

DIVISION OF

SCIENCE & MATHEMATICS

The Division of Science and Mathematics, located in Sullivan Hall, offers associate degrees (AS) that prepare graduates for transfer as juniors into bachelor's degree programs at universities.

Science & Mathematics Degrees

Physical Science (AS)

Chemistry

Physics

General Physical Science

Mathematics (AS)

Life Science (AS)

General Life Science

Biology

Environmental Science

Pre-Professional*

Life Science (A.S.)

The A.S. in Life Science is designed to outline the freshman–sophomore years of study for students who plan to transfer to universities in a variety of programs in the life sciences. The major offers several advising tracks for students:

- Biology, Environmental Science
- Pre–Professional (Medical, Dental, Nursing, Veterinary Medicine, Pharmacy, Physical Therapy, etc.)

The Pre–professional studies track is actually more of an advising track than a major. At the university–level, pre–professional students normally choose a specific major such as biology or chemistry. Students planning to seek certification as secondary school science teachers should take SPAN 1113 in the General Education Elective category. Students should then take SPAN 1213 as an additional elective beyond the required hours for the A.S. degree.

Requirements for the Associate in Science Degree

Life Science Division of Science and Mathematics

Eastern Oklahoma State College

Student Name:	Date:
Academic Advisor:	
Minimum Total Hours.....	62
Minimum Grade Point Average	2.00

General Education Requirements 41		
(Check Catalog Course Descriptions for prerequisites)*		
Orientation 1	Semester	Course Substitution
OLS 1111 Orientation		
Behavioral and Social Sciences..... 9	Semester	Course Substitution
POLSC 1113 American Federal Government		
PSY 1113 Introduction to Psychology		
<i>Take One of the following courses:</i>		
HIST 1483 American History to 1877		
HIST 1493 American History since 1877		
Mathematics 3	Semester	Course Substitution
<i>Take One of the following courses:</i>		
MATH 1513 College Algebra		
MATH 1613 Trigonometry*		
MATH 2235 Calculus I*		
Natural Sciences..... 9	Semester	Course Substitution
BIOL 1114 General Biology		
CHEM 1315 General College Chemistry I*		

Communications 12	Semester	Course Substitution
ENGL 1113 Freshman Composition I		
ENGL 1213 Freshman Composition II*		
CIS 1113 Computer Applications		
<i>Take One of the following courses:</i>		
SPCH 1113 Fundamentals of Speech		
SPCH 2233 Business and Professional Speaking		
Humanities 6	Semester	Course Substitution
<i>Take One of the following courses:</i>		
HUMAN 1133 Music in Life, HUMAN 1143 Art in Life, HUMAN 1153 Sur of World Rel., HUMAN 1163 Film Appr., HUMAN 2103 Theatre Appr., HUMAN 2113 Early Glob. Cultures, HUMAN 2213 Modern Glob. Cultures, HUMAN 2223 Intro to Phil., HUMAN 2233 World Lit I, HUMAN 2243 World Lit II, HUMAN 2253 Native Amer. Hum., HUMAN 2513 Social/Pol Change, HUMAN 2613 Bible as Lit, HUMAN 2713 Glob. Hum. Denmark, HUMAN 2993 Special Topics		
<i>And Take One Additional Course from the following courses or from the list above:</i>		
HIST 2413 Early World Civ, HIST 2423 Modern World Civ, ENGL 2413 Intro to Lit, ENGL 2433 World Lit I, ENGL 2443 World Lit II, ENGL 2543 Eng. Lit I, ENGL 2653 Eng. Lit II, ENGL 2773 Amer Lit I, ENGL 2883 Amer Lit II, RELED 2103 Intro to Old Testament, RELED 2203 Intro to New Testament		
General Education Elective1-3	Semester	Course Substitution
<i>**If needed to complete minimum General Education requirements.</i>		
<i>Select from the following courses:</i>		
HIST 1103 History of Oklahoma		
HIST 2723 History of the American Indian		
MCOMM 1113 Introduction to Mass Communications		
HPER 1113 Health Concepts		
HPER 2102 First Aid		
HPER 1102 School and Community Health		
Other PSY courses (PSY 1113 prerequisite)		
Other SOC courses (SOC 1113 prerequisite)		
Other MATH courses (MATH 1513 prerequisite)		
Any Foreign Language or American Sign Language course		

Program Requirements.....21-25		
Pre-Professional Option 21-25	Semester	Course Substitution
<i>Select Five courses from the following with advisor approval:</i>		
BIOL 2114 Human Anatomy		
BIOL 2155 Microbiology*		
BIOL 2214 Human Physiology*		
BIOL 2224 General Entomology		
BOT 1114 General Botany		
CHEM 1415 General College Chemistry II*		
CHEM 2105 Organic Chemistry I*		
CHEM 2205 Organic Chemistry II*		
MATH 1613 Trigonometry*		
MATH 2233 Elementary Statistics		
MATH 2235 Calculus I*		
NURS 2123 Medical Terminology		
NUTRIT 1203 Nutrition		
PHY 1114 General Physics I*		
PHY 1214 General Physics II*		
ZOO 1114 General Zoology		

Biology Option 21-25	Semester	Course Substitution
<i>Select from the following courses with advisor approval:</i>		
BOT 1114 General Botany		
PHY 1114 General Physics I*		
PHY 1214 General Physics II*		
BIOL 2114 Human Anatomy		
CHEM 1415 General College Chemistry II*		
BIOL 2214 Human Physiology*		
BIOL 2155 Microbiology*		
Environmental Science Option 21	Semester	Course Substitution
<i>Select from the following courses with advisor approval:</i>		
AGRON 2124 Fundamentals of Soil Science		
BIOL 2103 Environmental Science I		
BIOL 2104 Environmental Science II*		
BIOL 2155 Microbiology*		
BIOL 2224 General Entomology		
BOT 1114 General Botany		
CHEM 1415 General Chemistry II*		
CHEM 2105 Organic Chemistry I*		
PHY 1114 General Physics I*		
PHY 1214 General Physics II*		
ZOO 1114 General Zoology		

Special Note About Physical Education–Health–Wellness. Some universities have a requirement for physical education or health or wellness in their general education and/or teacher education curricula. Students should consult their advisors and the catalogs of the universities to which they intend to transfer to determine appropriate courses, if any, to take at Eastern.

Mathematics (A.S.)

The A.S. in Mathematics is designed to provide the freshman and sophomore years of study for students who plan to transfer to a university to major in math or related fields. Students planning to seek certification as secondary school mathematics teachers should take SPAN 1113 in the General Education Elective category. Students should take SPAN 1213 as an additional elective beyond the required hours for the A.S. degree.

Requirements for the Associate in Science Degree

Mathematics

Division of Science and Mathematics

Eastern Oklahoma State College

Student Name:	Date:
Academic Advisor:	
Minimum Total Hours.....	65
Minimum Grade Point Average	2.00

General Education Requirements 41 (Check Catalog Course Descriptions for prerequisites)*		
Orientation 1	Semester	Course Substitution
OLS 1111 Orientation		
Behavioral and Social Sciences..... 9	Semester	Course Substitution
POLSC 1113 American Federal Government		
<i>Take One of the following courses:</i>		
HIST 1483 American History to 1877		
HIST 1493 American History since 1877		
<i>Take One of the following courses:</i>		
PSY 1113 Introduction to Psychology		
SOC 1113 Introduction to Sociology		
GEOG 2723 Regional World Geography		
ECON 2113 Introduction to Macroeconomics		
ECON 2123 Introduction to Microeconomics		
Mathematics 3	Semester	Course Substitution
MATH 1513 College Algebra		
Natural Sciences 7-9	Semester	Course Substitution
<i>Life Science: Take One of the following courses:</i>		
BIOL 1114 General Biology		
BOT 1114 General Botany		
BIOL 2103 Environmental Science I		
ZOO 1114 General Zoology		
<i>Physical Science: Take One of the following courses:</i>		
CHEM 1315 General College Chemistry I*		
CHEM 1415 General College Chemistry II*		
PHYSC 1114 Physical Science		
PHYSC 1124 Elementary Astronomy		
PHYSC 1214 Earth Science		
PHY 1114 General Physics I*		
Communications 12	Semester	Course Substitution
ENGL 1113 Freshman Composition I		

ENGL 1213 Freshman Composition II*		
CIS 1113 Computer Applications		
<i>Take One of the following courses:</i>		
SPCH 1113 Fundamentals of Speech		
SPCH 2233 Business and Professional Speaking		
Humanities 6	Semester	Course Substitution
<i>Take One of the following courses:</i> HUMAN 1133 Music in Life, HUMAN 1143 Art in Life, HUMAN 1153 Sur of World Rel., HUMAN 1163 Film Appr., HUMAN 2103 Theatre Appr., HUMAN 2113 Early Glob. Cultures, HUMAN 2213 Modern Glob. Cultures, HUMAN 2223 Intro to Phil., HUMAN 2233 World Lit I, HUMAN 2243 World Lit II, HUMAN 2253 Native Amer. Hum., HUMAN 2513 Social/Pol Change, HUMAN 2613 Bible as Lit, HUMAN 2713 Glob. Hum. Denmark, HUMAN 2993 Special Topics		
And Take One Additional Course from the following courses or from the list above: HIST 2413 Early World Civ, HIST 2423 Modern World Civ, ENGL 2413 Intro to Lit, ENGL 2433 World Lit I, ENGL 2443 World Lit II, ENGL 2543 Eng. Lit I, ENGL 2653 Eng. Lit II, ENGL 2773 Amer Lit I, ENGL 2883 Amer Lit II, RELED 2103 Intro to Old Testament, RELED 2203 Intro to New Testament		
General Education Elective1-3 <i>**If needed to complete minimum General Education requirements.</i>	Semester	Course Substitution
<i>Select from the following courses:</i>		
HIST 1103 History of Oklahoma		
HIST 2723 History of the American Indian		
MCOMM 1113 Introduction to Mass Communications		
HPER 1113 Health Concepts		
HPER 2102 First Aid		
HPER 1102 School and Community Health		
Other PSY courses (PSY 1113 prerequisite)		
Other SOC courses (SOC 1113 prerequisite)		
Other MATH courses (MATH 1513 prerequisite)		
Any Foreign Language or American Sign Language course		

Program Requirements..... 24		
Core16	Semester	Course Substitution
<i>Select from the following courses with advisor approval:</i>		
MATH 1613 Trigonometry*		
MATH 2233 Elementary Statistics		
MATH 2235 Calculus I*		
MATH 2245 Calculus II*		
MATH 2253 Differential Equations*		
MATH 2263 College Geometry		
MATH 2343 Calculus III*		
Supporting Electives..... 8	Semester	Course Substitution
<i>Select from the following with advisor approval:</i>		
CHEM 1315 General College Chemistry I*		
CHEM 1415 General College Chemistry II*		
PHY 1114 General Physics I*		
PHY 1214 General Physics II*		
PHY 2014 Engineering Physics I*		
PHY 2114 Engineering Physics II*		
<i>May select Computer Science electives with advisor approval</i>		

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Physical Science (A.S.)

The A.S. in Physical Science is designed to provide freshman–sophomore level courses for students who plan to transfer to universities in a variety of programs in the physical sciences. The major offers three advising tracks for students:

- Chemistry (NOTE: Chemistry is a common advising track for pre–medicine students.)
- Physics
- General Physical Science

Students planning to seek certification as secondary school science teachers should take SPAN 1113 in the General Education Elective category. Students should take SPAN 1213 as an additional elective beyond the required hours for the A.S. degree.

Requirements for the Associate in Science Degree

Physical Science Division of Science and Mathematics

Eastern Oklahoma State College

Student Name:	Date:
Academic Advisor:	
Minimum Total Hours.....	61
Minimum Grade Point Average	2.00

General Education Requirements	41		
<i>(Check Catalog Course Descriptions for prerequisites)*</i>			
Orientation	1	Semester	Course Substitution
OLS 1111 Orientation			
Behavioral and Social Sciences.....	9	Semester	Course Substitution
POLSC 1113 American Federal Government			
<i>Take One of the following courses:</i>			
HIST 1483 American History to 1877			
HIST 1493 American History since 1877			
<i>Take One of the following courses:</i>			
PSY 1113 Introduction to Psychology			
SOC 1113 Introduction to Sociology			
GEOG 2723 Regional World Geography			
ECON 2113 Introduction to Macroeconomics			
ECON 2123 Introduction to Microeconomics			
Mathematics	3	Semester	Course Substitution
<i>Take One of the following courses:</i>			
MATH 1503 Survey of Mathematics			
MATH 1513 College Algebra			
MATH 2233 Elementary Statistics			
Natural Sciences	7-9	Semester	Course Substitution
<i>Life Science: Take One of the following courses:</i>			
BIOL 1114 General Biology			
BOT 1114 General Botany			
BIOL 2103 Environmental Science I			

ZOO 1114 General Zoology		
<i>Physical Science: Take One of the following courses:</i>		
CHEM 1315 General College Chemistry I*		
CHEM 1415 General College Chemistry II*		
PHYSC 1114 Physical Science		
PHYSC 1124 Elementary Astronomy		
PHYSC 1214 Earth Science		
PHY 1114 General Physics I*		
Communications 12	Semester	Course Substitution
ENGL 1113 Freshman Composition I		
ENGL 1213 Freshman Composition II*		
CIS 1113 Computer Applications		
<i>Take One of the following courses:</i>		
SPCH 1113 Fundamentals of Speech		
SPCH 2233 Business and Professional Speaking		
Humanities 6	Semester	Course Substitution
<i>Take One of the following courses:</i> HUMAN 1133 Music in Life, HUMAN 1143 Art in Life, HUMAN 1153 Sur of World Rel., HUMAN 1163 Film Appr., HUMAN 2103 Theatre Appr., HUMAN 2113 Early Glob. Cultures, HUMAN 2213 Modern Glob. Cultures, HUMAN 2223 Intro to Phil., HUMAN 2233 World Lit I, HUMAN 2243 World Lit II, HUMAN 2253 Native Amer. Hum., HUMAN 2513 Social/Pol Change, HUMAN 2613 Bible as Lit, HUMAN 2713 Glob. Hum. Denmark, HUMAN 2993 Special Topics		
<i>And Take One Additional Course from the following courses or from the list above:</i> HIST 2413 Early World Civ, HIST 2423 Modern World Civ, ENGL 2413 Intro to Lit, ENGL 2433 World Lit I, ENGL 2443 World Lit II, ENGL 2543 Eng. Lit I, ENGL 2653 Eng. Lit II, ENGL 2773 Amer Lit I, ENGL 2883 Amer Lit II, RELED 2103 Intro to Old Testament, RELED 2203 Intro to New Testament		
General Education Elective 1-3 <i>**If needed to complete minimum General Education requirements.</i>	Semester	Course Substitution
<i>Select from the following courses:</i>		
HIST 1103 History of Oklahoma		
HIST 2723 History of the American Indian		
MCOMM 1113 Introduction to Mass Communications		
HPER 1113 Health Concepts		
HPER 2102 First Aid		
HPER 1102 School and Community Health		
Other PSY courses (PSY 1113 prerequisite)		
Other SOC courses (SOC 1113 prerequisite)		
Other MATH courses (MATH 1513 prerequisite)		
Any Foreign Language or American Sign Language course		

Program Requirements..... 20-23		
Core 13	Semester	Course Substitution
CHEM 1415 General College Chemistry II*		
<i>Take One of the Physics sequences listed:</i>		
PHY 1114 General Physics I*		
PHY 1214 General Physics II*		
OR		
PHY 2014 Engineering Physics I*		
PHY 2114 Engineering Physics II*		

Major Related Courses7-10	Semester	Course Substitution
<i>Select Two courses from the following with advisor approval:</i>		
CHEM 2105 Organic Chemistry I*		
CHEM 2205 Organic Chemistry II*		
MATH 1613 Trigonometry*		
MATH 2235 Calculus I*		
MATH 2245 Calculus II*		
PHYSC 1124 Astronomy		
PHYSC 1214 Earth Science		
GEOL 1114 General Geology		
MATH 2253 Differential Equations*		

Special Note About Physical Education–Health–Wellness. Some universities have a requirement for physical education or health or wellness in their general education and/or teacher education curricula. Students should consult their advisors and the catalogs of the universities to which they intend to transfer to determine appropriate courses, if any, to take at Eastern.