Effective August 2023

DATA SCIENCE - MATHEMATICS 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>
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<tbody>
<tr>
<td>1A)</td>
<td>Intermediate writing</td>
<td>CO 150 or HONR 193</td>
<td>3</td>
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<tr>
<td>1B)</td>
<td>Quantitative Reasoning</td>
<td>MATH 156 (preferred) or MATH 160</td>
<td>4</td>
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<tr>
<td>1C)</td>
<td>Diversity, Equity, and Inclusion</td>
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<td>3</td>
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<tr>
<td>2)</td>
<td>Advanced Writing</td>
<td>CO 300, 301B, 302, or JTC 300</td>
<td>3</td>
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<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>
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<tr>
<td>3B)</td>
<td>Arts &amp; Humanities</td>
<td>CS 150B</td>
<td>3</td>
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<tr>
<td>3B)</td>
<td>Arts &amp; Humanities</td>
<td>CS 201/PHIL 201</td>
<td>3</td>
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<tr>
<td>3C)</td>
<td>Social &amp; Behavioral Science</td>
<td></td>
<td>3</td>
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<tr>
<td>3D)</td>
<td>Historical Perspectives</td>
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<td>3</td>
</tr>
<tr>
<td>4)</td>
<td>Depth and Integration</td>
<td>DSCI 445 and DSCI 478</td>
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<tr>
<td></td>
<td>total</td>
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<td>39</td>
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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]
CS 220 - Discrete Structures & their Applications [4]

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

MATHEMATICS CONCENTRATION REQUIREMENTS

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


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