

## Data Science and Analytics Program with Business Concentration (BS)

The following information is a general overview of the program. Academic advising is recommended before registration each term.

### Important Academic Policies

Please visit [www.business.fau.edu/academicpolicies](http://www.business.fau.edu/academicpolicies). It is especially important for prospective business majors to be aware of:

- **Limitation on Repeated Courses**  
(max two attempts per course)
- **Limitation on Number of Withdrawals**
- **Two Semesters to Declare (for undeclared juniors)**

### General Degree Requirements for All FAU Programs

| Requirement   | Description   |
|---|---|
| Free electives to reach minimum 120 credits           | Verify with your advisor how many free electives (if any) you need to graduate              |
| Foreign Language Admission Requirement (FLENT)        | Two passing years of the same high school foreign language or accepted equivalent           |
| Civic Literacy (entering FL SUS or SCS Fa18 or later) | <a href="http://www.fau.edu/ugstudies">www.fau.edu/ugstudies</a> and click "Civic Literacy" |

### Timely Graduation

For timely graduation, students should plan courses in consultation with an academic advisor, create a balance between taking core, concentration, and elective courses each semester, and prioritize courses that may not be offered every term. Transfer students should complete all lower division requirements before transferring to FAU.

### Intellectual Foundation Program (IFP) Courses

Students with an AA (Associate of Arts) degree from a regionally accredited Florida Public Institution are deemed to have met the IFP. To view the entire IFP course list, use this case sensitive URL: [http://www.fau.edu/ugstudies/IFP\\_curriculum\\_sheets.php](http://www.fau.edu/ugstudies/IFP_curriculum_sheets.php).

| Category                             | Required Credits                       |
|--------------------------------------|--|
| Written Communication                | 6 credits                              |
| Natural Science                      | 6 credits                              |
| Mathematics & Quantitative Reasoning | 3 credits (choose a MAC or MGF course) |
| Society and Human Behavior           | 6 credits                              |
| Global Citizenship                   | 6 credits                              |
| Humanities                           | 6 credits                              |

### Required Upper Division and Free Elective Courses

| Requirement   | Suggested Option: Internship   |
|---|--|
| All students are required to graduate with a minimum of 45 upper division credits and a minimum of 120 overall credits. This means that most Data Science majors will need elective credits to graduate. Students can speak with an academic advisor to determine exactly how many elective credits will be needed and review strategies to satisfy those requirements. | Students interested in an internship to satisfy some elective requirements may schedule an appointment with a College of Business career and internship advisor. |

### Data Science Core (Minimum Grade "C")

| Course Title                            | Prefix & Num. | Pre-requisites (Minimum Grade of "C")                   |
|---|---------------|---|
| Introductory Statistics                 | STA2023       | MAC1105, MGF1106, MAC2233, ALEKS score 30, MPF score 10 |
| Tools for Data Science                  | CAP 2751      |   |
| Experimental Design and Data Analysis   | CAP 2753      | STA2023   |
| Mathematics for Data Science            | MAP 2192      | MAC 1105 or MGF 1106                                    |
| Data Management and Analysis with Excel | QMB 3302      |   |
| Artificial Intelligence for Social Good | CCJ 3071      |   |
| Data Science Capstone                   | ISC 4941      | 90 credits; all Data Science core courses               |

### Business Concentration Courses (Minimum Grade "C")

| Course Title   | Prefix & Num.  | Pre-requisites (Minimum Grade of "C")                |
|--|--|--|
| Business Communication for Data Analysts   | GEB 3231   |  |
| Introduction to Business Analytics and Big Data  | ISM 3116   | QMB3302 or ISM3011                                   |
| Data Mining and Predictive Analytics   | ISM 4117   | 60 credits   |
| Advanced Business Analytics  | ISM 4403   | 60 credits, ISM3116                                  |
| <b>Choose THREE Business Concentration Electives:</b><br>Rev Mgmt & Pred Analysis in Hosp & Tour Industry<br>Contemporary Issues of Digital Data Management<br>Database Management Systems<br>Management of Information Assurance and Security<br>Social Media and Web Analytics<br>Bus. Analytics for Mktg & Cust Relationship Mgmt | <b>Choose THREE:</b><br>HFT 4481<br>ISM 4041<br>ISM 4212<br>ISM 4323<br>ISM 4420<br>MAR 4615 | 60 credits<br>QMB3302, ISM3011 or ACG4401<br>MAR3023 |

### Data Science Electives: Choose Two Courses (Minimum Grade "C")

Choose any two data science electives from the table on the next page. The courses can come from the same department or from two different departments. Pre-requisites as listed in the FAU catalog are noted on the table for each course; however, any questions or concerns regarding registration or pre-requisites for non-business courses should be directed to the FAU College that offers the course.

## Data Science Elective Table: Choose Two Courses (Minimum Grade "C")

| Course Title  | Prefix & Num. | Pre-requisites  |
|---|---------------|---|
| <b>Arts and Letters Electives</b>                   |               |   |
| Research Methods in Bioarchaeology                  | ANT 4192      | ANT 4141, ANT 4514 or permission of instructor                              |
| Information Technology in Public Administration     | PAD 3712      |   |
| Introduction to the Nonprofit Sector                | PAD 4144      |   |
| Quantitative Inquiry for Public Managers            | PAD 4702      | STA 2023  |
| Research Methods for Public Management              | PAD 4704      |   |
| RI: Research Methods in Political Science           | POS 3703      |   |
| Public Opinion and American Politics                | POS 4204      | POS 2041 with minimum grade of "C"  |
| Sociological Analysis: Quantitative Methods         | SYA 4400      | SYA 3010 and SYA 3300   |
| <b>Business Electives</b>                           |               |   |
| Rev Mgmt & Pred Analysis in Hosp & Tour Industry    | HFT 4481      | 60 credits  |
| Contemporary Issues of Digital Data Management      | ISM 4041      |   |
| Database Management Systems                         | ISM 4212      | ISM3011 or ACG4401 with minimum grade "C"                                   |
| Management of Information Assurance and Security    | ISM 4323      |   |
| Social Media and Web Analytics                      | ISM 4420      |   |
| Bus. Analytics for Mktg & Cust Relationship Mgmt    | MAR 4615      | MAR3023 with minimum grade "C"  |
| <b>Engineering Electives</b>                        |               |   |
| Introduction to Deep Learning                       | CAP 4613      | COP 3530 or COP 3410 w/min. grade of "C" or instructor perm.                |
| Introduction to Artificial Intelligence             | CAP 4630      | COP 3530 or COP 3410 w/min. grade of "C" or instructor perm.                |
| Introduction to Data Mining and Machine Learning    | CAP 4770      | COP 3530 and (STA 4821 or STA 2023 or equivalent)                           |
| Introduction to Data Science and Analytics          | CAP 4773      | (COP3530 or COP3410) & (STA4821 or STA2023) w/min. grade "C" or inst. perm. |
| Introduction to Computer Systems Performance Eval.  | CEN 4400      | COP 3014 and (STA 4821 or STA 2023 or equivalent)                           |
| Introduction to Database Structures                 | COP 3540      | COP 3530  |
| Introduction to Internet Computing                  | COP 3813      | COP 3014  |
| Python Programming                                  | COP 4045      | COP 3530 with minimum grade of "C"  |
| Applied Database Systems                            | COP 4703      | COP 3540  |
| <b>Science Electives</b>                            |               |   |
| Solar System Astronomy                              | AST 3110      | AST 2002 and PHY 2053   |
| Laboratory Methods in Biotechnology                 | BSC 4403L     | MCB 3020, MCB 3020L, BCH 3033 and PCB 3063                                  |
| Concepts in Bioinformatics                          | BSC 4434C     | PCB 3063; may have major restrictions                                       |
| RI: Introduction to Data Science                    | CAP 3786      | COP 2220 or MAD 2502  |
| Cryptography and Information Security               | CIS 4362      | MAS 2103 and MAD 2502   |
| Spatial Data Analysis                               | GEO 4167C     | GEO 4022  |
| Photogrammetry and Aerial Photograph Interpretation | GIS 4021C     |   |
| Applications of Geographic Information Systems      | GIS 4048C     | GIS 4043C or equivalent   |
| Geospatial Databases                                | GIS 4118      | GIS 4043C   |
| Graph Theory  | MAD 4301      | MAD 2104 and MAS 2103   |
| Applied Mathematical Modeling                       | MAP 4103      | (MAP 2302 or MAP 3305) and (MAS 2103 or MAC 2313)                           |
| RI: Industrial Problems in Applied Math             | MAP 4913      | (MAP 2302 or MAP 3305) and (MAS 2103 or MAC 2313)                           |
| Epidemiology of Infectious Diseases                 | MCB 4276      |   |
| Topology for Data Science                           | MTG 4325      | MAD 2104, MAS 2103 and (COP 2220 or MAD 2502)                               |
| Practical Cell Neuroscience                         | PCB 4843C     | PCB 3063 with minimum grade of "B-"   |
| Computational Physics                               | PHZ 3151C     | MAC 2313, PHY 3101C   |
| SAS for Data and Statistical Analyses               | STA 3024      | STA 2023 or equivalent  |
| Computational Statistics                            | STA 3100      | (MAC 2311 or MAC 2281) and STA 2023 or higher                               |
| Introduction to Biostatistics                       | STA 3173      | MAC1105   |
| Applied Statistics 1 Lab                            | STA 4202L     | STA4442; co-requisite STA4234   |
| Statistical Designs                                 | STA 4222      | STA 4234, and one of MAC 2282 or 2312                                       |
| Applied Statistics 1                                | STA 4234      | STA 4442; co-requisite: STA 4202L   |
| Probability and Statistics 1                        | STA 4442      | MAC 2282 or MAC 2312  |
| Probability and Statistics 2                        | STA 4443      | STA 4442  |
| Applied Statistics 2                                | STA 4702      | STA 4234  |
| Applied Time Series and Forecasting                 | STA 4853      | STA 4234 or equivalent  |
| <b>Social Work and Criminal Justice Electives</b>   |               |   |
| Teen Technology Misuse                              | CCJ 4554      |   |
| Methods of Research in Criminal Justice             | CCJ 4700      | STA2023   |
| Criminal Justice Technology                         | CJE 3692C     |   |
| Crime Analysis                                      | CJE 4663      |   |
| Computer Crime                                      | CJE 4668      |   |
| Research Methods in Social Work                     | SOW 4403      | SOW 3302  |

### College of Business Student Academic Services

Current students can make an appointment at [www.fau.edu/successnetwork](http://www.fau.edu/successnetwork). Prospective students can call for assistance making an appointment.