Master of Science in Data Science (NT)- Degree Plan
Effective Fall 2024

This worksheet is designed for use by UTA students applying to or currently enrolled in the Master of Science in Data Science program.

Student Name: _____ ID: _____

Core Courses (18 Credit Hours)- Students should complete the core courses within the first two semesters as listed below.

Course	Prerequisites	Typically Taught	Semester Planned	Semester Completed	Grade Received
DASC 5300 Foundation of Computing	DASC Major	Fall, Spring	1st Semester		
DASC 5301- Data Science	Co-Requisites: DASC 5300 DASC 5302	Fall, Spring	1st Semester		
DASC 5302- Introduction to Probability and Statistics	DASC Major	Fall, Spring	1st Semester		
DASC 5304- Machine Learning	DASC 5300 DASC 5301 DASC 5302	Fall, Spring	2nd Semester		
DASC 5305- Visualization	DASC 5304 or concurrent enrollment	Fall, Spring	2nd Semester		
DASC 5306- Big Data Management	DASC 5300 DASC 5301 DASC 5302	Fall, Spring	2nd Semester		

After your first 6 DASC classes are done, you can take courses in any order you like as long as you meet the requirements below.

Specialization Electives (6 Credit Hours)- Students must take 2 non-CSE electives from the approved MSDS course listing.

	Course	Semester Planned	Semester completed	Grade Received
Specialization Elective				
Specialization Elective				

Electives (3 Credit Hours)- The remaining elective can be from any other department listed on the MSDS-approved course list, but must be from a different department than your specialization electives. **The maximum CSE course you can take is 1.**

	Course	Semester Planned	Semester Completed	Grade Received
Elective				

Check the catalog for approved Electives for the MS in Data Science. Electives from the IE and CSE departments with 100 sections are for MSDS students only.

Capstone (3 Credit Hours) Pick One

	Prerequisites	Course	Semester Planned	Semester Completed	Grade Received
DASC 5309- Data Science Capstone Project	DASC 5300 DASC 5301 DASC 5302 DASC 5304 DASC 5305 DASC 5306				
DASC 5391- Data Science Applications	DASC 5300 DASC 5301 DASC 5302 DASC 5304 DASC 5305 DASC 5306				

DASC 5391-An internship with a recognized company, and the MSDS department will need to approve it. This course requires students to complete a data science project agreed upon and overseen by both UTA and the employer.

Data Science Core Courses

Course	Prerequisites	Typically Taught
DASC 5300 – Foundation of Computing		Fall, Spring
DASC 5301 – Data Science	DASC 5300 (concurrent enrollment) DASC 5302 (or concurrent enrollment)	Fall, Spring
DASC 5302 – Introduction to Probability and Statistics		Fall, Spring
DASC 5304 – Machine Learning	DASC 5300 DASC 5301 DASC 5302	Fall, Spring
DASC 5305 – Visualization	DASC 5304 (or concurrent enrollment)	Fall, Spring
DASC 5306 – Big Data Management	DASC 5300 DASC 5301 DASC 5302	Fall, Spring

Once a student has completed DASC 5300, DASC 5301, DASC 5302, DASC 5304, DASC 5305, and DASC 5306, the prerequisites for the following courses are waived for MSDS students unless noted otherwise.

Other – DASC Elective Courses

Course	Prerequisites	
DASC 5303 – Data Science Project Management	DASC 5300 DASC 5301 DASC 5302	Non-CSE elective
DASC 5392 – Topics in Data Science	DASC 5300 DASC 5301 DASC 5302 Consent of the instructor	CSE or non-CSE elective (depending on the topic)

Computer Science

Course	Prerequisites	Typically Taught
CSE 5334 – Data Mining		Fall, Spring, Summer
CSE 5335 – Web Data Management		Fall, Spring, Summer
CSE 5360 – Artificial Intelligence		Fall, Spring, Summer
CSE 5367 – Pattern Recognition		Spring
CSE 5368 – Neural Network		Fall, Spring
CSE 6367 – Computer Vision		Fall, Spring, Summer

Industrial Engineering

Course	Prerequisites	Typically Taught
IE 5301 – Introduction to Operations Research		Fall, Spring, Summer
IE 5303 – Quality System		Fall
IE 5304 – Advanced Engineering Economy		Fall, Spring, Summer
IE 5318 – Applied Regression Analysis		Fall, Spring, Summer
IE 5322 – Simulation and Optimization		Spring
IE 5323 – Agent-Based Simulation		Fall, Spring
IE 5351 – Introduction to System Engineering		Fall, Spring
IE 6318 – Data Mining and Analytics	IE 5318	Fall, Spring

Electrical Engineering

Course	Prerequisites	Typically Taught
EE 5304 – Cyber-Physical Systems		Spring
EE 5322 – Intelligent Control Systems		Fall, Spring
EE 5325 – Robotics		Spring
EE 5350 – Digital Signal Processing		Spring
EE 5352 – Statistical Signal Processing	EE 5350	Spring
EE 5353 – Neural Networks and Deep Learning		Fall
EE 5364 – Information Theory for Data Science		Spring
EE 5363 – Convex Optimization		Fall, Spring

Material Science and Engineering

Course	Prerequisites	Typically Taught
MSE 5300 – Introduction to Material Science and Engineering		Fall, Spring
MSE 5350 – Introduction to Computational Material Science		Spring

Biology

Course	Prerequisites	Typically Taught
BIOL 5314 – Biometry		Fall
BIOL 5340 – Bioinformatics		Fall
BIOL 5361 – Advanced Biometry		
BIOL 5362 – Experimental Design		

Geology

Course	Prerequisites	Typically Taught
GEOL 5320 – Understanding Geographic Information Systems		Fall, Spring
GEOL 5321 – Analysis of Spatial Data		Fall
GEOL 5322 – Global Positioning System		
GEOL 5323 – Remote Sensing Fundamentals		Spring

Psychology

Course	Prerequisites	Typically Taught
PSYC 5407 – Experimental Design		Spring
PSYC 6349 – Psychometric Theory		Fall
PSYC 6355 – Multivariate Analysis		

Mathematics

Course	Prerequisites	Typically Taught
MATH 5314 – Experimental Design		
MATH 5353 – Applied Linear Models		
MATH 5358 – Regression Analysis	MATH 5353	Spring
MATH 6310 – Foundation of Data Sciences		Fall
MATH 6311 – Optimization on Big Data		Spring

Capstone Project

Course	Prerequisites	Typically Taught
DASC 5309 – Data Science Capstone Project	DASC 5300 DASC 5301 DASC 5302 DASC 5304 DASC 5305 DASC 5306	Fall, Spring
DASC 5391 – Data Science Applications (Internships)	DASC 5300 DASC 5301 DASC 5302 DASC 5304 DASC 5305 DASC 5306	Fall, Spring