Effective August 2023

**DATA SCIENCE - ECONOMICS 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) Intermediate writing</td>
<td>CO 150 or HONR 193</td>
<td></td>
<td>3</td>
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<tr>
<td>1B) Quantitative Reasoning</td>
<td>MATH 156 (preferred) or MATH 160</td>
<td></td>
<td>4</td>
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<tr>
<td>1C) Diversity, Equity, and Inclusion</td>
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<td>3</td>
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<tr>
<td>2) Advanced Writing</td>
<td>CO 300, 301B, 302, or JTC 300</td>
<td></td>
<td>3</td>
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<tr>
<td>3A) Biological and Physical Science w/ lab</td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>3A) Biological and Physical Science</td>
<td></td>
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<td>3</td>
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<tr>
<td>3B) Arts &amp; Humanities</td>
<td>CS 150B</td>
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<td>3</td>
</tr>
<tr>
<td>3B) Arts &amp; Humanities</td>
<td>CS 201/PHIL 201</td>
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<td>3</td>
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<tr>
<td>3C) Social &amp; Behavioral Science</td>
<td>ECON 202</td>
<td></td>
<td>3</td>
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<tr>
<td>3D) Historical Perspectives</td>
<td></td>
<td></td>
<td>3</td>
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<tr>
<td>4) Depth and Integration</td>
<td>DSCI 445 and DSCI 478</td>
<td></td>
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<tr>
<td><strong>total</strong></td>
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<td></td>
<td><strong>39</strong></td>
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</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]

#### 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]

#### 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]
Effective August 2023

ECONOMICS CONCENTRATION REQUIREMENTS

Take ALL of the following:

____ ECON 304 - Intermediate Macroeconomics [3]

Select a minimum of six (6) credits from Economics Electives List:

____ ECON 474 - Recent Economic Thought [3]

Data Science Electives – Select at least nine (9) credit hours from Data Science Electives List that you are not already taking (number of courses will vary based on the credit hours of the courses)

____ DS Elective 1: ___________ [ ]  ____ DS Elective 3: ___________ [ ]
____ DS Elective 2: ___________ [ ]  ____ DS Elective 4: ___________ [ ]

Data Science Electives List:

Effective August 2023

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.