

# 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.

*Sam Simco, a physical science major from Quinton, was named the 2017 Outstanding Science & Mathematics Division Graduate. Division Dean Margaret Sorrell presented the award during Eastern's commencement ceremony.*

## Science & Mathematics Degrees

### Physical Science (AS)

- Chemistry
- Physics
- General Physical Science

### Mathematics (AS)

### Life Science (AS)

- General Life Science
- Biology
- Communication Sciences & Disorders
- Pre-Nursing (BSN)
- Pre-Nutritional Sciences
- Pre-Pharmacy
- Pre-Physical & Occupational Therapy
- Pre-Radiologic Technology
- Pre-Veterinary Medicine

## DIVISION OF SCIENCE AND MATHEMATICS

### 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 1115 in the General Education Elective category. He or she should then take SPAN 1215 as an additional elective beyond the required hours for the A.S. degree.

#### Required Hours .....62-66

#### Orientation .....1

OLS 1111 Orientation .....1

#### General Education Courses .....40

POLSC 1113 Amer Fed Govt ..... 3

PSY 1113 Introduction to Psychology .....3

*Take One of the following courses:*

HIST 1483 American History to 1877 ..... 3

HIST 1493 American History since 1877 .....3

#### Mathematics .....3

MATH 1513 College Algebra ..... 3

#### Natural Sciences .....9

ZOO 1114 General Zoology .....4

CHEM 1315 General College Chemistry I .....5

#### Communications .....12

ENGL 1113 Freshman Composition I ..... 3

ENGL 1213 Freshman Composition II .....3

CIS 1113 Computer Applications ..... 3

*Take One of the following courses:*

SPCH 1113 Fundamentals of Speech ..... 3

SPCH 2233 Business & Professional Speaking .....3

#### Humanities .....6

*Take One of the following courses:*

HUMAN 1133 Music in Life .....3

HUMAN 1143 Art in Life .....3

HUMAN 1153 Survey of World Religions .....3

HUMAN 2103 Theatre Appreciation .....3

HUMAN 2113 Global Humanities I .....3

HUMAN 2213 Global Humanities II ..... 3

HUMAN 2223 Introduction to Philosophy .....3

HUMAN 2233 World Literature I ..... 3

HUMAN 2243 World Literature II .....3

HUMAN 2513 Social/Political Change .....3

HUMAN 2613 Bible as Literature .....3

*And*

*Take One Additional Course from the following courses or from the list above:*

HIST 2413 Early World Civilization .....3

HIST 2423 Modern World Civilization .....3

ENGL 2413 Intro to Literature .....3

ENGL 2433 World Literature I .....3

ENGL 2443 World Literature II ..... 3

ENGL 2543 English Literature I ..... 3

ENGL 2653 English Literature II .....3

ENGL 2773 American Literature I .....3

ENGL 2883 American Literature II .....3

RELED 2103 Intro to Old Testament .....3

RELED 2203 Intro to New Testament ..... 3

#### General Education Elective .....1-3

*Select from the following courses:*

HIST 1103 History of Oklahoma ..... 3

HIST 2723 History of the American Indian .....3

MCOMM 1113 Intro to Mass Communications .....3

HPER 1113 Health Concepts .....3

HPER 2102 First Aid .....2

HPER1102 School and Community Health .....2

Other PSY courses (PSY 1113 is pre-requisite)

Other SOC courses (SOC 1113 is pre-requisite)

Other MATH courses (MATH 1513 is pre-requisite)

Any Foreign Language or American Sign Language course

#### Program Requirements .....21-25

#### Pre-Professional Option ..... 21-25

*Select five courses from the following with advisor approval:*

BIOL 2114 Human Anatomy ..... 4

BIOL 2155 Microbiology .....5

BIOL 2214 Human Physiology .....4

BIOL 2224 General Entomology .....4

BOT 1114 General Botany ..... 4

CHEM 1415 General College Chemistry II .....5

CHEM 2105 Organic Chemistry I .....5

CHEM 2205 Organic Chemistry II ..... 5

MATH 1613 Trigonometry .....3

MATH 2633 Elementary Statistics ..... 3

MATH 2235 Calculus I .....5

NURS 2123 Medical Terminology .....3

NUTRIT 1203 Nutrition .....3

PHY 1114 General Physics I .....4

PHY 1214 General Physics II .....4

ZOO 1114 General Zoology .....4

#### Biology Option .....21-25

*Select from the following courses with advisor approval:*

BOT 1114 General Botany .....4

PHY 1114 General Physics I ..... 4

PHY 1214 General Physics II .....4

BIOL 2114 Human Anatomy .....4

CHEM 1415 General College Chemistry II .....5

BIOL 2214 Human Physiology .....4

BIOL 2155 Microbiology .....5

**Environmental Science Option ..... 21-25**

*Select from the following courses with advisor approval:*

AGRON 2124 Fundamentals of Soil Science .....4

BIOL 2103 Environmental Science I .....3

BIOL 2104 Environmental Science II .....4

BIOL 2155 Microbiology .....5

BIOL 2224 General Entomology .....4

BOT 1114 General Botany .....4

CHEM 1415 General Chemistry II .....5

CHEM 2105 Organic Chemistry I .....5

PHY 1114 General Physics I .....4

PHY 1214 General Physics II .....4

ZOO 1114 General Zoology .....4

**Total Credit Hours (minimum) .....62-66**

**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.

## DIVISION OF SCIENCE AND MATHEMATICS

### 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 1115 in the General Education Elective category. He or she should take SPAN 1215 as an additional elective beyond the required hours for the A.S. degree.

**Required Hours .....65**

**Orientation .....1**

OLS 1111 Orientation .....1

**General Education Courses .....40**

**Behavioral and Social Sciences .....9**

POLSC 1113 Amer Fed Govt .....3

*Take One of the following courses:*

HIST 1483 American History to 1877 .....3

HIST 1493 American History since 1877 .....3

*Take Two of the following courses:*

PSY 1113 Introduction to Psychology .....3

SOC 1113 Introduction to Sociology .....3

GEOG 2723 Regional World Geography .....3

ECON 2113 Intro to Macroeconomics .....3

ECON 2123 Intro to Microeconomics .....3

**Mathematics .....3**

MATH 1513 College Algebra .....3

**Natural Sciences ..... 7-9**

*Life Science: Take One of the following courses:*

BIOL 1114 General Biology .....4

BOT 1114 General Botany .....4

BIOL 2103 Environmental Science I .....3

ZOO 1114 General Zoology .....4

*Physical Science: Take One of the following courses:*

CHEM 1315 General College Chemistry I .....5

CHEM 1415 General College Chemistry II .....5

PHYSC 1114 Physical Science .....4

PHYSC 1124 Elementary Astronomy .....4

PHYSC 1214 Earth Science .....4

PHY 1114 General Physics I .....4

**Communications .....12**

ENGL 1113 Freshman Composition I .....3

ENGL 1213 Freshman Composition II .....3

CIS 1113 Computer Applications .....3

*Take One of the following courses:*

SPCH 1113 Fundamentals of Speech .....3

SPCH 2233 Business & Professional Speaking .....3

**Humanities .....6**

*Take One of the following courses:*

HUMAN 1133 Music in Life .....3

HUMAN 1143 Art in Life .....3

HUMAN 1153 Survey of World Religions .....3

HUMAN 2103 Theatre Appreciation .....3

HUMAN 2113 Global Humanities I .....3

HUMAN 2213 Global Humanities II .....3

HUMAN 2223 Introduction to Philosophy .....3

HUMAN 2233 World Literature I .....3

HUMAN 2243 World Literature II .....3

HUMAN 2513 Social/Political Change .....3

HUMAN 2613 Bible as Literature .....3

*And*

*Take One Additional Course from the following courses or from the list above:*

HIST 2413 Early World Civilization .....3

HIST 2423 Modern World Civilization .....3

ENGL 2413 Intro to Literature .....3

ENGL 2433 World Literature I .....3

ENGL 2443 World Literature II .....3

ENGL 2543 English Literature I .....3

ENGL 2653 English Literature II .....3

ENGL 2773 American Literature I .....3

ENGL 2883 American Literature II .....3

RELED 2103 Intro to Old Testament .....3

RELED 2203 Intro to New Testament .....3

**General Education Elective .....1-3**

*Select from the following courses:*

HIST 1103 History of Oklahoma .....3

HIST 2723 History of the American Indian .....3

MCOMM 1113 Intro to Mass Communications .....3

HPER 1113 Health Concepts .....3

HPER 2102 First Aid .....2

HPER1102 School and Community Health .....2  
 Other PSY courses (PSY 1113 is pre-requisite)  
 Other SOC courses (SOC 1113 is pre-requisite)  
 Other MATH courses (MATH 1513 is pre-requisite)  
 Any Foreign Language or American Sign Language course

**Program Requirements ..... 24**

**Core .....16**

*Select from the following courses with advisor approval:*

MATH 1613 Trigonometry .....3  
 MATH 2233 Elementary Statistics .....3  
 MATH 2235 Calculus I .....5  
 MATH 2245 Calculus II .....5  
 MATH 2253 Differential Equations .....3  
 MATH 2263 College Geometry ..... 3  
 MATH 2343 Calculus III ..... 3

**Supporting Electives ..... 8**

*Select from the following with advisor approval:*

CHEM 1315 General College Chemistry I .....5  
 CHEM 1415 General College Chemistry II .....5  
 PHY 1114 General Physics I .....4  
 PHY 1214 General Physics II .....4  
 PHY 2014 Engineering Physics I .....4  
 PHY 2114 Engineering Physics II .....4

*May select Computer Science electives with advisor approval.*

**Total Credit Hours (minimum) ..... 65**

**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.

**DIVISION OF SCIENCE AND  
 MATHEMATICS  
 Physical Science (A.S.)**

The A.S. in Physical Science is designed to provide the 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 1115 in the General Education Elective category. He or she should take SPAN 1215 as an additional elective beyond the required hours for the A.S. degree.

**Required Hours .....61-64**

**Orientation .....1**

OLS 1111 Orientation .....1

**General Education Courses .....40**

**Behavioral and Social Sciences ..... 9**

POLSC 1113 Amer Fed Govt ..... 3  
*Take One of the following courses:*  
 HIST 1483 American History to 1877 .....3  
 HIST 1493 American History since 1877 .....3  
*Take One of the following courses:*  
 PSY 1113 Introduction to Psychology .....3  
 SOC 1113 Introduction to Sociology .....3  
 GEOG 2723 Regional World Geography .....3  
 ECON 2113 Intro to Macroeconomics .....3  
 ECON 2123 Intro to Microeconomics .....3

**Mathematics .....3**

MATH 1513 College Algebra ..... 3

**Natural Sciences ..... 7-9**

*Life Science: Take One of the following courses:*

BIOL 1114 General Biology .....4  
 BOT 1114 General Botany .....4  
 BIOL 2103 Environmental Science I .....3  
 ZOO 1114 General Zoology .....4

*Physical Science: Take One of the following courses:*

CHEM 1315 General College Chemistry I .....5  
 CHEM 1415 General College Chemistry II .....5  
 PHYSC 1114 Physical Science .....4  
 PHYSC 1124 Elementary Astronomy .....4  
 PHYSC 1214 Earth Science .....4  
 PHY 1114 General Physics I .....4

**Communications .....12**

ENGL 1113 Freshman Composition I .....3  
 ENGL 1213 Freshman Composition II .....3  
 CIS 1113 Computer Applications .....3  
*Take One of the following courses:*  
 SPCH 1113 Fundamentals of Speech .....3  
 SPCH 2233 Business & Professional Speaking .....3

**Humanities .....6**

*Take One of the following courses:*

HUMAN 1133 Music in Life .....3  
 HUMAN 1143 Art in Life .....3  
 HUMAN 1153 Survey of World Religions .....3  
 HUMAN 2103 Theatre Appreciation .....3  
 HUMAN 2113 Global Humanities I .....3  
 HUMAN 2213 Global Humanities II .....3  
 HUMAN 2223 Introduction to Philosophy .....3  
 HUMAN 2233 World Literature I .....3  
 HUMAN 2243 World Literature II .....3  
 HUMAN 2513 Social/Political Change .....3  
 HUMAN 2613 Bible as Literature .....3

*And*

*Take One Additional Course from the following courses or from the list above:*

HIST 2413 Early World Civilization .....3  
 HIST 2423 Modern World Civilization .....3

ENGL 2413 Intro to Literature .....	3
ENGL 2433 World Literature I .....	3
ENGL 2443 World Literature II .....	3
ENGL 2543 English Literature I .....	3
ENGL 2653 English Literature II .....	3
ENGL 2773 American Literature I .....	3
ENGL 2883 American Literature II .....	3
RELED 2103 Intro to Old Testament .....	3
RELED 2203 Intro to New Testament .....	3

**General Education Elective .....1-3**

*Select from the following courses:*

HIST 1103 History of Oklahoma .....	3
HIST 2723 History of the American Indian .....	3
MCOMM 1113 Intro to Mass Communications .....	3
HPER 1113 Health Concepts .....	3
HPER 2102 First Aid .....	2
HPER1102 School and Community Health .....	2
Other PSY courses (PSY 1113 is pre-requisite)	
Other SOC courses (SOC 1113 is pre-requisite)	
Other MATH courses (MATH 1513 is pre-requisite)	
Any Foreign Language or American Sign Language course	

**Program Requirements .....20-23**

**Core .....13**

Chem 1415 General College Chemistry II .....	5
<i>Take <u>One</u> of the Physics sequences listed:</i>	
PHY 1114 General Physics I .....	4
PHY 1214 General Physics II .....	4
OR	
PHY 2014 Engineering Physics I .....	4
PHY 2114 Engineering Physics II .....	4

**Major Related Courses ..... 7-10**

*Select Two courses from the following with advisor approval:*

CHEM 2105 Organic Chemistry I .....	5
CHEM 2205 Organic Chemistry II .....	5
MATH 1613 Trigonometry .....	3
MATH 2235 Calculus I .....	5
MATH 2245 Calculus II .....	5
PHYSC 1124 Astronomy .....	4
PHYSC 1214 Earth Science .....	4
GEOL 1114 General Geology .....	4
MATH 2253 Differential Equations .....	3

**Total Credit Hours (minimum) ..... 61-64**

**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.