

B.S. Data Science (Core)

8-Semester *Suggested* Plan of Study

120 Total Credit Hours of which 21 Credit Hours are Concentration-specific Hours
 Concentration-specific hours are notational for hours and when in this *suggested* Plan of Study
 New courses are marked in italics

| Year 1 – Fall | | Year 1 -- Spring | |
|------------------|---|------------------|---|
| <i>MATH 2554</i> | Calculus I | <i>MATH 2564</i> | Calculus II |
| <i>GNED NNN4</i> | Gen Ed, Science Elective | <i>ECON 2143</i> | Gen Ed, Basic Economics: Theory and Practice |
| <i>ENGL 1013</i> | Composition I | <i>ENGL 1033</i> | Gen Ed, Technical Composition II |
| <i>DASC 1001</i> | <i>Intro to Data Science (incl. CoE, WCOB, ARSC Persp.)</i> | <i>DASC 1204</i> | <i>Intro to Object Oriented Programming for DASC (Java)</i> |
| <i>DASC 1104</i> | <i>Programming Languages for Data Science (Python, R)</i> | <i>DASC 1222</i> | <i>Role of Data Science in Today's World</i> |
| | | | |
| 16 hours | Total | 16 hours | Total |
| 5 hours | Data Science Core - Required (New + Existing Courses) | 10 hours | Data Science Core - Required (N + E Courses) |
| 0 hours | Data Science – Concentration Required + Elective | 0 hours | Data Science – Concentration Required + Elective |
| 11 hours | Gen Ed | 6 hours | Gen Ed |
| 0 hours | General Elective | 0 hours | General Elective |

Note 1: “DASC 188V/DASC 1201 Success In Data Science Studies” is required if not “Cal I ready.”

Note 2: “MATH 2043 Survey of Calculus” requires “MATH 2445 Calculus I with Review” in place of “MATH 2554 Calculus I”

| Year 2 – Fall | | Year 2 -- Spring | |
|------------------|---|------------------|---|
| <i>DASC 2594</i> | <i>Multivariable Math for Data Scientists</i> | <i>MGMT 2053</i> | Business Foundations |
| <i>INEG 2313</i> | Applied Probability and Statistics for Engineers I | <i>INEG 2333</i> | Applied Probability and Statistics for Engineers II |
| <i>DASC 2213</i> | <i>Data Visualization & Communication</i> | <i>DASC 2103</i> | <i>Data Structures & Algorithms</i> |
| <i>DASC 2113</i> | <i>Principles & Techniques of Data Science</i> | <i>DASC 2203</i> | <i>Data Management & Data Base</i> |
| <i>GNED NNN3</i> | Gen Ed, Fine Arts Elective | <i>RRRR NNN3</i> | [Required Concentration Course] |
| | | | |
| 16 hours | Total | 15 hours | Total |
| 13 hours | Data Science Core – Required (New + Existing Courses) | 12 hours | Data Science Core – Required (N + E Courses) |
| 0 hours | Data Science – Concentration Required + Elective | 3 hours | Data Science – Concentration Required + Elective |
| 3 hours | Gen Ed | 0 hours | Gen Ed |
| 0 hours | General Elective | 0 hours | General Elective |

Note 3: (STAT 3013 Intro. to Probability & Statistics + STAT 3003 Statistical Methods) can be substituted for (INEG 2313 + INEG 2333).

| Year 3 – Fall | | Year 3 -- Spring | |
|------------------|---|------------------|--|
| <i>DASC 390V</i> | <i>Data Ethics & Privacy (DASC 2123)</i> | <i>DASC 3203</i> | <i>Optimization Methods in Data Science</i> |
| <i>DASC 3103</i> | <i>Cloud Computing & Big Data</i> | <i>DASC 3213</i> | <i>Statistical Learning</i> |
| <i>RRRR NNN3</i> | [Required Concentration Course] | <i>RRRR NNN3</i> | [Required Concentration Course] |
| <i>GNED NNN4</i> | Gen Ed, Science Elective | <i>GNED NNN3</i> | Gen Ed, History or Government |
| <i>GNED NNN3</i> | Gen Ed, Social Science Elective | <i>GNED NNN3</i> | Gen Ed, Social Science Elective |
| | | | |
| 16 hours | Total | 15 hours | Total |
| 3 hours | Data Science Core - Required (New + Existing Courses) | 6 hours | Data Science Core - Required (N + E Courses) |
| 3 hours | Data Science – Concentration Required + Elective | 3 hours | Data Science – Concentration Required + Elective |
| 10 hours | Gen Ed | 6 hours | Gen Ed |
| 0 hours | General Elective | 0 hours | General Elective |

| Year 4 – Fall | | Year 4 -- Spring | |
|------------------|---|------------------|--|
| <i>DASC 4892</i> | <i>Data Science Practicum I</i> | <i>DASC 4993</i> | <i>Data Science Practicum II</i> |
| <i>DASC 4113</i> | <i>Machine Learning</i> | <i>CCCC NNN3</i> | Concentration Elective |
| <i>DASC 4123</i> | <i>Social Problems (Issues) in DASC & Analytics</i> | <i>CCCC NNN3</i> | Concentration Elective |
| <i>CCCC NNN3</i> | [Concentration Elective] | <i>GNEL NNN3</i> | General Elective (possible catch-up credit) |
| <i>CCCC NNN3</i> | [Concentration Elective] | | |
| | | | |
| 14 hours | Total | 12 hours | Total |
| 8 hours | Data Science Core - Required (New + Existing Courses) | 3 hours | Data Science Core - Required (N + E Courses) |
| 6 hours | Data Science – Concentration Required + Elective | 6 hours | Data Science – Concentration Required + Elective |
| 0 hours | Gen Ed | 0 hours | Gen Ed |
| 0 hours | General Elective | 3 hours | General Elective |

| Total Hours by Course Category | |
|--------------------------------|---|
| 120 hours | Total |
| 60 hours | Data Science Core - Required (New + Existing Courses) |
| 21 hours | Data Science – Concentration Required + Elective |
| 36 hours | Gen Ed |
| 3 hours | General Elective |