## B.S. in Data Science – Advising Check Sheet

**Requirement Term:** 4198

**Student Name:** Morgan Fissel

**ID#** 2000498470 **Date:** 11/10/21

Program GPA: 3.034 Major GPA: 2.929

Both GPAs must be minimum of 2.000 for graduation.

| Requirement | Enrolled/Completed | Needed | Required |
|---|---|---|---|
| Total Program Hours | 101 | 19 | 120 |
| 300+ Level | | 21 | 30 |

**Minor:**

**Minor:**

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### Common Ground General Education Requirements

- [x] English Composition
- [x] Math Modeling
- [x] Arts and Humanities (A&H) 6cr; still need:
- [x] Social and Historical (S&H) 6cr; still need:
- [x] Natural Science
- [x] World Languages, Cultures, or Overseas Study - still need:

### Luddy Additional General Education Requirements

- [ ] Apply to Graduate
- [x] English Composition
- [x] Intensive Writing
- [x] ILS-Z 410 Social and Ethical Impacts of Big Data
- [x] N&M - may not include Major courses; 10 cr; still need:
- [ ] Diversity in the US Required? No

Spring '22:
(3) DSCI-D 321
(3) STAT-S 352
*(3) CSCI-B 365
(3) MATH-M 300+

Fall '22:
(3) DSCI-D 498
(3) DSCI-D 351
(3) ILS-Z 410
*(3) STAT-S 431
(3) MATH-M 300+

Spring '23:
(3) DSCI-D 499
*(3) STAT-S 470
*(3) CSCI-B 455
*(3) CSCI-B 403

### Major Grade of C- or above required for all major and minor courses.

Core Courses (6 required)

- [x] INFO-I 123 Data Fluency
- [x] STAT-S 350 Introduction to Statistics
- [x] CSCI-A 310 Problem Solving Using Data
- [x] DSCI-D 321 Data Representation and Processing
- [x] STAT-S 352 Data Modeling and Inference
- [x] DSCI-D 351 Big Data Analytics

Math and Science Foundations

- [x] MATH-M 211 Calculus I
- [x] MATH-E 201 Linear Algebra for Data Science
- [x] MATH-E 265 Probability for Data Science
- [x] CSCI-C 200 or INFO-I 210
- [x] CSCI-C 241 or INFO-I 201

Data Science Capstone I and II

- [x] DSCI-D 498
- [x] DSCI-D 499

Specialization: Foundational Data Science

- [x] b365
- [ ] b403
- [ ]
- [ ]
- [ ]

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[x] **means Completed or In Progress**

***Foundational Data Science:*** *5 courses, 15 credits*

- ☐ At least two of:
  - CSCI-B 365 Introduction to Data Analysis and Mining (P: CSCI-C 200, CSCI-C 211, or INFO-I 210)
  - CSCI-B 455 Principles of Machine Learning (P: MATH-M 211 and CSCI-C 200 or CSCI-C 211)
  - CSCI-P 434 Distributed Systems (P: CSCI-C 343)
  - CSCI-B 457 Introduction to Computer Vision (P: CSCI-B 351 or CSCI-C 343)
  - CSCI-B 461 Database Concepts (P: CSCI-C 241 and CSCI-C 343)
  - CSCI-B 403 Introduction to Algorithm Design and Analysis (P: CSCI-C 241, CSCI-C 343, and MATH-M 212)
- ☐ At least two of:
  - STAT-S 420 Introduction to Statistical Theory (P: MATH-M 463 and STAT-S 320)
  - STAT-S 425 Nonparametric Theory and Data Analysis (P: STAT-S 420 and STAT-S 432)
  - STAT-S 426 Bayesian Theory and Data Analysis (P: STAT-S 420 and STAT-S 432)
  - STAT-S 431 Applied Linear Models I (P: STAT-S 320 or STAT-S 350 and MATH-M 301, MATH-M 303, or STAT-S 352)
  - STAT-S 440 Multivariate Data Analysis (P: STAT-S 420 and STAT-S 432)
  - STAT-S 470 Exploratory Data Analysis (P: STAT-S 352)

***Data Systems:*** *5 courses, 15 credits*

- ☐ All:
  - ENGR-E 314 Embedded Systems (P: ENGR-E 210)
  - CSCI-B 461 Database Concepts (P: CSCI-C 241 and CSCI-C 343)
  - ENGR-E 416 Engineering Cloud Computing (P: ENGR-E 111, CSCI-C 200, or CSCI-C 211)
- ☐ One of:
  - CSCI-P 434 Distributed Systems (P: CSCI-C 343)
  - ENGR-E 410 Engineering Distributed Systems (P: ENGR-E 319)
- ☐ One of:
  - *ENGR-E 423 Applied Streaming Systems (not yet available)*
  - ENGR-E 434 Big Data Applications (P: ENGR-E 111, CSCI-C 200, or CSCI-C 211)
  - CSCI-P 465 Software Engineering for Information Systems I (P: CSCI-C 343)

***Networks and Applied Data Analytics:*** *5 courses, 15 credits*

- ☐ All:
  - INFO-I 368 Introduction to Network Science (P: INFO-I 210)
  - INFO-I 422 Data Visualization (P: none)
- ☐ At least one of:
  - STAT-S 470 Exploratory Data Analysis (P: STAT-S 352)
  - INFO-I 421 Application of Data Mining (R: INFO-I 308)
  - INFO-I 423 Big Data Applications and Analytics (P: none)
  - INFO-I 427 Search Informatics (P: INFO-I 211)
  - INFO-I 468 Advanced Network Science (P: INFO-I 368)
- ☐ At least one of:
  - ILS-Z 221 Intelligence Analytics (P: none)
  - BUS-K 353 Business Analytics and Modeling (P: BUS-K 303 or BUS-K 304 and BUS-K 201 with a C or higher)
  - INFO-I 369 Performance Analytics (P: INFO-I 201 and INFO-I 210, CSCI-C 200, or CSCI-C 211, R: INFO-I 368)
  - INFO-I 407 Introduction to Health Informatics (P: INFO-I 300)
  - INFO-I 468 Advanced Network Science (P: INFO-I 368)
  - INFO-I 469 Collective Intelligence (P: none)
  - INFO-I 485 Biologically Inspired Computing (P: INFO-I 211 or CSCI-C 212)

***Data Science Design:*** *5 courses, 15 credits*

- ☐ Five of:
  - *INFO-I 3?? Design Research and Ideation (not yet available)*
  - INFO-I 422 Data Visualization (P: none)
  - ENGR-E 483 Information Visualization (P: none)
  - ENGR-E 484 Scientific Visualization (P: none)
  - *INFO-I 3?? Prototyping and Evaluation (not yet available)*
  - SOAD-C 381 Topics in Collaborative Design (P: consent of department)
  - INFO-I 436 Technology Innovation (P: none)
  - INFO-I 437 Design Strategy (P: none)
  - INFO-I 438 Technology Entrepreneurship (P: none)

***Biological and Health Data Science:*** *15-16 credits*

- ☐ At least four of:
  - CSCI-B 363 Bioinformatics Algorithms (P: one programming course or equivalent)
  - BIOL-L 388 Digital Biology (P: BIOL-L 211)
  - ENGR-E 340 Introduction to Computational Bioengineering (P: MATH-M 212 and BIOL-L 112, R: MATH-M 343)
  - INFO-I 407 Introduction to Health Informatics (P: INFO-I 300)
  - *STAT-S 363 Data Analytics for Life Sciences (not yet available)*
- ☐ One of:
  - CSCI-B 365 Introduction to Data Analysis and Mining (P: CSCI-C 200, CSCI-C 211, or INFO-I 210)
  - ENGR-E 483 Information Visualization (P: none)
  - ENGR-E 484 Scientific Visualization (P: none)
  - INFO-I 422 Data Visualization (P: none)
  - STAT-S 470 Exploratory Data Analysis (P: STAT-S 352)