



**University
of Rochester**

Goergen Institute for Data Science
& Artificial Intelligence

THIS FORM MUST BE SUBMITTED BEFORE DECLARING YOUR MAJOR.

Submit to kfaison2@ur.rochester.edu. Please reach out if you need assistance.

NAME: _____ **UR ID:** _____

Data Science: ☐ Bachelor of Arts ☐ Bachelor of Science

Second Major (if applicable) _____ **Minor(s):** _____

4- YEAR PLAN

Please indicate when you plan to take courses. Please also fill in your previous semesters.

1 st Year Fall	1 st Year Spring	2 nd Year Fall	2 nd Year Spring
3 rd Year Fall	3 rd Year Spring	4 th Year Fall	4 th Year Spring
Transfer credits towards Data Science?			
Planned Overlaps (overlap policy) between other majors, minors or clusters:			

Please mark and fill in each course/requirement you plan to use to fulfill each section.

You can view prerequisites for courses by searching the courses on [cdcs](#).

CLUSTER(s): Data science is a natural science major. It therefore requires majors to complete: (*do not list specific courses on major declaration form; just which cluster number*)

HUMANITIES cluster (or major/minor)

SOCIAL SCIENCE cluster (or major/minor)

PREREQS: (*exempt from overlaps*)

- ☐ MATH 150: Discrete Mathematics OR ☐ MATH 150A: Discrete Math Module for MATH171
☐ CSC 171: Intro to Computer Science
☐ CSC 172: Data Structures and Algorithms

Plus one of the following sequences:

- ☐ MATH 161: Calculus IA and ☐ MATH 162: Calculus IIA
☐ MATH 141: Calculus I and ☐ MATH 142: Calculus II and ☐ MATH 143: Calculus III
☐ MATH 171: Calculus I (Honors) and ☐ MATH 172: Calculus II (Honors)

For a BA or BS in Data Science, use the following CORE, APPLICATION AREA and UPPER-LEVEL WRITING courses on your major declaration.

CORE: *Beware of overlaps if minoring in CSC*

One of the following:

- ☐ **MATH 165:** Linear Algebra with Differential Equations (*exempt from overlap*)
☐ **MATH 173:** Calculus III (Honors)

Plus one of the following: (*exempt from overlap*)

- ☐ **STAT 190:** Introduction to Statistical methodology
☐ **STAT 180:** Introduction to Applied Statistical Methodology

Plus one of the following (*not exempt from overlap*)

- ☐ **DSCC 265:** Introduction to Statistical Machine Learning (fall/spring)
Recommended Option

- ☐ **Both** STAT 216: Intermediate Statistical Methodology
and ☐ STAT 217: Advanced Statistical Methodology **OR** STAT 226W: Linear Models
Recommended ONLY if you need the courses for another major or minor. These are NOT exempt from overlap.

Plus one of the following: (not exempt from overlap)

(cannot be double counted if used as a concentration or BS supplementary course)

- ☐ **DSCC 201:** Tools for Data Science (fall/spring)
- ☐ **DSCC 275:** Time Series Analysis & Forecasting in Data Science (fall only)
- ☐ **CSC 282:** Design and Analysis Algorithms (fall/spring)

Plus all of the following: (not exempt from overlap)

- ☐ **CSC/DSCC 242:** Introduction to Artificial Intelligence (fall/spring)
- ☐ **CSC/DSCC 240:** Data Mining (fall/spring)
- ☐ **CSC/DSCC 261:** Database Systems (fall/spring)
(can be taken concurrently with 383W but recommended before)
- ☐ **DSCC 383W:** Data Science Capstone (fall/spring)
(typically taken your last semester, you must reach out if you would like to take it before then)

UPPER-LEVEL WRITING: Every data science major must complete two upper-level writing experiences. One of the experiences is satisfied by DSCC 383W: Data Science Capstone. The other experience can be any of: (not exempt from overlap)

Choose 1:

- ☐ WRTG 273: Communicating Your Professional Identity (2 credits), which is typically taken during the sophomore or junior year. (WRTG 273 is only exempt from overlap for engineering majors)
- ☐ "W" courses in other departments

- ☐ DSCC 391W (requires prior approval from department)
- ☐ DSCC 395W (requires prior approval from department)

APPLICATION AREA (See website for details at <http://www.hajim.rochester.edu/dsc/undergraduate/major.html>):

- ☐ Artificial Intelligence (AI)
- ☐ Biology
- ☐ Biomedical signals and imaging (*prereq: PHYS 121 & PHYS 122*)
- ☐ Brain and cognitive sciences (*prereq: BCSC 110*)
- ☐ Computer science, statistics, and mathematics
- ☐ Earth and environmental science
- ☐ Linguistics
- ☐ Physics (*prereqs: PHYS099, PHYS121, PHYS122, MATH164, PHYS123*)
- ☐ Economics and business (*prereq: ECON108*)
- ☐ Political science

Prerequisites needed for any application area courses. *(do not list on major declaration form)* _____

List the 3 courses fulfilling the application area selected: *(Beware of cluster or major/minor overlaps)*

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BS SUPPLEMENTAL:

Only BS students are required to take three supplementary courses.

BS students must **take both:** (not exempt from overlap)

- ☐ MATH 201: Introduction to Probability (fall/spring)
- ☐ MATH 203: Introduction to Mathematical Statistics (fall/spring)

Plus BS students must take **one of the following:** (not exempt from overlap)

- ☐ CSC 244: Knowledge Representation and Reasoning in AI (fall)
- ☐ CSC 245: Deep Learning (fall)
- ☐ CSC 246: Machine Learning (fall/spring)
- ☐ CSC 247: Natural Language Processing (spring)
- ☐ CSC 248: Statistical Speech and Language Processing (fall)
- ☐ CSC 249: Machine Vision (spring)
- ☐ CSC 252: Computer Organization (fall/spring)
- ☐ CSC 282: Design and Analysis of Efficient Algorithms (fall/spring) *(cannot be double counted if used in core or concentration)*
- ☐ DSCC 201: Tools for Data Science (fall/spring) *(cannot be double counted if used in core or concentration)*
- ☐ DSCC 275: Time Series Analysis & Forecasting in Data Science (fall) *(cannot be double counted if used in core or concentration)*