.edu/graduate/admission/) section of this catalog for a complete listing of materials required to complete a graduate application.

The M.S. in Applied Analytics offers **two concentrations:** Management and Education. The exact enrollment sequencing of these concentrations should be planned between the student and the advisor as part of degree planning.

Program Curriculum

All students will be required to take six core courses (18 credits), three courses in their area of concentration (9 credits), and the capstone course (3 credits).

Code	Title	Credits
CORE COURSES (18 credits)		*18*
INFT 6015	Database Design and Management (3cr)	
APAN 6015	Data Models and Structured Analysis (3cr)	
APAN 6010	Computer Aided Multivariate Analysis (3cr)	
APAN 6020	Data Mining & Machine Learning for AI (3cr)	
MGMT 6095	E-Commerce Marketing Strategies (3cr)	
MGMT 6185	Quantitative Methods for Decision Making (3cr)	
CONCENTRATION COURSES (9 credits)		*9*
Management Concentration		
PPOL 6020	Research Methods (3cr)	
APAN 6025	Applied Management Analytics (3cr)	
Choose one (3cr):		
MGMT 6040	High Performance Management	
or MGMT 6105	Leadership in Public & Nonprofit Organizations	
Education Concentration		
PPOL 6020	Research Methods (3cr)	
CURI 6015	Leading in a Learning Environment (3cr)	
EDET 6080	Evaluation Assessment and Data Driven Learning Design (3cr)	
CAPSTONE COURSE (3 credits)		*3*
APAN 7010	Applied Analytics Capstone (3cr)	
Total Credits		**30**

Upon completion of the M.S. in Applied Analytics, students should be able to:

- Leadership: Evaluate large stores of data as part of database design to discover patterns and trends that go beyond simple analysis to new and industry-leading insights;
- Problem Solving Critical Thinking: Apply analytic tools such as machine learning and artificial intelligence to critically evaluate applied research, and develop meaningful insights;
- Disciplinary Knowledge: Analyze descriptive and inferential statistics and interpret the computer-generated statistical results with data visualization in business applications using programming languages such as R and Python;
- Ethical Reasoning: Develop ethical decision-making competencies through statistical methods and the application of analytical tools such as Microsoft Power BI;
- Strategic Thinking: Strategize how the issues facing leaders and decision makers, in a variety of fields, can be resolved ethically;
- Managerial Communication: Analyze and present big data to make strategic decisions including resource allocation. Bridge the communication gap between technical and traditional business managers; and
- Teamwork: Collaborate and contribute effectively to the achievement of organizational goals in a team environment.