# Analytics, BS

Employers seeking analytics professionals with “moderate” levels of data analysis skills - typically positions at the bachelor’s level – most often prefer candidates with *Analytics* as a field of study. Skills frequently required in candidates are data analysis and the ability to interpret and communicate data analysis results to others, problem solving, mastery of spreadsheets, analysis tools, statistical software, relational databases as well as programming language. The general demand for Teamwork/Collaboration and Project Management reflects the need for employers to find analytics professionals with general business skills which can be used in a variety of function areas.

The Bachelor of Science in Analytics (BSA) helps to meet the demand from employers with an undergraduate program and entry level education requirements that prepares learners as data analyst practitioners capable of applying data analysis methods, technological, professional, and strategic expertise necessary for supporting decision making in organizations. With emphasis on experiential learning, the program provides dynamic opportunities for learners with varying degrees of work experience to practice their knowledge both globally and collaboratively while implementing effective data analysis concepts to real-life company demands.

The BSA has general foundation courses (including mathematical and philosophical logic), specific data analysis foundation courses, major required courses, as well as a variety of elective courses on diverse domain areas.

## Program Requirements

- Concentrations and course offerings may vary by campus and/or by program modality. Please consult with your advisor or admissions coach for the course availability each term at your campus or within your program modality.
- Certain options within the program may be *required* at certain campuses or for certain program modalities. Please consult with your advisor or admissions coach for requirements at your campus or for your program modality.

Complete all courses listed below unless otherwise indicated.

## Universitywide Requirement

Minimum 120 total semester hours required.

Minimum 2.000 GPA required.

Students must earn a minimum of 60 Northeastern University semester hours in order to receive a bachelor’s degree.

*Note:* Individual program requirements may exceed the above minima.

## NUpath Requirements

All undergraduate students are required to complete the NUpath requirements (https://catalog.northeastern.edu/professional-studies/university-academics/nupath/).

## Foundation Courses

54 semester hours required

| Code | Title | Hours |
|---|---|---|
| **English** | | |
| Complete the following: | | |
| ENG 1105<br>and ENG 1106 | College Writing 1<br>and Lab for ENG 1105 | 4 |
| ENG 1107<br>and ENG 1108 | College Writing 2<br>and Lab for ENG 1107 | 4 |
| ENG 3107<br>and ENG 3108 | Writing for the Professions: Business and the Social Sciences<br>and Lab for ENG 3107 | 4 |
| **Communication** | | |
| CMN 1100 | Organizational Communication | 3 |
| CMN 2310 | Professional Speaking | 3 |
| **Philosophy** | | |
| PHL 2120 | Ethical Issues in Communication | 3 |
| PHL 2310 | Symbolic Logic | 3 |

| | | |
|---|---|---|
| **Mathematics** | | |
| MTH 1100 | College Algebra | 3 |
| MTH 2400 | Technology and Applications of Discrete Mathematics | 3 |
| **Information Technology** | | |
| ITC 2000 | Principles of Systems Analysis and Design | 3 |
| ITC 2016 | End-User Data Analysis Tools | 3 |
| ITC 2050 | Designing the User Experience | 3 |
| **Leadership** | | |
| LDR 1200 | Assessing Your Leadership Capacity | 3 |
| LDR 3400 | Evidence-Based Leadership and Decision Making | 3 |
| **Computer Engineering Technology** | | |
| CET 2200 | Data Structures and Algorithms | 3 |
| **Analytics** | | |
| ALY 2010 | Probability Theory and Introductory Statistics | 3 |
| ALY 2100 | Introduction to Programming for Data Analytics | 3 |

## Major Required Courses

27 semester hours required

| Code | Title | Hours |
|---|---|---|
| **Information Technology** | | |
| ITC 2300 | Database Management Systems | 3 |
| ITC 3300 | Structured Query Language (SQL) | 3 |
| ITC 3320 | Data Warehousing Technologies | 3 |
| **Analytics** | | |
| ALY 3015 | Intermediate Statistics for Data Analytics | 3 |
| ALY 3040 | Data Mining | 3 |
| ALY 3070 | Communication and Visualization for Data Analytics | 3 |
| ALY 3110 | Big Data and Web Mining | 3 |
| ALY 4000 | Analytics Using R | 3 |
| ALY 4020 | Predictive Analytics Using R and Python | 3 |

## Professional Electives

| Code | Title | Hours |
|---|---|---|
| Complete 12 semester hours in the following subject areas below: | | 12 |
| BTC, CET, FIN, HMG, LDR, MGT, MKT, PJM | | |
| Suggested Electives: | | |
| ACC 2100 | Financial Accounting | |
| HRM 2320 | Human Resources Management | |
| MGT 1100 | Introduction to Business | |
| MGT 2210 | Information within the Enterprise | |
| MKT 2100 | Principles of Marketing | |
| PJM 1100 | Project Management Fundamentals - Project Initiation and Close | |

## Capstone

3 semester hours required

| Code | Title | Hours |
|---|---|---|
| ALY 4850 | Analytics Capstone | 3 |

## Electives

Complete a minimum of 24 semester hours to reach 120 semester hours. Courses from the major may not double count for Electives.

| Code | Title | Hours |
|---|---|---|
| Suggested elective courses: | | |
| ART 2100 | Foundation in Visual Communication | |

| | |
|---|---|
| BIO 1050 | Medical Terminology |
| ECN 1200 | Principles of Macroeconomics |
| ENG 3260 | Writing to Inform and Persuade |
| FIN 2105 | Introduction to Corporate Finance |
| FIN 3310 | Financial Institutions and Markets |
| HRM 2320 | Human Resources Management |
| ITC 2430 | E-Commerce Systems |
| LDR 3200 | Leading and Managing Change |
| TCC 3450 | Writing for the Web |

## Plan of Study

| Term 1 | Hours |
|---|---|
| ENG 1105 | 3 |
| ENG 1106 | 1 |
| ITC 2000 | 3 |
| LDR 1200 | 3 |
| MTH 1100 | 3 |
| PHL 2310 | 3 |
| | **16** |

| Term 2 | Hours |
|---|---|
| CMN 2310 | 3 |
| ENG 1107 | 3 |
| ENG 1108 | 1 |
| ITC 2016 | 3 |
| ITC 2300 | 3 |
| MTH 2400 | 3 |
| | **16** |

| Term 3 | Hours |
|---|---|
| ALY 2010 | 3 |
| CET 2200 | 3 |
| ENG 3107 | 3 |
| ENG 3108 | 1 |
| ITC 2050 | 3 |
| Open Elective | 3 |
| | **16** |

| Term 4 | Hours |
|---|---|
| ALY 2100 | 3 |
| ALY 3015 | 3 |
| CMN 1100 | 3 |
| ITC 3300 | 3 |
| LDR 3400 | 3 |
| | **15** |

| Term 5 | Hours |
|---|---|
| ALY 3070 | 3 |
| ALY 4000 | 3 |
| ITC 3320 | 3 |
| PHL 2120 | 3 |
| Professional Elective | 3 |
| | **15** |

| Term 6 | Hours |
|---|---|
| ALY 3040 | 3 |
| ALY 3110 | 3 |

| | |
|---|---|
| Professional Elective | 3 |
| Open Elective | 3 |
| Open Elective | 3 |
| | **15** |

| **Term 7** | **Hours** |
|---|---|
| ALY 4020 | 3 |
| Professional Elective | 3 |
| Open Elective | 3 |
| Open Elective | 3 |
| Open Elective | 3 |
| | **15** |

| **Term 8** | **Hours** |
|---|---|
| ALY 4850 | 3 |
| Professional Elective | 3 |
| Open Elective | 3 |
| Open Elective | 3 |
| | **12** |

**Total Hours: 120**