ANALYTICS AND DATA SCIENCE MAJOR: ANALYTICS OPTION (B.S.) (UNHM)

Description
https://manchester.unh.edu/academics/degree-programs/analytics

The option in Analytics is intended for students interested in either heading into industry immediately upon graduation, or pursuing graduate work in a professionally oriented program such as the Master of Science in Analytics at UNH. The option in Analytics places its emphasis on applications of data science in industry.

Program Objectives
This program has been designed to prepare students for professional careers working with data, with an emphasis on the extraction of meaning from data. The program is not targeted to any one industry; rather, it provides a flexible, practical skillset that can be applied widely. This skillset includes elements of computer science, applied mathematics and statistics, communication skills, and business savvy. Graduates of the bachelor of science in analytics and data science program are expected to have:

- An understanding of the role of data in guiding decision-making in industry
- An understanding of how data is generated, stored, and accessed
- An understanding of data security
- An understanding of the ethical use of data
- An understanding of structured vs. unstructured data
- An understanding of the methods, statistical and other, used to derive actionable information from data
- Experience with multiple programming languages
- Experience with multiple statistical and data analysis software programs
- The ability to communicate detailed, technical information to a variety of audiences clearly and concisely, without the use of jargon
- The ability to work effectively, both as an individual or as a member of a team
- The ability to successfully lead a team
- The ability to adapt to a dynamic, rapidly changing work environment
- Completed projects and other work experiences on a larger scale than is typical in a bachelor's degree program.

During the course of the program, students will demonstrate their acquisition of these skills by successfully completing their program coursework, their internship experience, and their capstone project.

Requirements
Successful completion of the program entails earning at least 128 credits, meeting the requirements of the University’s Discovery program, completing all of the 20 required courses in the major as listed below, including the capstone course, the internship preparedness course, and a three-credit internship. In all major courses, the minimum allowable grade is a C-. The minimum overall GPA for graduation is 2.0. Transfer students may transfer up to a maximum of 32 credits to satisfy major requirements (not counting those courses used to satisfy Discovery requirements).

### Program Requirements

**Code** | **Title** | **Credits**
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MATH 425 | Calculus I | 4
MATH 426 | Calculus II | 4
MATH 545 | Introduction to Linear Algebra | 4
or MATH 645 | Linear Algebra for Applications | 4
MATH 739 | Applied Regression Analysis | 4
**Computer Science**
COMP 425 | Introduction to Programming | 4
COMP 430 | Systems Fundamentals | 4
COMP 490 | Statistics in Computing and Engineering | 4
COMP 520 | Database Design and Development | 4
COMP 525 | Data Structures Fundamentals | 4
**Business**
BUS 400 | Introduction to Business | 4
BUS 453 | Leadership for Managers | 4
BUS 620 | Organizational Behavior | 4
**English**
ENGL 502 | Professional and Technical Writing | 4
**Analytics Courses**
DATA 557 | Introduction to Data Science and Analytics | 4
DATA 674 | Predictive and Prescriptive Analytics I | 4
DATA 675 | Predictive and Prescriptive Analytics II | 4
DATA 757 | Big Data | 4
DATA 790 | Capstone Project | 4
**Professional Development Courses**
UMST 599 | Special Topics | 1
DATA 690 | Internship Experience | 3
**Total Credits** | **76**

1 Must be related to internship and career planning

For additional information about the Analytics and Data Science: Analytics Option, contact Jeremiah Johnson, program coordinator, (603) 641-4127, jeremiah.johnson@unh.edu or contact the UNH Manchester Office of Admissions, (603) 641-4150, unhm.admissions@unh.edu.