

APPLIED ANALYTICS, MASTER OF SCIENCE

The M.S. in Applied Analytics is a 30 credit hour, on-line, professional master's graduate degree program. It provides students with the necessary skill sets to make informed decisions based on the statistical analysis of data relevant across industries and organizations. This master's degree provides students with strategic approaches to decision making within public and private institutions. These strategic approaches will be used to develop frameworks for solving analytical problems, decisions on which data needs to be collected, what information systems can be effectively used to collect the data, and what analyses should be performed in order to inform institutional decision making.

Program Design

The six core courses (18 credits) will enhance students' mathematical and technology skills. These core courses are supplemented by three concentration courses (9 credits) in decision making and management, in which students will apply the skills learned in the core courses to their industry/concentration of choice: healthcare, marketing, management, or education. The experiential learning capstone (3 credits) allows students to apply their skills in a real-world setting.

Program Delivery and Tuition Rate

This program is delivered through online instruction and capstone internship, 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 the M.S. in Applied Analytics program is selective. This program begins new students in the fall and spring terms only. In addition to completing the graduate application, acceptable candidates should have completed the following academic prerequisites:

- 3 credits of statistics
- 3 credits of information technology

Students who are missing one or both prerequisites, need to successfully complete both (grade of C or better) before starting classes.

Application

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

The MS in Applied Analytics offers **4 concentrations**. The required courses of the 4 concentrations and the suggested enrollment sequences of each are outlined in the tables below. The exact enrollment sequence should be planned between the student and the advisor as part of degree planning.

Program Curriculum

All concentrations of this degree follow the curriculum outlined below. Regardless of the concentration chosen, all students will be required to take the two opening courses (6 credits), the two applied mathematics courses (6 credits), the two functional courses (6 credits), 3 courses in their area of concentration (9 credits), and the 3-credit practicum.

Code	Title	Credits
<i>OPENING Courses</i>		
INFT 6015	Database Design and Management	3
APAN 6015	Data Models and Structured Analysis	3
<i>APPLIED MATHEMATICS Courses</i>		
APAN 6010	Computer Aided Multivariate Analysis	3
APAN 6020	Data Mining	3
<i>FUNCTIONAL Courses</i>		
MGMT 6095	E-Commerce & E-Business Technologies	3
MGMT 6185	Quantitative Methods for Decision Making	3
<i>CONCENTRATION Courses (3)</i>		
<i>PRACTICUM Course</i>		
APAN 7010	Capstone Practicum	3
Total Credits		30

Suggested Enrollment Sequences

The typical enrollment sequence for a part-time schedule is as follows for fall term start. Students and advisors adjust for lower or greater enrollment based on availability and the term in which they begin their studies. The summer term offers both 15-week and 6-week course lengths.

Marketing Concentration Sequence

Course	Title	Credits
First Year		
Fall		
INFT 6015	Database Design and Management	3
APAN 6015	Data Models and Structured Analysis	3
Credits		6
Spring		
MGMT 6155	Strategies for Marketing Research	3
MGMT 7005	Global Marketing Strategies	3
Credits		6
Summer		
MGMT 6095	E-Commerce & E-Business Technologies	3
MGMT 6185	Quantitative Methods for Decision Making	3
Credits		6
Second Year		
Fall		
APAN 6010	Computer Aided Multivariate Analysis	3
APAN 6020	Data Mining	3
Credits		6
Spring		
MGMT 7030	Marketing Analytics & Brand Management	3
APAN 7010	Capstone Practicum	3
Credits		6
Total Credits		30

Health Care Concentration Sequence

Course	Title	Credits
First Year		
Fall		
INFT 6015	Database Design and Management	3
APAN 6015	Data Models and Structured Analysis	3
Credits		6
Spring		
PPOL 6020	Research Methods	3
HCLM 6075	Managing Healthcare Systems	3
Credits		6

Summer		
MGMT 6095	E-Commerce & E-Business Technologies	3
MGMT 6185	Quantitative Methods for Decision Making	3
Credits		6
Second Year		
Fall		
APAN 6010	Computer Aided Multivariate Analysis	3
APAN 6020	Data Mining	3
Credits		6
Spring		
HCLM 6015	Health Information Management and Informatics	3
APAN 7010	Capstone Practicum	3
Credits		6
Total Credits		30

Management Concentration Sequence

Course	Title	Credits
First Year		
Fall		
APAN 6015	Data Models and Structured Analysis	3
INFT 6015	Database Design and Management	3
Credits		6
Spring		
MGMT 6040	High Performance Management	3
PPOL 6020	Research Methods	3
Credits		6
Summer		
MGMT 6095	E-Commerce & E-Business Technologies	3
MGMT 6185	Quantitative Methods for Decision Making	3
Credits		6
Second Year		
Fall		
APAN 6010	Computer Aided Multivariate Analysis	3
APAN 6020	Data Mining	3
Credits		6
Spring		
APAN 6025	Applied Management Analytics	3
APAN 7010	Capstone Practicum	3
Credits		6
Total Credits		30

Education Concentration Sequence

Course	Title	Credits
First Year		
Fall		
APAN 6015	Data Models and Structured Analysis	3
INFT 6015	Database Design and Management	3
Credits		6
Spring		
CURI 6015	Leading in a Learning Environment	3
PPOL 6020	Research Methods	3
Credits		6
Summer		
MGMT 6095	E-Commerce & E-Business Technologies	3
MGMT 6185	Quantitative Methods for Decision Making	3
Credits		6
Second Year		
Fall		
APAN 6010	Computer Aided Multivariate Analysis	3
APAN 6020	Data Mining	3
Credits		6

Spring		
EDET 6080	Evaluation Assessment and Data Driven Learning Design	3
APAN 7010	Capstone Practicum	3
Credits		6
Total Credits		30

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

- Evaluate large stores of data as part of database design to discover patterns and trends that go beyond simple analysis;
- Apply analytic tools to critically evaluate applied research;
- Analyze descriptive and inferential statistics and interpret the computer-generated statistical results with data visualization;
- Develop ethical decision-making competencies through statistical methods and the application of analytical tools;
- Strategize how the issues facing leaders and decision makers, in a variety of fields, can be resolved ethically; and
- Analyze and present big data in order to make strategic decisions including resource allocation.