

**APPENDIX A—NATURAL SCIENCE EIGHT-SEMESTER PLANS**

NATURAL SCIENCE-Life Science Option

NATURAL SCIENCE-Physical Science Option

## Natural Science Major, Life Science Option

(120 hours required, with 40 hours 3000-4000 level courses)

Fall Semester, Year 1		Hours	Spring Semester, Year 1		Hours
ENGL 1013 ACTS ENGL 1013	Composition I	3	ENGL 1023 ACTS ENGL 1023	Composition II	3
MATH 1043 ACTS MATH 1103	College Algebra	3	MATH 1033 ACTS MATH 1203	Trigonometry	3
BIOL 1063	Introduction to Biological Science	3	ESCI 1073 ACTS ESCI 1104	Earth and Atmosphere	3
BIOL 1071	Intro to Biological Science Lab	1	ESCI 1081 ACTS ESCI 1104	Earth and Atmosphere Lab	1
*(1)	Fine Arts Apprec. Gen Ed Req.	3	BIOL 2143 ACTS BIOL 1054	General Zoology	3
*(2)	Social Sciences Gen Ed Req. #1	3	BIOL 2161 ACTS BIOL 1054	General Zoology Lab	1
Total		16	Total		14
Fall Semester, Year 2		Hours	Spring Semester, Year 2		Hours
CHEM 1103 ACTS CHEM 1414	General Chemistry I	3	CHEM 1113 ACTS CHEM 1424	General Chemistry II	3
CHEM 1121 ACTS CHEM 1414	General Chemistry I Lab	1	CHEM 1131 ACTS CHEM 1424	General Chemistry II Lab	1
BIOL 2143 ACTS BIOL 1034	General Botany	3	*(4)	Humanities General Ed Req	3
BIOL 2171 ACTS BIOL 1034	General Botany Lab	1	*(5)	History or Gov. General Ed Req	3
*(3)	Speech General Ed Req	3		Upper Level Elective	3
*(2)	Social Sciences Gen Ed Req. #2	3		Elective	3
Total		14	Total		16
Fall Semester, Year 3		Hours	Spring Semester, Year 3		Hours
ESCI 1051 ACTS ESCI 1114	Elements of Geology Lab	1	BIOL 3553	Microbiology	3
ESCI 1063 ACTS ESCI 1114	Elements of Geology	3	BIOL 3561	Microbiology Lab	1
PHYS 2203 ACTS PHYS 2014	College Physics I	3	PHYS 2213 ACTS PHYS 2024	College Physics II	3
PHYS 2231 ACTS PHYS 2014	College & Univ. Physics I Lab	1	PHYS 2241 ACTS PHYS 2024	College & Univ. Physics II Lab	1
BIOL 3-4xxx	Biology Elective Upper Level	3-4		Upper Level Elective	3
	Upper Level Elective	3		Elective	3
				Elective	3
Total		14-15	Total		17
Fall Semester, Year 4		Hours	Spring Semester, Year 4		Hours
BIOL 3484	General Ecology	4	BIOL 3-4xxx	Biology Elective (Upper Level)	3-4
BIOL 3-4xxx	Biology Elective Upper Level	3-4	BIOL 3-4xxx	Biology Elective Upper Level if needed	0-4
	Upper Level Elective	3		Upper Level Elective	3
	Upper Level Elective	3		Upper Level Elective	3
				Electives as needed to reach 120 hrs	0-6
Total		13-14	Total		14-16

\*(1) Fine Arts Appreciation can be either ART 1053 Art Appreciation (ACTS ARTA 1003) or MUS 1113 Music Appreciation (ACTS MUSC 1003)

\*(2) Social Sciences Gen Ed Requirements can be filled with two courses of the following **from two different disciplines:** ANTH 2203 (ACTS ANTH 2013) Cultural Anthropology, CJ 1013(ACTS CRJU 1023) Introduction to Criminal Justice, ECON 2203 (ACTS ECON 2103) Principles of Macroeconomics, ECON 2213 (ACTS ECON 2203) Principles of Microeconomics, GEOG 2213 (ACTS GEOG 1103) Geography I , GEOG 2223 Geography II, HIST 1013 (HIST 1113) Surv of Civ I, HIST 1023 (ACTS HIST 1123) Survey of Civ II, PSY 1013 (ACTS PSYC 1103) Introduction to Psychology, SOC 2213 (ACTS SOCI 1013) Introduction to Sociology, SWK 1013 Introduction to Social Work. If you are applying to medical school at UAMS and other colleges of medicine, you should take PSY 1013 (ACTS PSYC 1103) Introduction to Psychology, SOC 2213 (ACTS SOCI 1013) Introduction to Sociology to complete your social science electives. These courses will be required courses at most colleges of medicine and material from these courses will be on the MCAT exam. It may be a good idea to take PSY 2203 Statistical Methods as a general elective to help prepare you for material that will be on the new MCAT exams.

\*(3) Speech General Ed Requirement can be: COMM 1023( ACTS SPCH 1003) Public Speaking, COMM 2283 Business and Prof. Speech, or COMM 2203 Interpersonal Communication

\*(4) Humanities General Ed. Requirement can be: ENGL 2283(ACTS ENGL 2113) World Lit I or ENGL 2293( ACTS ENGL 2123) World Lit II

\*(5) History or Government General Ed. Requirement can be: HIST 2213(ACTS HIST 2113) American History I, HIST 2223(ACTS HIST 2123) American History II, or PSCI 2213 (ACTS PLSC 2003) American National Government

A student with a good math background may elect to take Calculus I as the first college math course. If this is the case, College Algebra and Trigonometry may be waived; however, additional hours must be taken to reach the 120 hours needed for graduation.

No minor is required; however, the Teaching and Learning minor is encouraged for those planning to teach, or the Coaching minor for those planning to coach. Those courses will replace several of the electives shown above. See the current catalog for courses.

Students required to enroll in remedial courses will need to take additional hours per term, or attend summer school.

## Natural Science Major, Physical Science Option

(120 hours required, with 40 hours 3000-4000 level courses)

Fall Semester, Year 1		Hours	Spring Semester, Year 1		Hours	
ENGL 1013 ACTS ENGL 1013	Composition I	3	ENGL 1023 ACTS ENGL 1013	Composition II	3	
MATH 1043 ACTS MATH 1103	College Algebra	3	MATH 1033 ACTS MATH 1203	Trigonometry	3	
ESCI 1063 ACTS ESCI 1114	Elements of Geology	3	ESCI 1073 ACTS ESCI 1104	Earth and Atmosphere	3	
ESCI 1051 ACTS ESCI 1114	Elements of Geology Lab	1	ESCI 1081 ACTS ESCI 1104	Earth and Atmosphere Lab	1	
*(1)	Fine Arts Apprec. Gen Ed Req.	3	*(2)	Social Sciences Gen Ed Req.#2	3	
*(2)	Social Sciences Gen Ed Req. #1	3		Elective	3	
Total		16	Total		16	
Fall Semester, Year 2		Hours	Spring Semester, Year 2		Hours	
CHEM 1103 ACTS CHEM 1414	General Chemistry I	3	CHEM 1113 ACTS CHEM 1424	General Chemistry II	3	
CHEM 1121 ACTS CHEM 1414	General Chemistry I Lab	1	CHEM 1131 ACTS CHEM 1424	General Chemistry II Lab	1	
ESCI 1033 & ESCI 1041 ACTS ESCI 1204 & ESCI 1204 <b>or</b> ESCI 1123 & ESCI 1131	Elements of Astronomy & Elements of Astronomy Lab	3 1	MATH 1073 ACTS MATH 2203 <b>or</b> MATH 2255 ACTS MATH 2405	Compact Calculus <b>or</b> Calculus I	3 <b>or</b> 5	
	Meteorology & Meteorology Lab	3 1		BIOL 1063	Introduction to Biological Science	3
				BIOL 1071	Intro. to Biological Science Lab	1
*(3)	Speech General Ed Req	3	*(5)	History or Gov. General Ed Req	3	
*(4)	Humanities Gen Ed Req	3				
Total		14	Total		14-16	
Fall Semester, Year 3		Hours	Spring Semester, Year 3		Hours	
CHEM 3404	Organic Chemistry I	4	CHEM 3414	Organic Chemistry II	4	
PHYS 2203 ACTS PHYS 2014	College Physics I	3	PHYS 2213 ACTS PHYS 2044	College Physics II	3	
PHYS 2231 ACTS PHYS 2014	College & Univ. Physics I Lab	1	PHYS 2241 ACTS PHYS 2044	College & Univ. Physics II Lab	1	
	Upper Level Elective	3		Upper Level Elective	3	
	Upper Level Elective	3		Upper Level Elective	3	
				Elective	3	
Total		14	Total		17	
Fall Semester, Year 4		Hours	Spring Semester, Year 4		Hours	
CHEM 3314	Quantitative Analysis	4	CHEM/PHYS	Chemistry or Physics Elective	4	
CHEM/PHYS	Chemistry or Physics Elective	4		Upper Level Elective	3	
	Upper Level Elective	3		Upper Level Elective	3	
	Elective	3		Elective	3	
				Elective as needed to reach 120 hrs	0-2	
Total		14	Total		13-15	

\*(1) Fine Arts Appreciation can be either ART 1053 Art Appreciation (ACTS ARTA 1003) or MUS 1113 Music Appreciation (ACTS MUSC 1003)

\*(2) Social Sciences Gen Ed Requirements can be filled with two courses of the following **from two different disciplines:** ANTH 2203 (ACTS ANTH 2013) Cultural Anthropology, CJ 1013(ACTS CRJU 1023) Introduction to Criminal Justice, ECON 2203 (ACTS ECON 2103) Principles of Macroeconomics, ECON 2213 (ACTS ECON 2203) Principles of Microeconomics, GEOG 2213 (ACTS GEOG 1103) Geography I , GEOG 2223 Geography II, HIST 1013 (HIST 1113) Surv of Civ I, HIST 1023 (ACTS HIST 1123) Survey of Civ II, PSY 1013 (ACTS PSYC 1103) Introduction to Psychology, SOC 2213 (ACTS SOCI 1013) Introduction to Sociology, SWK 1013 Introduction to Social Work. If you are applying to medical school at UAMS and other colleges of medicine, you should take PSY 1013 (ACTS PSYC 1103) Introduction to Psychology, SOC 2213 (ACTS SOCI 1013) Introduction to Sociology to complete your social science electives. These courses will be required courses at most colleges of medicine and material from these courses will be on the MCAT exam. It may be a good idea to take PSY 2203 Statistical Methods as a general elective to help prepare you for material that will be on the new MCAT exams.

\*(3) Speech General Ed Requirement can be: COMM 1023( ACTS SPCH 1003) Public Speaking, COMM 2283 Business and Prof. Speech, or COMM 2203 Interpersonal Communication

\*(4) Humanities General Ed. Requirement can be: ENGL 2283(ACTS ENGL 2113) World Lit I or ENGL 2293( ACTS ENGL 2123) World Lit II

\*(5) History or Government General Ed. Requirement can be: HIST 2213(ACTS HIST 2113) American History I, HIST 2223(ACTS HIST 2123) American History II, or PSCI 2213 (ACTS PLSC 2003) American National Government

A student with a good math background may elect to take Calculus I as the first college math course. If this is the case, College Algebra and Trigonometry may be waived; however, additional hours must be taken to reach the 120 hours needed for graduation.

No minor is required; however, the Teaching and Learning minor is encouraged for those planning to teach, or the Coaching minor for those planning to coach. Those courses will replace several of the electives shown above. See the current catalog for courses.

Students required to enroll in remedial courses will need to take additional hours per term, or attend summer school.

**APPENDIX B—UAM GENERAL EDUCATION REQUIREMENTS**

**Composition (6 Credit Hours)**

ENGL 1013 Composition I  
ENGL 1023 Composition II

**Mathematics (3 Credit Hours)**

Mathematics Course, 1000-level or above

**Speech (3 Credit Hours) Choose one of the following:**

COMM 1023 Public Speaking  
COMM 2283 Business & Prof. Speech  
COMM 2203 Interpersonal Communication

**Fine Arts Appreciation (3 Credit Hours) Choose one of the following:**

ART 1053 Art Appreciation  
MUS 1113 Music Appreciation

**Humanities (3 Credit Hours) Choose one of the following:**

ENGL 2283 World Literature I  
ENGL 2293 World Literature II

**U.S. History or Government (3 Credit Hours) Choose one of the following:**

HIST 2213 American History I  
HIST 2223 American History II  
PSCI 2213 American National Government

**Social Sciences (6 Credit Hours) Choose two courses from two different disciplines from the following:**

ANTH 2203 Cultural Anthropology  
CJ 1013 Introduction to Criminal Justice  
ECON 2203 Principles of Macroeconomics  
ECON 2213 Principles of Microeconomics  
GEOG 2213 Geography I  
GEOG 2223 Geography II  
HIST 1013 Survey of Civilization I  
HIST 1023 Survey of Civilization II  
PSY 1013 Introduction to Psychology  
SOC 2213 Introduction to Sociology  
SWK 1013 Introduction to Social Work

**Basic Sciences (8 Credit Hours) Choose eight hours from two 3-hour lecture courses with associated 1-hour labs or two 4-hour courses with integrated labs chosen from the following course groups:**

Earth Science/Lab  
Biology/Lab  
Chemistry/Lab  
Physics/Lab

**TOTAL: 35 General Education Credits Required**

## **APPENDIX C—NATURAL SCIENCE MAJOR AND MINOR REQUIREMENTS**

CATALOG LISTING

NATURAL SCIENCE-Life Science Option Checklist

NATURAL SCIENCE-Physical Science Option Checklist

NATURAL SCIENCE – Minor Checklist



## Catalog Listing for the Natural Science Major

### Required Core Courses (for either option)

<b>CHEM 1103</b>	<b>General Chemistry I</b>
<b>CHEM 1121</b>	<b>General Chemistry I Lab</b>
<b>ESCI 1073</b>	<b>Earth and Atmosphere</b>
<b>ESCI 1081</b>	<b>Earth and Atmosphere Lab</b>
<b>PHYS 2231</b>	<b>College and University Physics I Lab</b>
<b>PHYS 2241</b>	<b>College and University Physics II Lab</b>
<b>%PHYS 2203</b>	<b>College Physics I</b>
<b>%PHYS 2213</b>	<b>College Physics II</b>

% University Physics I and II will be substituted for the College Physics sequence

### Required Supportive Requirements (for either option)

<b>BIOL 1063</b>	<b>Introduction to Biological Sciences</b>
<b>BIOL 1071</b>	<b>Introduction to Biological Sciences Lab</b>
<b>CHEM 1113</b>	<b>General Chemistry II</b>
<b>CHEM 1131</b>	<b>General Chemistry II Lab</b>
<b>ESCI 1051</b>	<b>Elements of Geology Lab</b>
<b>ESCI 1063</b>	<b>Elements of Geology</b>
<b>*MATH 1033</b>	<b>Trigonometry</b>
<b>*MATH 1043</b>	<b>College Algebra</b>

\*Will be waived if the student chooses to take calculus; however, additional hours will be needed.

### Life Science Option Required Courses

<b>BIOL 2143</b>	<b>General Botany</b>
<b>BIOL 2153</b>	<b>General Zoology</b>
<b>BIOL 2161</b>	<b>General Zoology Lab</b>
<b>BIOL 2171</b>	<b>General Botany Lab</b>
<b>BIOL 3484</b>	<b>General Ecology</b>
<b>BIOL 3553</b>	<b>Microbiology</b>
<b>BIOL 3561</b>	<b>Microbiology Lab</b>

### Twelve Hours of BIOL 3000-4000 Electives

<b>BIOL 3354</b>	<b>Genetics</b>
<b>BIOL 3363</b>	<b>Cell Biology</b>
<b>BIOL 3484</b>	<b>General Ecology</b>
<b>BIOL 3574</b>	<b>Comparative Anatomy and Laboratory</b>
<b>BIOL 4634</b>	<b>Vertebrate Physiology and Laboratory</b>
<b>BIOL 3763</b>	<b>Evolution</b>
<b>BIOL 4741</b>	<b>Seminar in Biology</b>
<b>BIOL 3384</b>	<b>Herpetology</b>
<b>BIOL 3394</b>	<b>Ichthyology</b>
<b>BIOL 3413</b>	<b>Mammalogy</b>

**BIOL 3423 Plant Morphology**  
**BIOL 3434 Regional Flora**  
**BIOL 3451 Mammalogy Laboratory**  
**BIOL 3503 Marine Biology**  
**BIOL 3511 Marine Biology Laboratory**  
**BIOL 3524 Ornithology**  
**BIOL 358V Natural History**  
**BIOL 3594 Invertebrate Zoology**  
**BIOL 4724 Aquatic Biology**  
**BIOL 4734 Animal Behavior**  
**BIOL 4753 Selected Topics in Biology**  
**BIOL 479V Independent Study**

**Physical Science Option Required Courses**

**One of the following pairs of courses**

**ESCI 1033 Elements of Astronomy**  
**ESCI 1041 Elements of Astronomy Lab**

**OR**

**ESCI 1023 Meteorology**  
**ESCI 1031 Meteorology Lab**  
**CHEM 3314 Quantitative Analysis**  
**CHEM 3404 Organic Chemistry I**  
**CHEM 3414 Organic Chemistry II**

**One of the following courses**

**MATH 1073 Compact Calculus**  
**MATH 2255 Calculus I**

**Eight Hours of CHEM or PHYS 3000-4000 Electives**

**CHEM Electives**

**CHEM 3444 Instrumental Analysis**  
**CHEM 4633 Biochemistry I**  
**CHEM 4643 Biochemistry II**  
**CHEM 4731 Biochemistry Lab**  
**CHEM 3484 Elements of Physical Chemistry**  
**CHEM 4623 Advanced Inorganic Chemistry**  
**CHEM 4714 Physical Chemistry -Kinetics and Quantum Mechanics**  
**CHEM 4704 Physical Chemistry -Thermodynamics**  
**CHEM 3454 Organic Analysis**  
**CHEM 4742 Advanced Lab Techniques**  
**CHEM 469V Senior Research**

**PHYS Electives**

**PHYS 3011 University Physics III Lab**

<b>PHYS 3013</b>	<b>University Physics III</b>
<b>PHYS 3404</b>	<b>Modern Physics</b>
<b>PHYS 3423</b>	<b>Computational Physics</b>
<b>PHYS 3444</b>	<b>Optics</b>
<b>PHYS 3504</b>	<b>Introduction to Electronics</b>
<b>PHYS 4603</b>	<b>Mechanics</b>
<b>PHYS 469V</b>	<b>Senior Research</b>



<b>Natural Science (Physical Science Option)</b>
<b>Major Requirements:</b>
CHEM 1103 General Chemistry I
CHEM 1121 General Chemistry I Laboratory
ESCI 1073 Earth and Atmosphere
ESCI 1081 Earth and Atmosphere Laboratory
PHYS 2203 College Physics I
PHYS 2213 College Physics II
PHYS 2231 College and Univ Physics I Lab
PHYS 2241 College and Univ Physics II Lab
<b>Supportive Requirements: 17-18 hours</b>
BIOL 1063 Introduction to Biological Science
BIOL 1071 Intro to Biological Science Lab
CHEM 1113 General Chemistry II
CHEM 1131 General Chemistry II Laboratory
ESCI 1051 Elements of Geology Laboratory
ESCI 1063 Elements of Geology
<i>One of the following course groups:</i>
MATH 1033 Trigonometry and
MATH 1043 College Algebra
or
MATH 1175 Pre-calculus (not offered at UAM, but may be accepted as transfer credit)
<b>Physical Science Option: 27-29 hours</b>
<i>One of the following pairs of courses:</i>
ESCI 1033 Elements of Astronomy and
ESCI 1041 Elements of Astronomy Laboratory
or
ESCI 1123 Meteorology and
ESCI 1131 Meteorology Laboratory
CHEM 3314 Quantitative Analysis
CHEM 3404 Organic Chemistry I
CHEM 3414 Organic Chemistry II
<i>One of the following courses:</i>
MATH 1073 Compact Calculus
MATH 2255 Calculus I
<b>Electives:</b> Eight hours of 3000-4000 level chemistry or physics courses (List below)
This major does not require a minor; however a Teaching and Learning minor from the School of Education is recommended for this that are planning on a career in education.
This major requires 120 hours with a minimum of 40 hours of 3000-4000 level credit

<b>NATURAL SCIENCE MINOR</b>					
<b>Minor Requirements: 25 hours</b>	<b>Semester</b>	<b>Grade</b>	<b>Q</b>	<b>Hrs</b>	<b>Notes</b>
<i>Choose two of the following three blocks of courses: You may NOT choose a block (or electives) that are part of your major requirements; however, you may choose a block (or electives) that are part of your supportive requirements.</i>					
<b>(Block I)</b>					
CHEM 1103 General Chemistry I					
CHEM 1113 General Chemistry II					
CHEM 1121 General Chemistry I Laboratory					
CHEM 1131 General Chemistry II Laboratory					
<b>(Block II)</b>					
PHYS 2203 College Physics I					
PHYS 2231 College and University Physics I Laboratory					
PHYS 2213 College Physics II					
PHYS 2241 College and University Physics II Laboratory					
<b>(Block III)</b>					
BIOL 2143 General Botany					
BIOL 2171 General Botany Laboratory					
BIOL 2153 General Zoology					
BIOL 2161 General Zoology Laboratory					
<b>Electives:</b> Nine additional hours of 3000-4000 courses chosen from biology, chemistry, or physics. All nine hours must be from the same discipline					