West Texas A&M University
Advising Services
Degree Checklist
2021-2022
(For assistance completing this form, contact Advising Services at 806-651-5300)

NAME:_____ **WT ID:**_____ **DATE:**_____

Computer Science—Data Science Track **Bachelor of Science Degree**
Engineering and Computer Science **BS.CS.DS (307)**
ECS Building, Room 119 651-5257

CORE CURRICULUM COURSES: 42 HOURS ♦	HRS	FPC	
Communication (Code 10)			
ENGL 1301 Introduction to Academic Writing and Argumentation	3		
COMM 1315, 1318, or 1321**	3		
Mathematics (20)			
See **University Core Requirements** below	(3)		
Life and Physical Sciences (30)			
See **University Core Requirements** below	(6)		
Language, Philosophy and Culture (40)			
ANTH 2351, ENGL 2321*, 2326*, 2331*, 2341*, 2343*; HIST 2311, 2323, 2372; MCOM 1307; PHIL 1301, 2374; SPAN 2311, 2312*/***, 2313, 2315*, or 2371 **Choose 1**	3		
Creative Arts (50)			
ARTS 1301, 1303, 1304; DANC 2303; MUSI 1306, 1307 (for music majors), 1310; or THRE 1310 **Choose 1**	3		
American History (60)			
HIST 1301, 1302, 2301, 2381, 2382 **Choose 2**	6		
Government/Political Science (70)			
POSC 2305 and 2306	6		
Social and Behavioral Sciences (80)			
AGBE 2317*; COMM 2377; CRIJ 1301; ECON 2301, 2302; PSYC 2301; SOCI 1301 **Choose 1**	3		
Component Area Option (90)			
See **University Core Requirements** below	(6)		
COMPUTER SCIENCE—DATA SCIENCE TRACK MAJOR REQUIREMENTS: 94 HOURS **A grade of "C" or better must be earned in all courses required for major.** **A grade of "C" or better is mandatory for all prerequisites listed for ECS courses required for Computer Science majors.**			
UNIVERSITY CORE REQUIREMENTS: 15 HOURS ♦			
CORE 20 MATH 2413*[3] Calculus I	3	FPC	
CORE 30 **CHEM 1411*[3] and 1412*[3]** **OR** **PHYS 2425*[3] and 2426*[3]**	6	FPC	
CORE 90 **ENGL 2311* Introduction to Professional and Technical Communication**	3	FPC	
CORE 90 **MATH 2413[1] AND** **CHEM 1411L[1] and 1412L[1]** **OR** **PHYS 2425L[1] and 2426L[1]**	3		
MAJOR REQUIREMENTS: 51 HOURS			
CS 1301 Introduction to Computer Science	3		
CS 1337, 1337L Programming Principles I **or** CIDM 2315 – Programming Business Applications	3		
CS 2337*, 2337L Programming Principles II	3		
CS 2325*, 2325L Computer Organization and Assembly Language	3		
CS 3303* Object-Oriented Software Development			
CS 3305* Data Structures and Algorithms	3		
CS 3307* Algorithm Design and Analysis	3		
CS 3310* Programming Languages	3		
CS 3340* Software Engineering OR CIDM 4360* – Object-Oriented Analysis and Design	3		
CS 3350* Database Systems Use, Design and Implementation **or** CIDM 3350* Database system design	3		
CS 3352* Operating Systems and Networking	3		
CS 3372* Net-Centric Computing **or** CIDM 3385* – Network Security & Data Communications	3		
CS 4325* Computer Architecture	3		
CS 4360* Approaches to Internet and Computer Networks Security	3		
CS 4385* Concurrency and Distributed Systems	3		
CS 4390* Senior Capstone Project I	3		
CS 4391* Senior Capstone Project II	3		
REQUIRED MATH COURSES: 16 HOURS			
MATH 2321* Discrete Structures I	3		
MATH 2322* Discrete Structures II	3		
MATH 2414* Calculus II	4	FPC	
Take 6 hours from: MATH 3311* Linear Algebra MATH 3321* Probability and Finite Mathematics MATH 4310* Modern Algebra with Cryptography MATH 4361* Statistics for the Sciences	6		
DATA SCIENCE TRACK: 12 HOURS			
CS 3341 - Introduction to Data Science	3		
CS 3387 – Artificial Intelligence	3		
CS 4341 - Data Science I	3		
CS 4342 - Data Science II	3		
TOTAL HOURS REQUIRED TO COMPLETE DEGREE	121		

♦ The core curriculum must total **exactly 42 hours**; excess hours must be moved to the major as an elective or a major requirement and stay within the 120-hour requirement or approved total submitted to the Coordinating Board for degree requirements. Some majors specify particular courses to meet core curriculum requirements when options are available.
* Indicates prerequisites—see catalog for more information.
** Recommended.
*** Or an equivalent course (second year, second semester) in a foreign language.
NOTE: At least 39 hours of advanced work (3000- or 4000-level courses) for which tuition is paid must be earned at WTAMU, and 30 of the final 36 hours counted toward the degree must be earned at WTAMU. A maximum of six semester hours in religion (RELI) and six semester hours in physical education (PHED) courses can count toward a baccalaureate degree.

NOTE: This is NOT a degree plan. All undergraduate students must request an official degree plan from their academic dean's office by the time they have completed 30 credit hours.

WTAMU ADVISING SERVICES
2021-2022 Curriculum Guide

Major: Computer Science - Data Science Track

Major Code: 307

First Year

Fall		Spring	
CORE 10 - ENGL 1301	3	**CS 1337 or CIDM 2315**	3
CS 1301	3	**CORE 20 - MATH 2413**	4
		(4th hour counts towards Core 90)	
CORE	3	**CORE 90 - ENGL 2311**	3
(see Note 1 below)		**(required for major)**	
CORE	3	CORE	3
(see Note 1 below)		(see Note 1 below)	
CORE	3	CORE	3
(see Note 1 below)		(see Note 1 below)	
Semester Hours	15	Semester Hours	16

Second Year

Fall		Spring	
CS 2337	3	**CS 2325**	3
MATH 2321	3	**CS 3305**	3
Core 30 - Take one course from:	3	**CORE 30 - Take one course from:**	3
CHEM 1411 or PHYS 2425		**CHEM 1412 or PHYS 2426**	
CORE 90 - Take one course from:	1	**CORE 90 - Take one course from:**	1
CHEM 1411L or PHYS 2425L		**CHEM 1412L or PHYS 2426L**	
MATH 2414	4	CORE	3
		(see Note 1 below)	
CORE	3	**MATH 2322**	
Semester Hours	17	Semester Hours	16

Third Year

Fall		Spring	
CS 3307		**MATH Elective**	3
		(see Note 3 below)	
CS 3303		**CS 3340 or CIDM 4360**	3
CS 3352		**CS 3372 or CIDM 3385**	3
CS 3321		**CS 3310**	3
CS 4325		**CS 3322**	3
Semester Hours	15	Semester Hours	15

Fourth Year

Fall		Spring	
CS 4360	3	**CS 4385**	3
MATH Elective	3	**CS 4322**	3
(see Note 2 below)			
CS 3350 or CIDM 3350	3	**CS 4391**	3
CS 4390	3	CORE	3
		(see Note 1 below)	
CS 4321	3		
Semester Hours	15	Semester Hours	12

Degree Total Hours 120

DISCLAIMER: This curriculum guide should be used in conjunction with the corresponding degree checklist for general planning purposes only. The degree checklist (later a student's official degree plan) should be referred to as the comprehensive list of all courses required for the degree. An official degree plan is required after completing 30 hours. Students should always seek the advice of their academic adviser before scheduling classes.

Identified Marketable Skills:

Top 3 Local Employers or Industries/Professional Programs/Possible Career Opportunities

Prerequisites/Important Sequences/Other degree Notes:

NOTES:

Note 1 - CORE: Computer Science majors are required to take specific courses for Core 20, Core 30, and Core 90. For all other core categories, they may select from any available options (see checklist). Apart from the major-specific core requirements, there is no set order in which core courses must be taken.

Note 2 - CS Electives: Take 12 hours from CS 3321, 3322, 3387, 4095, 4097, 4321, 4322, 4330, 4392, and 4398.

Note 3 - MATH Elective: Take 6 hours from MATH 3311, 3321, 3325, 3340, 3342, 3343, 4341, 4361, and 4362.