

CURRICULUM-RELATED INFORMATION FOR B.S. DATA SCIENCE MAJORS

University Requirements, 23 credit hours¹: OREN 100 and 101, 2CR; PHED 1, PHED 2, 2CR.

GEN-ED Requirements: ENGL 101 and 102, 6CR; HIST 103 and 104, 6CR; MATH 107, 4CR; CSCI 120, 3CR. A minimum grade of “C” is required in all University General Education (GE) courses.

Additional Mathematics Requirements, 7 credit hours: Calculus I (Math 207, 4CR) Linear Algebra (Math 407, 3CR)

Additional Computer Science Requirements, 6 credit hours: Introduction to Computer Science (CSCI 150, 3CR); Programming I (CSCI 210, 3CR).

Major Field 36 credit hours: A minimum grade of “C” is required in all major courses.

Introduction to Data Science (CSCI 406); Programming II (CSCI 220); Data Structures and Algorithms (CSCI 230); Python Programming; Introduction to Data Mining and Machine Learning (CSCI 470); Introduction to Statistics with R (CSCI 360, pre-requisite Math 208)/ or Biostatistics (EVSC 500); Introduction to Data Analytics (CSCI 473); Introduction to Big Data Analytics (CSCI 475); Database Design/Database Management (CSCI 0340); Project Management (CSCI 449); DASC 499 Capstone Experience (6CR) [Practicum *or* Internship; Interdisciplinary/Team-taught [CAS/CAENS/CBIS]]

Track 1: Business /Computer Science Track (Choose 18 credit hours from the following courses)

Math 208[required]; Discrete Math Structure (CSCI 300); Software Engineering (CSCI 430); Introduction to Robotics (CSCI 490); Internet of Things (CSCI 499M); Cloud Computing (CSCI 499I); Introduction to High Performance Computing (CSCI 465); Artificial Intelligence (CSCI 485); Information Warfare (CSCI 487); Introduction to Supply Chain Management (BUSN 310).

Track 2: Behavioral Science Track (Choose 18 credit hours from the following courses)

Test and Measurements (PSYC 303), Social Statistics (SOC 300), Research Methods (SOC 301), Microcomputer Applications in Psychology and Education (PSYC 560), Health Disparities, Bioethics, and Policy (SOC 510), Technology and Science (SOC 305), Applied Behavior Analysis (PSYC 523), Social Problems (SOC 241), Rural Sociology and Economics (SOC 243), Population (SOC 414), Introduction to Quantitative Research Methods (POLS 206)

Track 3: Agriculture Track (Choose 18 credit hours from the following courses)

Agricultural Informatics (EVSC 0450/EVSC0695); Applied Stats & Machine Learning (AGSC-0501); Remote Sensing (EVSC 545); Geographic Information Systems (EVSC 507); Introduction to Data Analytics (CSCI 473); Introduction to Data Mining and Machine Learning (CSCI 470); Introduction to Big Data Analytics (CSCI 475); GIS Applications (EVSC 517); Climate Change & Climate Modeling (EVSC 610); Hydrologic Modeling (EVSC 560)

Elective courses choose 27 credit hours from the following (*Students may also choose courses from any of the tracks in which they are not enrolled*):

Technical Writing, ENGL 203, 3 CR or Critical Reading and Technical Writing, ENGL 204, 3CR; Business Communication, BUSN 400, 3 CR or Public Speaking ENGL 327, 3CR; DASC 481 Ethics of Data Science; DASC 351 Exploratory Data Science (CWR), 3CR; DASC 353 Data Science Statistical Learning, Modeling and Prediction (CWR), 3CR; DASC 354 Introduction to Enterprise Data Science [IBM], 3CR; DASC 355

¹ OREN 100/101 (2CR) and PHED1/PHED 2 (2CR) do not count towards graduation

Introduction to Enterprise Cloud Computing [IBM], 3CR; DASC 356 Introduction to Enterprise Cybersecurity [IBM], 3CR; DASC 357 Introduction to Enterprise Artificial Intelligence [IBM], 3CR.

Free Electives, 7CR in any academic field of your choice

TOTAL: 124 credit hours (Orientation and PHED do not count towards graduation)

Time Limit to Complete Requirements in Orientation, English, and English Proficiency Examination: Students who have attempted 60 or more hours but have not completed any one of the following requirements will not be permitted to enroll in new courses. Students may repeat courses in which failing grades have been earned while attempting to meet any one of the following:

- 1. Orientation:** Orientation should be taken during the first and second semesters of enrollment.
- 2. The English Requirement:** The student must pass English 101 and 102 with a grade of "C" or better.
- 3. Tuskegee University English Proficiency Examination:** The student must pass both parts of the University English Proficiency Examination.

Grade Standards: After consultation with the student (and the advisor and faculty when it seems useful), a school dean may remove a student from a particular field of study or deny approval of a change of major application to a major field of study if the student's standing is as follows:

- 1.** The student has earned during one semester two grades of "E", or "D" when "C" is the minimum passing grade in certain subjects listed as essential for the chosen field of specialization.
- 2.** The student has earned one grade of "E" or "D" when "C" is the minimum passing grade in each of two consecutive semesters in subjects listed as essential for the chosen field of specialization.

Time limit for Graduation and Changes in Curriculum: If the curriculum changes, a student may be permitted, as a rule, to follow the curriculum published in the catalog for the year in which he or she entered the University. However, should a student take more than five years to complete a curriculum, the student shall be required to meet the new curricular requirements, including any increase in the total number of hours. If a student changes his or her major, the student will be guided by the curriculum in force at the time the major is changed.

The University reserves the right to correct any clerical or recording errors. The student must meet all requirements for graduation; no degree will be awarded because of an error.