

**West Texas A&M University**  
**Advising Services**  
**Degree Checklist**  
**2023-2024**

**NAME:** \_\_\_\_\_ **WT ID:** \_\_\_\_\_ **DATE:** \_\_\_\_\_

**Physics**

**Chemistry and Physics**

**Chemistry and Physics Bldg. (301 26<sup>th</sup> St.) (806)651-2940**

<b>CORE CURRICULUM COURSES: 42 HOURS ♦</b>		<b>HRS</b>
<b>Communication (Code 10)</b>		
ENGL 1301 Intro. to Academic Writing & Argumentation OR ENGL 1311 Writing About Ideas	3	
COMM 1315, 1318, or 1321	3	
<b>Mathematics (Code 20)</b>		
See University Core Requirements below	(3)	
<b>Life and Physical Sciences (Code 30)</b>		
See University Core Requirements below	(6)	
<b>Language, Philosophy and Culture (Code 40)</b>		
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	
<b>Creative Arts (Code 50)</b>		
ARTS 1301, 1303, 1304; DANC 2303; MUSI 1306, 1307 (for music majors), 1310; or THRE 1310 Choose 1	3	
<b>American History (Code 60)</b>		
HIST 1301, 1302, 2301, 2381, or 2382 Choose 2	6	
<b>Government/Political Science (Code 70)</b>		
POSC 2305 and 2306	6	
<b>Social and Behavioral Sciences (Code 80)</b>		
AGBE 2317*; COMM 2377; CRIJ 1301; ECON 2301, 2302; GEOG 1302; PSYC 2301; SOCI 1301 Choose 1	3	
<b>Component Area Option (Code 90)</b>		
See University Core Requirements below	(6)	
<b>PHYSICS MAJOR REQUIREMENTS: 64-68 HOURS</b> A grade of "C" or better must be earned in all courses required for major.		
<b>UNIVERSITY CORE REQUIREMENTS: 15 HOURS ♦</b>		
<b>CORE 20</b> MATH 1314*, 1316*, 1324*, 2412*[3], or 2413*[3]	3	
<b>CORE 30</b> PHYS 2425*[3] Calculus Physics I	3	
<b>CORE 30</b> PHYS 2426*[3] Calculus Physics II	3	
<b>CORE 90</b> ENGL 1302* Research and Rhetoric OR ENGL 2311* Introduction to Professional and Technical Communication	3	
<b>CORE 90</b> PHYS 2425L[1], 2426L[1] <b>AND</b> IDS 1071[1], MATH 2412[1], or 2413[1]	3	
<b>PHYSICS REQUIREMENTS: 49-53 HOURS</b>		
PHYS 3310* Modern Physics I	3	
PHYS 3320* Thermodynamics	3	
PHYS 3330* Mechanics I	3	
PHYS 3340* Electricity and Magnetism I	3	
PHYS 3350* Advanced Physics Laboratory	3	
PHYS 4320* Quantum Mechanics I	3	
PHYS 4360* Nuclear Physics	3	
PHYS 4340* Mathematical Methods	3	

**Bachelor of Science Degree**

**BS.PHYSICS.TPC (138)**

PHYS 4197* Research in Physics	1	
PHYS 4103* Seminar in Physics	1	
MATH 1316* Plane Trigonometry OR MATH 2412* Pre-Calculus (if not taken to satisfy Core 20)	0-4	
MATH 2413* Calculus I	4	
MATH 2414* Calculus II	4	
MATH 3340* Calculus III	3	
MATH 3342* Differential Equations I	3	
CS 1315* Programming Fundamentals OR CS 1337 Introduction to Object-Oriented Programming	3	
<b>Take six hours from:</b> PHYS 3323* Medical Imaging Physics PHYS 3380* Astrophysics PHYS 4310* Modern Physics II PHYS 4350* Computational Physics PHYS 4330* Optics PHYS 4390* Solid State Physics	6	
<b>BACHELOR OF SCIENCE REQUIREMENTS</b> Covered by requirements for major.		<b>OPTION</b>
<b>ELECTIVES</b> At least one hour must be advanced.		
18 HOURS BY ADVISEMENT	18	
GENERAL ELECTIVES ELECTIVES should be in a support field. MATH 3311 and 3321, CHEM 1411, 1412 are recommended.	7-12	
<b>MINIMUM HRS REQUIRED TO COMPLETE DEGREE</b>	<b>120</b>	

\* Indicates prerequisites—see catalog for more information.

\*\* Or an equivalent course (second year, second semester) in a foreign language.

**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 – 2023-2024 Curriculum Guide**

**Major: Physics, B.S.**

**Major Code: 138**

<b>Year 1: Fall</b>		<b>Year 1: Spring</b>	
CORE 10 (Communication) – ENGL 1301 or 1311	3	CORE 90 (Component Area Option) – ENGL 1302, 1312 or 2311	3
CORE 20 (Mathematics) – MATH 1314	3	MATH 1316 Plane Trigonometry <b>or</b> 2412 Pre-Calculus Math (2412 is recommended)	3-4
CORE – See checklist for options <sup>1</sup>	3	CORE – See checklist for options <sup>1</sup>	3
CORE – See checklist for options <sup>1</sup>	3	CORE – See checklist for options <sup>1</sup>	3
CORE 90 (Component Area Option) – See checklist <b>or</b> <sup>2</sup> below	1	CORE – See checklist for options <sup>1</sup>	3
<b>Total:</b>	<b>13</b>	<b>Total:</b>	<b>15-16</b>
<b>Year 2: Fall</b>		<b>Year 2: Spring</b>	
CORE 30 (Life & Phys. Sci.) – PHYS 2425 Calculus Physics I	3	CORE 30 (Life & Phys. Sci.) – PHYS 2426 Calculus Physics II	3
CORE 90 (Component Area Option) – PHYS 2425L	1	CORE 90 (Component Area Option) – PHYS 2426L	1
MATH 2413 Calculus I	4	MATH 2414 Calculus II	4
Elective (by advisement)	4	CS 1315 Programming Fundamentals <b>or</b> CS 1337 Intro. to Object-Oriented Programming	3
CORE – See checklist for options <sup>1</sup>	3	CORE – See checklist for options <sup>1</sup>	3
CORE – See checklist for options <sup>1</sup>	3	Elective (by advisement)	4
<b>Total:</b>	<b>18</b>	<b>Total:</b>	<b>18</b>
<b>Year 3: Fall</b>		<b>Year 3: Spring</b>	
MATH 3340 Calculus III	3	MATH 3342 Differential Equations I	3
PHYS 3330 Mechanics I	3	PHYS 3310 Modern Physics I	3
PHYS 3320 Thermodynamics	3	PHYS 3350 Advanced Physics Laboratory	3
Elective (by advisement)	3	Elective (by advisement)	3
Elective (by advisement)	3	Elective (by advisement)	3
<b>Total:</b>	<b>15</b>	<b>Total:</b>	<b>15</b>
<b>Year 4: Fall</b>		<b>Year 4: Spring</b>	
PHYS 3340 Electricity and Magnetism I	3	PHYS 4340 Mathematical Methods	3
PHYS 4320 Quantum Mechanics I	3	PHYS 4360 Nuclear Physics	3
PHYS 4197 Research in Physics	1	PHYS 4103 Seminar in Physics	1
Physics Elective(1) – See <sup>3</sup> below	3	Physics Elective(2) – See <sup>3</sup> below	3
Elective (by advisement)	3	Elective (by advisement)	3
<b>Total:</b>	<b>13</b>	<b>Total:</b>	<b>13</b>

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

<sup>2</sup> **CORE 90:** One of the six hours required for Core 90 may be satisfied by IDS 1071 (if taken) or the fourth hour from MATH 2412 or 2413.

<sup>3</sup> **Physics Elective:** Take six hours from PHYS 3323, 3380, 4310, 4350, 4330, 4390.

<b>Identified Marketable Skills</b>	<b>Top Three Local Employers or Industries/Professional Programs/Possible Career Opportunities</b>
Procedure development Chemical analysis Data analysis	Bell Helicopter Pantex Servitech

**Additional notes:**

- 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.

- At least 36 hours of advanced work (3000- or 4000-level courses) for which tuition is paid 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.

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.