Effective August 2023

DATA SCIENCE - STATISTICS CONCENTRATION

120 total credits required
42 upper division credits required

Please review with the Data Science Advisor

ALL UNIVERSITY CORE CURRICULUM (AUCC)

<table>
<thead>
<tr>
<th>Status</th>
<th>Category</th>
<th>Course</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A)</td>
<td>Intermediate writing</td>
<td>CO 150 or HONR 193</td>
<td>3</td>
</tr>
<tr>
<td>1B)</td>
<td>Quantitative Reasoning</td>
<td>MATH 156 (preferred) or MATH 160</td>
<td>4</td>
</tr>
<tr>
<td>1C)</td>
<td>Diversity, Equity, and Inclusion</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>2)</td>
<td>Advanced Writing</td>
<td>CO 300, 301B, 302, or JTC 300</td>
<td>3</td>
</tr>
<tr>
<td>3A)</td>
<td>Biological and Physical Science w/ lab</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>3A)</td>
<td>Biological and Physical Science</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>3B)</td>
<td>Arts &amp; Humanities</td>
<td>CS 150B</td>
<td>3</td>
</tr>
<tr>
<td>3B)</td>
<td>Arts &amp; Humanities</td>
<td>CS 201/PHIL 201</td>
<td>3</td>
</tr>
<tr>
<td>3C)</td>
<td>Social &amp; Behavioral Science</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>3D)</td>
<td>Historical Perspectives</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>4)</td>
<td>Depth and Integration</td>
<td>DSCI 445 and DSCI 478</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>total</td>
<td></td>
<td>39</td>
</tr>
</tbody>
</table>

CORE COURSES (Total of 58 credits) – Must complete ALL core courses

COMPUTER SCIENCE

- CS 150B - Culture and Coding [3]
- CS 164 - cs1--Computational Thinking w Java [4]
- CS 165 CS2--Data Structures [4]
- CS 201 - Ethical Computing Systems [3]

MATHEMATICS

- MATH 151 - Math Algorithms in Matlab I [1]
- MATH 156 - Math for Computational Science I [4]
- MATH 256 - Math for Computational Science II [4]

DATA SCIENCE

- DSCI 100 - First Year Seminar in Data Science [1]
- DSCI 235 - Data Wrangling [2]
- DSCI 320 - Optimization Methods in Data Science [3]
- DSCI 335 - Inferential Reasoning in Data Analysis [3]
- DSCI 336 - Data Graphics and Visualization [1]
- DSCI 369 - Linear Algebra for Data Science [4]
- DSCI 445 - Statistical Machine Learning [3]
- DSCI 478 - Capstone in Data Science [4]

STATISTICS

- STAT 158 - Introduction to R Programming [1]
- STAT 315 - Intro to Theory & Practice of Statistics [3]
- STAT 341 - Statistical Data Analysis I [3]
- STAT 342 - Statistical Data Analysis II [3]
Effective August 2023

STATISTICS CONCENTRATION REQUIREMENTS

Select a minimum of FOUR (4) Statistics Courses from Statistics Electives List:

___ STAT 421 - Introduction to Stochastic Processes [3]
___ STAT 430 – Probability + Mathematical Statistics II [3]

Data Science Electives – Select at least FIFTEEN (15) credit hours from Data Science Electives List (number of courses will vary based on the credit hours of the courses)

___ DS Elective 1: ___________ [ ]   ___ DS Elective 4: ___________ [ ]
___ DS Elective 2: ___________ [ ]   ___ DS Elective 5: ___________ [ ]
___ DS Elective 3: ___________ [ ]   ___ DS Elective 6: ___________ [ ]

Data Science Electives List


Additional Notes:

• Although there is not a specified grade required for courses in the major, it is important to be aware of prerequisite requirements. Grades of C are better are often necessary, and some courses require B or better in prerequisite coursework.
• A cumulative GPA of 2.0 or above is required to remain in good academic standing
• Students pursuing the Data Science major with a CS concentration are not eligible for any minors offered by the Computer Science Department
• MATH 160, 161, and 261 sequence will substitute for MATH 156 + 256 sequence