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| 2022-2023 | **Bachelor of Science (B.S.) Degree – Data Science Major Name:** **ID:**  |
| **Courses in BOLD are required by this major*****Courses in ITALIC are strongly recommended*****+denotes courses offered only every other year****§ Indicates general education requirements. Students must choose one, three-hour course in each of the following areas: Art, History, Humanities, Natural Science and Social Sciences.****4+1 Indicates courses that may count toward the MS degree in Data Science and Analytics. Speak with your advisor about this possibility.****ALSO REQUIRED FOR GRADUATION*** **120 credit hours**
* **39 Upper division credits**
* **2.00 GPA**
* **Completion of all major & \_\_\_\_\_\_ requirements**

**Key:****GE\*\*=General Education****LL=Life & Leadership****SS = Strategic Skills****Updated:****3-1-2022** |
| **First Year Fall** | **Learning Outcome** | **Sem Hours** | **Date Met** | **First Year Spring** | **Learning Outcome** | **Sem Hours** | **Date Met** |
| **DSCI 1500 Beginning Data Science** |  | **3** |  | **CSIT1200 Data Structures**  |  | **3** |  |
| **MATH1510 Calculus I** |  | **4** |  | **MATH1520 Calculus II** |  | **4** |  |
| **CSIT1100 Principles of Computing** |  | **3** |  | **MATH1370 Statistics for Sciences** | GE2A | **3** |  |
| UNIV1100 Digital Fluency & Citizenship | SS | 3 |  |  UNIV1200 Health & Wholeness | SS | **3** |  |
| LEAD1100 Self leadership I | LL | 2 |  | LEAD1200 Self Leadership II | LL | 2 |  |
|  |  |  |  |  |  |  |  |
| **Total Hours** |  | **15** |  | **Total Hours** |  | **15** |  |
| **Notes:** Join clubs and organizations on campus. Start your networking circle by signing up for GU4U - <https://my.graceland.edu/ICS/Alumni_and_Friends/GU4U/> Find winter break or summer job shadowing and volunteer opportunities. |
| **Second Year Fall** | **Learning Outcome** | **Sem****Hours** | **Date Met** | **Second Year Spring** | **Learning Outcome** | **Sem Hours** | **Date Met** |
| **MATH2510 Calculus III** |  | **4** |  | **CSIT 3300 Database Concepts and SQL** |  | 3 |  |
| **MATH2350 Discrete Math** |  | **3** |  | Arts | GE3A | 6 |  |
| Natural Science: CHEM1410 General Chemistry I Workshop is recommended | GE3D | 4 |  | UNVI 2100 | SS | **3** |  |
| ENGL1100 – Composition I\*  | GE1A | 3 |       | COMM1100 – Foundations of Public Speaking\*  | GE1B | 3 |       |
| LEAD2100 Group Leadership I  | LL | 2 |       | LEAD2200 Group Leadership II  | LL | 2 |  |
| **Total Hours** |  | **16** |  | **Total Hours** |  | **17** |  |
| **Notes:** Find student leadership positions or join a club or organization on campus. Check with in faculty regarding the Graceland 4+1 program which allows students to earn an MS degree in Data Science and Analytics with one more year of study beyond the BS degree. \*If you have transferred in any composition courses, please take a liberal learning course in its place. |
| **Third Year Fall*****(check your degree audit!)*** | **Learning Outcome** | **Sem****Hours** | **Date Met** | **Third Year Spring** | **Learning Outcome** | **Sem Hours** | **Date Met** |
| **MATH3200 Probability and Stochastic Processes** |  | **3** |  | **MATH3340+ Linear Algebra** |  | **3** |  |
| Humanities | GE3C | 6 |  | **MATH4350 Advanced Statistics4+1** |  | **3** |  |
| History | GE3B | 3 |  | Social Science | GE3E | 3 |  |
| Elective |  | 3 |  | ENGL2110 – Composition II  | GE1C | 3 |  |
| LEAD3100 Organizational Leadership I  | LL | 2 |  | Elective |  | 3 |  |
|  |  |  |  | LEAD3200 Organizational Leadership II  | LL | 2 |  |
| **Total Hours** |  | **17** |  | **Total Hours** |  | **17** |  |
| **Notes:** Research and apply for internships fall of the junior year to be completed summer after junior year. Connect with your faculty advisor for assistance with navigating this process. Connect with your faculty advisor in the fall of the junior year to learn more about graduate school applications and standardized test requirements for professional school. If you want to attend graduate school right after senor year, many applications open during the summer. Check in with your advisor during your junior year about career opportunities outside of graduate programs. |
| **Fourth Year Fall*****(apply for graduation!)*** | **Learning Outcome** | **Sem****Hours** | **Date Met** | **Fourth Year Spring** | **Learning Outcome** | **Sem Hours** | **Date Met** |
| **CSIT4200 Machine Learning4+1** |  | **3** |  | **CSIT4300 Cluster Algorithms4+1** |  | **3** |  |
| *DSCI 4300 Introduction to Data Science4+1* |  | *3* |  | *DSCI 4330 Extracting and Transforming Data4+1* |  | *3* |  |
| Elective |  | **9** |  | Elective |  | 6 |  |
|  |  |  |  | **DSCI4320 Practical Applications of Data Science** |  | **3** |  |
| LEAD4100 Life and LeadershipPracticum I  | LL | *2* |  | LEAD4200 Life and Leadership Practicum II  | LL | 2 |  |
| **Total Hours** |  | **17**  |  | **Total Hours** |  | **17** |  |
| **Notes: C**heck in with your advisor during your senor year about career opportunities outside graduate programs, including opportunities for a gap year that help make you a more competitive graduate school applicant. |

DISCLAIMER: These plans are to be used as guides only and are subject to changes in curriculum requirements. Refer to your Graceland Catalog for complete and accurate information. Some courses listed on the plans may have prerequisites that have not been stated. The student has the ultimate responsibility for scheduling and meeting the graduation requirements.

**Notes:**

-For students interested in a Master of Science degree in Data Science and Analytics, please talk you advisor and/or the director of the Data Science and Analytics program. Graceland offers a 4+1 program which allows students to complete their MS degree in Data Science and Analytics within as little as 12 months after graduation.