### West Texas A&M University **Advising Services Degree Checklist** 2020-2021

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

NAME:	WT ID:	DATE:
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## Physical Science (Grades 6-12) Certification **Chemistry and Physics**

CORE CURRICULUM COURSES: 42 HOURS + HRS	CORE CURRICULUM COURSES: 42 HOURS ◆	/ -	51-29		
ENGL 1301 Introduction to Academic Writing and Argumentation		HRS			
Argumentation 3  COMM 1315, 1318, or 1321 3  Mathematics (Code 20)  See University Core Requirements below (6)  Life and Physical Sciences (Code 30)  See University Core Requirements below (6)  Language, Philosophy and Culture (Code 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  Creative Arts (Code 50)  ARTS 1301, 1303, 1304; DANC 2303; MUSI 1306, 1307 (for music majors), 1310; or THRE 1310 Choose 1  American History (Code 50)  HIST 1301, 1302, 2301, 2381 Choose 2 6  Government/Political Science (Code 70)  POSC 2305 and 2306 6  Social and Behavioral Sciences (Code 80)  AGBE 2317*; COMM 2377; CRIJ 1301; ECON 2301, 2302; PSYC 2301; SOCI 1301 Choose 1  Component Area Option (Code 90)  See University Core Requirements below (6)  PHYSICAL SCIENCE (GRADES 6-12) CERTIFICATION REQUIREMENTS: 73-79 HOURS A grade of "C" or better and a 2.75 GPA is required.^  UNIVERSITY CORE REQUIREMENTS: 15 HOURS •  CORE 20  CORE 30  CHEM 1411*[3] Chemistry I  CORE 30  CHEM 1411*[3] Chemistry II  CORE 90  ENGL 3211* Introduction to Professional and Technical Communication  CORE 90  ENGL 3211* Introduction to Professional and Technical Communication  CORE 90  ENGL 2311* [1, 1412L[1]  AND  IDS 1071[1], MATH 2412[1], or 2413[1]  PHYSICAL SCIENCE REQUIREMENTS: 58-64 HOURS (Agrade of "C" or better and a 2.75 GPA is required.*)  CHEM 3221*, 2423L Organic Chemistry I  CHEM 3422*, 2423L Organic Chemistry I  CHEM 3422*, 2425L Organic Chemistry I  CHEM 3421*, 341L Physical Chemistry I  CHEM 3421*, 341L Physical Chemistry I  CHEM 3421*, 3421L Physical Chemistry I  CHEM 3421*, 3421L Physical Chemistry II  CHEM 3421*, 3421L Physical Chemistry II  CHEM 4411*, 4411L Instrumental Analysis  CHEM 4323* and 4223L Biochemistry I Biochemistry I  Laboratory  Laboratory	Communication (Code 10)				
Mathematics (Code 20)   (3)		3			
See University Core Requirements below	COMM 1315, 1318, or 1321	3			
Life and Physical Sciences (Code 30)	Mathematics (Code 20)	<u> </u>			
See University Core Requirements below	See University Core Requirements below	(3)			
Language, Philosophy and Culture (Code 40)	Life and Physical Sciences (Code 30)				
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  Creative Arts (Code 50)  ARTS 1301, 1303, 1304; DANC 2303; MUSI 1306, 1307 (for music majors), 1310; or THRE 1310 Choose 1  American History (Code 60)  HIST 1301, 1302, 2301, 2381 Choose 2 6  Government/Political Science (Code 70)  POSC 2305 and 2306  Social and Behavioral Sciences (Code 80)  AGBE 2317*; COMM 2377; CRIJ 1301; ECON 2301, 2302; PSYC 2301; SOCI 1301 Choose 1  Component Area Option (Code 90)  See University Core Requirements below (6)  PHYSICAL SCIENCE (GRADES 6-12) CERTIFICATION REQUIREMENTS: 73-79 HOURS A grade of "C" or better and a 2.75 GPA is required.^  UNIVERSITY CORE REQUIREMENTS: 15 HOURS *  CORE 30 CHEM 1411*[3] Chemistry I  CORE 30 CHEM 1411*[3] Chemistry II  CORE 30 CHEM 1411*[3] Chemistry II  CORE 30 CHEM 1411L[1], 1412L[1]  AND IDS 1071[1], MATH 2412[1], or 2413[1]  PHYSICAL SCIENCE REQUIREMENTS: 58-64 HOURS (A grade of "C" or better and a 2.75 GPA is required.^)  CHEM 2423*, 2423L Organic Chemistry I  CHEM 2425*, 2425L Organic Chemistry I  CHEM 3511*, 3511L Analytical Chemistry I  CHEM 3421*, 3421L Physical Chemistry I  CHEM 3422*, 3422L Physical Chemistry II  CHEM 3422*, 3422L Physical Chemistry II  CHEM 3422*, 3422L Physical Chemistry II  CHEM 4411*, 4411L Instrumental Analysis  CHEM 4323* and 4223L Biochemistry I Biochemistry I  Laboratory 144		(6)			
HIST 2311, 2332, 2372; MCOM 1307; PHIL 1301, 2374; SPAN 2311*, 2312*/**, 2313*, 2315*, or 2371					
ARTS 1301, 1303, 1304; DANC 2303; MUSI 1306, 1307 (for music majors), 1310; or THRE 1310 Choose 1  American History (Code 60)  HIST 1301, 1302, 2301, 2381 Choose 2 6  Government/Political Science (Code 70)  POSC 2305 and 2306  Social and Behavioral Sciences (Code 80)  AGBE 2317*; COMM 2377; CRIJ 1301; ECON 2301, 2302; PSYC 2301; SOCI 1301 Choose 1  Component Area Option (Code 90)  See University Core Requirements below (6)  PHYSICAL SCIENCE (GRADES 6-12) CERTIFICATION REQUIREMENTS: 73-79 HOURS A grade of "C" or better and a 2.75 GPA is required.^  UNIVERSITY CORE REQUIREMENTS: 15 HOURS •  CORE 20  MATH 1314*, 1316*, 1324*, 2412*[3], or 2413*[3] 3  CORE 30  CHEM 1411*[3] Chemistry I  CORE 90  ENGL 1302* Research and Rhetoric OR  ENGL 2311* Introduction to Professional and Technical Communication  CORE 90  CHEM 1411L[1], 1412L[1]  AND  IDS 1071[1], MATH 2412[1], or 2413[1]  PHYSICAL SCIENCE REQUIREMENTS:58-64 HOURS (A grade of "C" or better and a 2.75 GPA is required.^)  CHEM 2423*, 2423L Organic Chemistry I  CHEM 2425*, 2425L Organic Chemistry I  CHEM 3511*, 3511L Analytical Chemistry I  CHEM 3421*, 3421L Physical Chemistry I  CHEM 3421*, 3421L Physical Chemistry I  CHEM 3422*, 3422L Physical Chemistry I  CHEM 3422*, 3422L Physical Chemistry I  CHEM 4411*, 4411L Instrumental Analysis  CHEM 4323* and 4223L Biochemistry I Biochemistry I  Laboratory  14	HIST 2311, 2323, 2372; MCOM 1307; PHIL 1301, 2374; SPAN 2311*, 2312*/**, 2313*, 2315*, or 2371	3			
Choose 1   3   American History (Code 60)	·				
American History (Code 60)  HIST 1301, 1302, 2301, 2381 Choose 2 6  Government/Political Science (Code 70)  POSC 2305 and 2306 6  Social and Behavioral Sciences (Code 80)  AGBE 2317*; COMM 2377; CRIJ 1301; ECON 2301, 2302; PSYC 2301; SOCI 1301 Choose 1  Component Area Option (Code 90)  See University Core Requirements below (6)  PHYSICAL SCIENCE (GRADES 6-12) CERTIFICATION REQUIREMENTS: 73-79 HOURS A grade of "C" or better and a 2.75 GPA is required.^  UNIVERSITY CORE REQUIREMENTS: 15 HOURS •  CORE 20  MATH 1314*, 1316*, 1324*, 2412*[3], or 2413*[3] 3  CORE 30  CHEM 1411*[3] Chemistry II 3  CORE 30  CHEM 1412*[3] Chemistry II 3  CORE 90  ENGL 1302* Research and Rhetoric OR ENGL 2311* Introduction to Professional and Technical Communication  CORE 90  CHEM 1411L[1], 1412L[1]  AND  IDS 1071[1], MATH 2412[1], or 2413[1]  PHYSICAL SCIENCE REQUIREMENTS:58-64 HOURS (A grade of "C" or better and a 2.75 GPA is required.*)  CHEM 2423*, 2423L Organic Chemistry I 4  CHEM 2425*, 2425L Organic Chemistry I 5  Take three courses from:  CHEM 3421*, 3421L Physical Chemistry I 5  Take three courses from:  CHEM 4411*, 4411L Instrumental Analysis CHEM 4323* and 4223L Biochemistry I/ Biochemistry I 12-Laboratory 14		3			
HIST 1301, 1302, 2301, 2381   Choose 2   6					
POSC 2305 and 2306   6     POSC 2305 and 2306   6     Social and Behavioral Sciences (Code 80)     AGBE 2317*; COMM 2377; CRIJ 1301; ECON 2301, 2302; PSYC 2301; SOCI 1301   Choose 1     Component Area Option (Code 90)     See University Core Requirements below   (6)     PHYSICAL SCIENCE (GRADES 6-12) CERTIFICATION REQUIREMENTS: 73-79 HOURS A grade of "C" or better and a 2.75 GPA is required.^   UNIVERSITY CORE REQUIREMENTS: 15 HOURS *     CORE 30	• • • • • • • • • • • • • • • • • • • •	6			
POSC 2305 and 2306   Social and Behavioral Sciences (Code 80)		О			
Social and Behavioral Sciences (Code 80)	· · · · · ·				
AGBE 2317*; COMM 2377; CRIJ 1301; ECON 2301, 2302; PSYC 2301; SOCI 1301 Choose 1  Component Area Option (Code 90)  See University Core Requirements below (6)  PHYSICAL SCIENCE (GRADES 6-12) CERTIFICATION REQUIREMENTS: 73-79 HOURS A grade of "C" or better and a 2.75 GPA is required.*  UNIVERSITY CORE REQUIREMENTS: 15 HOURS •  CORE 20  MATH 1314*, 1316*, 1324*, 2412*[3], or 2413*[3]  CORE 30  CHEM 1411*[3] Chemistry I  CORE 30  CHEM 1412*[3] Chemistry II  CORE 90  ENGL 1302* Research and Rhetoric OR  ENGL 2311* Introduction to Professional and Technical Communication  CORE 90  CHEM 1411L[1], 1412L[1]  AND  IDS 1071[1], MATH 2412[1], or 2413[1]  PHYSICAL SCIENCE REQUIREMENTS:58-64 HOURS (A grade of "C" or better and a 2.75 GPA is required.*)  CHEM 2423*, 2423L Organic Chemistry I  CHEM 3421*, 3511L Analytical Chemistry I  CHEM 3421*, 3421L Physical Chemistry I  CHEM 3421*, 3421L Physical Chemistry I  CHEM 3421*, 3421L Physical Chemistry II  CHEM 3422*, 3422L Physical Chemistry II  CHEM 4411*, 4411L Instrumental Analysis  CHEM 4323* and 4223L Biochemistry I/ Biochemistry I  Laboratory  12-  Laboratory  13  Component Area Option (Code 90)  (6)  CHOOL 340  CHOOL 3413*[3]  CHOOL 3413*[3]  CHEM 3421*, 3421L Physical Chemistry I  CHEM 3422*, 3422L Physical Chemistry II  CHEM 4411*, 4411L Instrumental Analysis  CHEM 4323* and 4223L Biochemistry I/ Biochemistry I  Laboratory		6			
Component Area Option (Code 90)   See University Core Requirements below   (6)   PHYSICAL SCIENCE (GRADES 6-12) CERTIFICATION REQUIREMENTS: 73-79 HOURS A grade of "C" or better and a 2.75 GPA is required.^   UNIVERSITY CORE REQUIREMENTS: 15 HOURS •					
Company   Comp		3			
See University Core Requirements below	,	لــــــا			
## PHYSICAL SCIENCE (GRADES 6-12) CERTIFICATION REQUIREMENTS: 73-79 HOURS A grade of "C" or better and a 2.75 GPA is required.^  ### UNIVERSITY CORE REQUIREMENTS: 15 HOURS *  ### CORE 20  ### MATH 1314*, 1316*, 1324*, 2412*[3], or 2413*[3]  ### CORE 30  ### CHEM 1411*[3] Chemistry I  ### CHEM 1412*[3] Chemistry II  ### CORE 90  ### ENGL 1302* Research and Rhetoric OR  ### ENGL 2311* Introduction to Professional and Technical Communication  ### CORE 90  ### CHEM 1411L[1], 1412L[1]  ### AND  ### IDS 1071[1], MATH 2412[1], or 2413[1]  ### PHYSICAL SCIENCE REQUIREMENTS:58-64 HOURS (A grade of "C" or better and a 2.75 GPA is required.^)  ### CHEM 2423*, 2423L Organic Chemistry I  ### CHEM 3511*, 3511L Analytical Chemistry I  ### CHEM 3421*, 3421L Physical Chemistry I  ### CHEM 3421*, 3421L Physical Chemistry II  ### CHEM 3432* and 4223L Biochemistry I/ Biochemistry I  ### Laboratory  ### Introduction		(0)			
## REQUIREMENTS: 73-79 HOURS   A grade of "C" or better and a 2.75 GPA is required.^  ## UNIVERSITY CORE REQUIREMENTS: 15 HOURS      CORE 20		(6)			
CORE 20   MATH 1314*, 1316*, 1324*, 2412*[3], or 2413*[3]   3     CORE 30   CHEM 1411*[3] Chemistry I   3     CORE 30   CHEM 1412*[3] Chemistry II   3     CORE 90   ENGL 1302* Research and Rhetoric OR   ENGL 2311* Introduction to Professional and Technical Communication   CORE 90     CHEM 1411L[1], 1412L[1]   AND   IDS 1071[1], MATH 2412[1], or 2413[1]     PHYSICAL SCIENCE REQUIREMENTS:58-64 HOURS (A grade of "C" or better and a 2.75 GPA is required.^)   CHEM 2423*, 2423L Organic Chemistry I   4     CHEM 3511*, 3511L Analytical Chemistry I   4     CHEM 3421*, 3421L Physical Chemistry I   5     Take three courses from: CHEM 3421*, 3421L Physical Chemistry II   CHEM 3422*, 3422L Physical Chemistry II   CHEM 3422*, 3422L Physical Chemistry II   CHEM 4411*, 4411L Instrumental Analysis   CHEM 4323* and 4223L Biochemistry I/ Biochemistry I   12- Laboratory   14	REQUIREMENTS: 73-79 HOURS				
MATH 1314*, 1316*, 1324*, 2412*[3], or 2413*[3]   3     CORE 30   3     CHEM 1411*[3] Chemistry II   3     CORE 30   CHEM 1412*[3] Chemistry II   3     CORE 90     ENGL 2311* Introduction to Professional and Technical Communication   3     CORE 90   CHEM 1411L[1], 1412L[1]   AND	UNIVERSITY CORE REQUIREMENTS: 15 HOURS •				
CHEM 1411*[3] Chemistry   3	MATH 1314*, 1316*, 1324*, 2412*[3], or 2413*[3]	3			
CHEM 1412*[3] Chemistry II   3		3			
Section   Sect		3			
CHEM 1411L[1], 1412L[1]	CORE 00				
PHYSICAL SCIENCE REQUIREMENTS:58-64 HOURS (A grade of "C" or better and a 2.75 GPA is required.^)  CHEM 2423*, 2423L Organic Chemistry I  CHEM 2425*, 2425L Organic Chemistry II  4  CHEM 3511*, 3511L Analytical Chemistry  Take three courses from:  CHEM 3421*, 3421L Physical Chemistry I  CHEM 3422*, 3422L Physical Chemistry II  CHEM 3411*, 3421L Physical Chemistry II  CHEM 4411*, 4411L Instrumental Analysis  CHEM 4323* and 4223L Biochemistry I/ Biochemistry I  Laboratory  12-  Laboratory	ENGL 1302* Research and Rhetoric <b>OR</b> ENGL 2311* Introduction to Professional and Technical Communication	3			
CHEM 2423*, 2423L Organic Chemistry I 4  CHEM 2425*, 2425L Organic Chemistry II 4  CHEM 3511*, 3511L Analytical Chemistry 5  Take three courses from: CHEM 3421*, 3421L Physical Chemistry I CHEM 3422*, 3422L Physical Chemistry II CHEM 4411*, 4411L Instrumental Analysis CHEM 4323* and 4223L Biochemistry I/ Biochemistry I Laboratory 14	ENGL 1302* Research and Rhetoric <b>OR</b> ENGL 2311* Introduction to Professional and Technical Communication  CORE 90 CHEM 1411L[1], 1412L[1] AND	0	T		
CHEM 3511*, 3511L Analytical Chemistry 5  Take three courses from: CHEM 3421*, 3421L Physical Chemistry I CHEM 3422*, 3422L Physical Chemistry II CHEM 4411*, 4411L Instrumental Analysis CHEM 4323* and 4223L Biochemistry I/ Biochemistry I Laboratory 14	ENGL 1302* Research and Rhetoric OR ENGL 2311* Introduction to Professional and Technical Communication  CORE 90 CHEM 1411L[1], 1412L[1] AND IDS 1071[1], MATH 2412[1], or 2413[1]  PHYSICAL SCIENCE REQUIREMENTS:58-64 HOURS	0			
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Laboratory CHEM 4431* (431) Inorganic Chemistry	ENGL 1302* Research and Rhetoric OR ENGL 2311* Introduction to Professional and Technical Communication  CORE 90 CHEM 1411L[1], 1412L[1]  AND IDS 1071[1], MATH 2412[1], or 2413[1]  PHYSICAL SCIENCE REQUIREMENTS:58-64 HOURS (A grade of "C" or better and a 2.75 GPA is required.*)  CHEM 2423*, 2423L Organic Chemistry I  CHEM 2425*, 2425L Organic Chemistry II  CHEM 3511*, 3511L Analytical Chemistry	3 4 4			
GEOG/GESC 3313 Meteorology 3	ENGL 1302* Research and Rhetoric OR ENGL 2311* Introduction to Professional and Technical Communication  CORE 90 CHEM 1411L[1], 1412L[1]  AND IDS 1071[1], MATH 2412[1], or 2413[1]  PHYSICAL SCIENCE REQUIREMENTS:58-64 HOURS (A grade of "C" or better and a 2.75 GPA is required.*)  CHEM 2423*, 2423L Organic Chemistry I  CHEM 2425*, 2425L Organic Chemistry II  CHEM 3511*, 3511L Analytical Chemistry  Take three courses from: CHEM 3421*, 3421L Physical Chemistry II  CHEM 4411*, 4411L Instrumental Analysis CHEM 4323* and 4223L Biochemistry I/ Biochemistry I  Laboratory CHEM 4324* and 4224L Biochemistry II/ Biochemistry II  Laboratory	3 4 4 5 5			

**Bachelor of Science Degree Major: Chemistry** 

TOTAL HOURS REQUIRED TO COMPLETE DEGREE		127-133		
EPSY 3350 Children with Special Needs	3			
EPSY 3341* Educational Psychology				
EDSE 4341* Student Teaching—Secondary				
EDSE 4340* Student Teaching—Secondary	3			
EDSE 4330* Teaching in Secondary Schools II	3			
EDSE 4320* Teaching in Secondary Schools	3			
EDRD 4386* Secondary Reading in Content Area	3			
EDPD 4340* Classroom Management	3			
EDPD 3340* Educational Foundations	3			
EDUCATION REQUIREMENTS: 27 HOURS (A grade of "C" or better and a 2.75 GPA is required.^)				
PHYS 4321* Principles of Physical Science	3			
PHYS 3330* Mechanics I	3			
PHYS 3310* Modern Physics	3			
PHYS 2426*, 2426L Calculus Physics II	4			
PHYS 2425*, 2425L Calculus Physics I	4			
PHYS 1411, 1411L Introduction to Astronomy I	4			
MATH 2414* Calculus II	4			
MATH 2413* Calculus I				
MATH 1316* Plane Trigonometry <b>OR</b> MATH 2412* Pre-Calculus (if not taken to satisfy Core 20)	0-4			
BS.8-12.PHYS.SCI.EDS (499) - TEXES Exams: 160, 23				

<sup>◆</sup> NOTE: 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 120hour 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.

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.

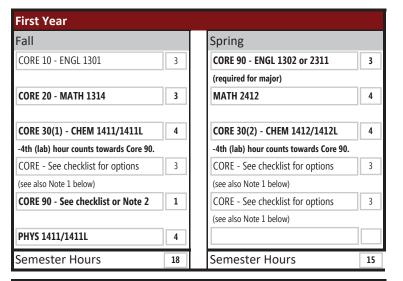
Note: This is NOT a degree plan. Upon completing 30 credit hours, students must request an official degree plan (using the online Degree Plan Request form) in order to progress. Students who have questions about their degree plan should contact the office of the dean of the Paul Engler College of Agriculture and Natural Sciences, which is located in the Happy State Bank Academic & Research Building, Suite 262 (phone 806-651-3570).

<sup>\*</sup> Indicates prerequisites—see catalog for more information.
\*\* Or an equivalent course (second year, second semester) in a foreign language.

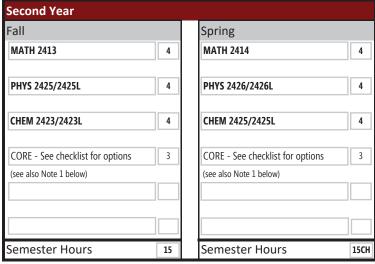
<sup>^</sup>Transfer & WT GPA combined must be 2.75.

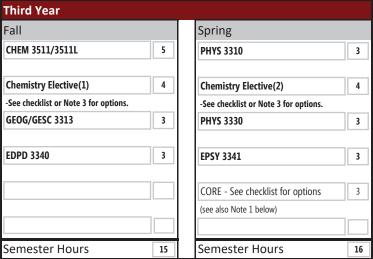
# WTAMU ADVISING SERVICES 2020-2021 Curriculum Guide

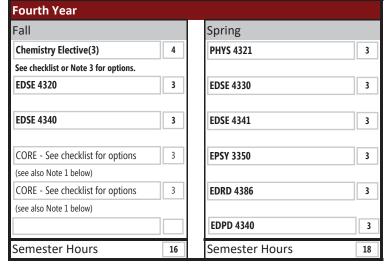
Major: Physical Science 6-12 Cert.; Chemistry, B.S.



Major Code: 499







#### 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:

Note 1 - CORE: Chemistry 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)

Note 2 - 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.

Note 3 - Chemistry Electives: Take three courses from CHEM 3421, 3422, 4411, 4323 and 4223L, 4324 and 4224L, 4431.