

|       |  |      |  |
|-------|--|------|--|
| NAME: |  | Z #: |  |
|-------|--|------|--|

**Bachelor of Science with Major in Data Science and Analytics**

| <b>Common Core Courses (21cr)</b> |   |                |            |            |             |
|-----------------------------------|---|----------------|------------|------------|-------------|
|                                   | <i>Course Title</i>                     | <i>credits</i> | <i>FAU</i> | Substitute | Institution |
|                                   | Introductory Statistics                 | 3              | STA 2023   |            |             |
|                                   | Tools for Data Science                  | 3              | CAP 2751   |            |             |
|                                   | Experimental Design and Data Analysis   | 3              | CAP 2753   |            |             |
|                                   | Mathematics for Data Science            | 3              | MAP 2192   |            |             |
|                                   | Artificial Intelligence for Social Good | 3              | CCJ 3071   |            |             |
|                                   | Data Science Capstone                   | 3              | ISC 4941   |            |             |
|                                   | Data Management and Analysis with Excel | 3              | QMB 3302   |            |             |

21cr

**Data Science in the Natural Sciences Concentration**

| <b>Concentration Core Requirements (9cr)</b> |   |                |            |            |             |
|--|---|----------------|------------|------------|-------------|
|  | <i>Course Title</i>                       | <i>credits</i> | <i>FAU</i> | Substitute | Institution |
|  | Introduction to Computational Mathematics | 3              | MAD 2502   |            |             |
|  | RI: Introduction to Data Science          | 3              | CAP 3786   |            |             |
|  | Computational Statistics                  | 3              | STA 3100   |            |             |

9cr

**Concentration Core Electives. Choose four courses (12cr):**

|  |   |   |           |  |  |
|--|---|---|-----------|--|--|
|  | Cryptography and Information Security   | 3 | CIS 4362  |  |  |
|  | Graph Theory                            | 3 | MAD 4301  |  |  |
|  | Applied Mathematical Modeling           | 3 | MAP 4103  |  |  |
|  | RI: Industrial Problems in Applied Math | 3 | MAP 4913  |  |  |
|  | Topology for Data Science               | 3 | MTG 4325  |  |  |
|  | SAS for Data and Statistical Analyses   | 3 | STA 3024  |  |  |
|  | Introduction to Biostatistics           | 3 | STA 3173  |  |  |
|  | Statistical Designs                     | 3 | STA 4222  |  |  |
|  | Applied Statistics 1                    | 3 | STA 4234  |  |  |
|  | Applied Statistics 1 Lab                | 1 | STA 4202L |  |  |
|  | Probability and Statistics 1            | 3 | STA 4442  |  |  |
|  | Probability and Statistics 2            | 3 | STA 4443  |  |  |
|  | Applied Statistics 2                    | 3 | STA 4702  |  |  |
|  | Applied Time Series and Forecasting     | 3 | STA 4853  |  |  |

12cr

**Choose two courses from any section below (6cr):**

| <b>Arts and Letters Electives</b> |   |                |            |            |             |
|-----------------------------------|---|----------------|------------|------------|-------------|
|                                   | <i>Course Title</i>                             | <i>credits</i> | <i>FAU</i> | Substitute | Institution |
|                                   | Research Methods in Bioarchaeology              | 3              | ANT 4192   |            |             |
|                                   | Information Technology in Public Administration | 3              | PAD 3712   |            |             |
|                                   | Introduction to the Nonprofit Sector            | 3              | PAD 4144   |            |             |
|                                   | Quantitative Inquiry for Public Managers        | 3              | PAD 4702   |            |             |
|                                   | Research Methods for Public Management          | 3              | PAD 4704   |            |             |
|                                   | RI: Research Methods in Political Science       | 3              | POS 3703   |            |             |
|                                   | Public Opinion and American Politics            | 3              | POS 4204   |            |             |
|                                   | Sociological Analysis: Quantitative Methods     | 3              | SYA 4400   |            |             |
| <b>Business Electives</b>         |   |                |            |            |             |
|                                   | Business Communication for Data Analysts        | 3              | GEB 3231   |            |             |
|                                   | Rev Man & Pred Analysis in Hospt & Tourism Ind  | 3              | HFT 4481   |            |             |

|   |   |           |  |  |
|---|---|-----------|--|--|
| Introduction to Business Analytics and Big Data         | 3 | ISM 3116  |  |  |
| Contemporary Issues of Digital Data Management          | 3 | ISM 4041  |  |  |
| Data Mining and Predictive Analytics                    | 3 | ISM 4117  |  |  |
| Database Management Systems                             | 3 | ISM 4212  |  |  |
| Management of Information Assurance and Security        | 3 | ISM 4323  |  |  |
| Advanced Business Analytics                             | 3 | ISM 4403  |  |  |
| Social Media and Web Analytics                          | 3 | ISM 4420  |  |  |
| Bus Analytics for Mar & Cust Relation Man               | 3 | MAR 4615  |  |  |
|   |   |           |  |  |
| <b>Engineering Electives</b>                            |   |           |  |  |
| Introduction to Deep Learning                           | 3 | CAP 4613  |  |  |
| Introduction to Artificial Intelligence                 | 3 | CAP 4630  |  |  |
| Introduction to Data Mining and Machine Learning        | 3 | CAP 4770  |  |  |
| Introduction to Data Science and Analytics              | 3 | CAP 4773  |  |  |
| Introduction to Computer Systems Performance Evaluation | 3 | CEN 4400  |  |  |
| Introduction to Database Structures                     | 3 | COP 3540  |  |  |
| Introduction to Internet Computing                      | 3 | COP 3813  |  |  |
| Python Programming                                      | 3 | COP 4045  |  |  |
| Applied Database Systems                                | 3 | COP 4703  |  |  |
|   |   |           |  |  |
| <b>Science Electives</b>                                |   |           |  |  |
| Solar System Astronomy                                  | 3 | AST 3110  |  |  |
| Laboratory Methods in Biotechnology                     | 3 | BSC 4403L |  |  |
| Concepts in Bioinformatics                              | 3 | BSC 4434C |  |  |
| RI: Introduction to Data Science                        | 3 | CAP 3786  |  |  |
| Cryptography and Information Security                   | 3 | CIS 4362  |  |  |
| Spatial Data Analysis                                   | 3 | GEO 4167C |  |  |
| Photogrammetry and Aerial Photograph Interpretation     | 3 | GIS 4021C |  |  |
| Applications of Geographic Information Systems          | 3 | GIS 4048C |  |  |
| Geospatial Databases                                    | 3 | GIS 4118  |  |  |
| Graph Theory  | 3 | MAD 4301  |  |  |
| Applied Mathematical Modeling                           | 3 | MAP 4103  |  |  |
| RI: Industrial Problems in Applied Math                 | 3 | MAP 4913  |  |  |
| Epidemiology of Infectious Diseases                     | 3 | MCB 4276  |  |  |
| Topology for Data Science                               | 3 | MTG 4325  |  |  |
| Practical Cell Neuroscience                             | 3 | PCB 4843C |  |  |
| Computational Physics                                   | 3 | PHZ 3151C |  |  |
| Mathematical Methods for Physics                        | 3 | PHZ 4113  |  |  |
| SAS for Data and Statistical Analyses                   | 3 | STA 3024  |  |  |
| Computational Statistics                                | 3 | STA 3100  |  |  |
| Introduction to Biostatistics                           | 3 | STA 3173  |  |  |
| Statistical Designs                                     | 3 | STA 4222  |  |  |
| Applied Statistics 1                                    | 3 | STA 4234  |  |  |
| Probability and Statistics 1                            | 3 | STA 4442  |  |  |
| Probability and Statistics 2                            | 3 | STA 4443  |  |  |
| Applied Statistics 2                                    | 3 | STA 4702  |  |  |
| Applied Time Series and Forecasting                     | 3 | STA 4853  |  |  |
|   |   |           |  |  |
| <b>Social Work and Criminal Justice Electives</b>       |   |           |  |  |
| Teen Technology Misuse                                  | 3 | CCJ 4554  |  |  |
| Methods of Research in Criminal Justice                 | 3 | CCJ 4700  |  |  |
| Criminal Justice Technology                             | 3 | CJE 3692C |  |  |
| Crime Analysis  | 3 | CJE 4663  |  |  |
| Computer Crime  | 3 | CJE 4668  |  |  |

|   |   |   |  |             |
|---|---|---|--|-------------|
| Research Methods in Social Work   | 3 | SOW 4403                                |  |             |
| <b>(Total 48 credits)</b>   |   |   |  |             |
| minimums: 120 credits total; 30 credits at FAU  |   |   |  |             |
| 45 credits upper division (3000-4000)   |   | <b>(11-12 credits UD Gen Electives)</b> |  |             |
| *Students must attain a minimum grade of "C" in all major courses to receive credit in the major. |   |   |  | Rev. 5/2021 |