

# West Texas A&M University

## Advising Services

### Degree Checklist

**2024-2025**

(For assistance completing this form, contact Advising Services at 806-651-5300)

Name: \_\_\_\_\_ WT ID: \_\_\_\_\_ Date: \_\_\_\_\_

<b>Computer Science B.S.</b>	
<b>Engineering and Computer Science (ECS-119) (651-5257)</b>	
<b>Degree:</b> Bachelor of Science (B.S.)	
See the "Requirements for Baccalaureate Degrees" section of the Catalog.	
<b>Major:</b> Computer Science	
<b>Major Code:</b> 307	
Students choose from one of the following tracks:	
<ul style="list-style-type: none"> <li>• Enterprise Systems</li> <li>• Software Engineering</li> <li>• Data Science</li> </ul>	<b>BS.CS.ENT.SYS</b> <b>BS.CS.SFWR.ENGR</b> <b>BS.CS.DATA.SCI</b>
<b>University Core Curriculum Requirements (42 hours)</b>	<b>Semester Credit Hours</b>
<b>Core 10 - Communication (3 hours from ENGL options)</b> • ENGL 1301 or ENGL 1311	<b>3</b>
<b>Core 10 - Communication (3 hours from COMM options)</b> • COMM 1315; COMM 1318; or COMM 1321	<b>3</b>
<b>Core 20 - Mathematics (3 hours)</b> • See Major-Specific University Core Requirements below	
<b>Core 30 - Life and Physical Sciences (6 hours)</b> • See Major-Specific University Core Requirements below	
<b>Core 40 - Language, Philosophy and Culture (3 hours)</b> • ANTH 2351; ENGL 2321; ENGL 2326; ENGL 2331; ENGL 2341; ENGL 2343; HIST 2311; HIST 2323; HIST 2372; MCOM 1307; PHIL 1301; PHIL 2374; SPAN 2311; SPAN 2312 [or an equivalent course (second year or intermediate level) in a foreign language]; SPAN 2313; SPAN 2315; or SPAN 2371	<b>3</b>
<b>Core 50 - Creative Arts (3 hours)</b> • ARTS 1301; ARTS 1303; ARTS 1304; DANC 2303; MUSI 1306; MUSI 1307; MUSI 1310; or THRE 1310	<b>3</b>
<b>Core 60 - American History (6 hours)</b> • HIST 1301; HIST 1302; HIST 2301; HIST 2381; or HIST 2382	<b>3</b>
<b>Core 70 - Government / Political Science (6 hours)</b> • POSC 2305 and POSC 2306	<b>3</b>
<b>Core 80 - Social and Behavioral Sciences (3 hours)</b> • AGBE 2317; COMM 2377; CRIJ 1301; ECON 2301; ECON 2302; GEOG 1302; PSYC 2301; or SOCI 1301	<b>3</b>
<b>Core 90 - Component Area Option (6 hours or fewer; may depend on major requirements)</b> • See Major-Specific University Core Requirements below	

<b>Computer Science Major Requirements (94 hours)</b>			
***** C or better required in all courses in the Major Requirements *****			
***** C or better required in all prerequisites listed for College of Engineering courses required for CS majors *****			
<b>Major-Specific University Core Requirements (15 hours)</b>			
The following courses are required for their specific Core areas <u>instead of</u> the courses listed above in the general University Core Curriculum.			
<b>Core 20 - Mathematics (3 hours)</b> <ul style="list-style-type: none"> <li>MATH 2413 - Calculus I (Fourth hour will count towards Core 90.)</li> </ul>	<b>3</b>		
<b>Core 30 - Life and Physical Sciences (6 hours)</b> <ul style="list-style-type: none"> <li>CHEM 1411, 1411L - Chemistry I and CHEM 1412, 1412L - Chemistry II <b>or</b></li> <li>PHYS 2425, 2425L - Calculus Physics I and PHYS 2426, 2426L - Calculus Physics II (Lab hours will count towards Core 90.)</li> </ul>	<b>3</b>	<b>3</b>	
<b>Core 90 - Component Area Option (6 hours)</b> <ul style="list-style-type: none"> <li>ENGL 1302 – Academic Writing and Research <b>or</b> ENGL 2311 – Introduction to Professional and Technical Communication</li> <li>Lab hours from CHEM 1411/1412 or PHYS 2425/2426 and fourth hour from MATH 2413</li> </ul>	<b>3</b>		
	<b>1</b>	<b>1</b>	<b>1</b>
<b>Computer Science Requirements (67 hours)</b>			
CS 1301 - Introduction to Computer Science	<b>3</b>		
CS 1337 - Programming Principles I <b>or</b> CIDM 2315 - Programming Business Applications	<b>3</b>		
CS 2337 - Programming Principles II	<b>3</b>		
CS 3303 - Object-Oriented Software Development	<b>3</b>		
CS 3305 - Data Structures and Algorithms	<b>3</b>		
CS 3307 - Algorithm Design and Analysis	<b>3</b>		
CS 3310 - Programming Languages	<b>3</b>		
CS 3325 - Computer Organization and Assembly Language	<b>3</b>		
CS 3340 - Software Engineering <b>or</b> CIDM 4360 - Object-Oriented Analysis and Design	<b>3</b>		
CS 3350 - Database Systems Use, Design and Implementation <b>or</b> CIDM 3350 - Database Systems Design	<b>3</b>		
CS 3352 - Operating Systems and Networking	<b>3</b>		
CS 3372 - Net-Centric Computing <b>or</b> CIDM 3385 - Network Security and Data Communications	<b>3</b>		
CS 4325 - Computer Architecture	<b>3</b>		
CS 4360 - Approaches to Internet and Computer Networks Security	<b>3</b>		
CS 4385 - Concurrency and Distributed Systems	<b>3</b>		
CS 4390 - Senior Capstone Project I	<b>3</b>		
CS 4391 - Senior Capstone Project II	<b>3</b>		
MATH 2321 - Discrete Structures I	<b>3</b>		
MATH 2322 - Discrete Structures II	<b>3</b>		
MATH 2414 - Calculus II	<b>4</b>		

<p><b>Six hours advanced MATH chosen from:</b></p> <p>MATH 3311 - Linear Algebra  MATH 3321 - Probability  MATH 3325 - Introduction to Proofs  MATH 3340 - Calculus III  MATH 3342 - Differential Equations I  MATH 4310 - Modern Algebra with Cryptography  MATH 4340 - Complex Variables I  MATH 4341 - Advanced Calculus  MATH 4361 - Statistics for the Sciences  MATH 4362 - Introduction to Numerical Analysis</p> <p><b>Note:</b> Students selecting the Data Science track must take six hours of ADVANCED MATH from:</p> <ul style="list-style-type: none"> <li>• MATH 3311 - Linear Algebra</li> <li>• MATH 3321 - Probability</li> <li>• MATH 4310 - Modern Algebra with Cryptography</li> <li>• MATH 4361 - Statistics for the Sciences</li> </ul>	<b>6</b>
<b>Enterprise Systems Track (12 hours)</b>	
CS 3321 - Introduction to Enterprise Systems	<b>3</b>
CS 3322 - Enterprise Systems Application Development	<b>3</b>
CS 4321 - Enterprise Systems Assembler Programming	<b>3</b>
CS 4322 - Advanced Topics of Enterprise Systems	<b>3</b>
<b>Software Engineering Track (12 hours)</b>	
<p><b>Twelve hours advanced CS selected from:</b></p> <p>CS 3321 - Introduction to Enterprise Systems  CS 3322 - Enterprise Systems Application Development  CS 3341 - Introduction to Data Science  CS 3387 - Artificial Intelligence  CS 4095 - Problems in Computer Science  CS 4097 - Computer Science Research  CS 4321 - Enterprise Systems Assembler Programming  CS 4322 - Advanced Topics of Enterprise Systems  CS 4330 - Computer Graphics  CS 4392 - Special Topics in Computer Science  CS 4398 - Internship in Computer Science  CS 4341 - Data Science I  CS 4342 - Data Science II</p>	<b>12</b>
<b>Data Science Track (12 hours)</b>	
CS 3341 - Introduction to Data Science	<b>3</b>
CS 3387 - Artificial Intelligence	<b>3</b>
CS 4341 - Data Science I	<b>3</b>
CS 4342 - Data Science II	<b>3</b>
<p><b>Total hours required to complete degree: 121 hours</b></p> <p>Depending on transfer credits and other substitutions/waivers, student may need to take additional electives as needed to total a minimum of 121 hours or the minimum total hours required for this degree, of which at least 36 must be advanced (3000/4000 level) and earned at WTAMU.</p>	

**Prerequisites**

Some courses may require prerequisites. See the University Catalog for more information.

**Advising Notes**

**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. In addition, this document is used as an advising resource. For official information, please refer to the University Catalog.