



STEM EDUCATION ADVISING GUIDE

Bachelor of Arts (BA) Biology/Grades 7-12 Life Science Licensure

University Core Requirements

Please see your Fulbright adviser for an official degree plan.

ENGLISH COMPOSITION (2 courses • 6 hours)

- ENGL 1013 Composition I
- ENGL 1023 Composition II

U.S. HISTORY (1 course-3 hours)

- HIST 2003 History of the American People to 1877
- HIST 2013 History of the American People 1877 to Present
- PLSC 2003 American National Government

Note: U.S. History & Government courses cannot be used more than once within the University Core.

FINE ARTS (1 course • 3 hours)

- ARCH 1003 Architecture Lecture
- ARHS 1003 Art Lecture
- COMM 1003 Film Lecture
- DANC 1003 Movement and Dance
- LARC 1003 The American Landscape
- MLIT 1003 Music Lecture
- MLIT 1013 Music Lecture for Music Majors
- THTR 1003 Theatre Appreciation
- THTR 1013 Musical Theatre Appreciation

¹HUMANITIES (1 course • 3 hours)

- AAST 2023 The African American Experience
- ARCH 1013 Diversity and Design
- CLST 1003 Intro to Classical Studies: Greece
- CLST 1013 Intro to Classical Studies: Rome
- COMM 1233 Media, Community, and Citizenship
- ENGL 1213 Intro to Literature
- GNST 2003 Intro to Gender Studies
- HUMN 1124H* Honors Eq. of Cultures, 500-1600
- HUMN 2124H* Honors 20th Century Global Culture
- MUSY 2003 Music in World Cultures
- PHIL 2003 Intro to Philosophy**
- PHIL 2103 Intro to Ethics**
- PHIL 2203 Logic**
- PHIL 3103 Ethics and the Professions**
- WLIT 1113 World Literature I
- WLIT 1123 World Literature II
- World language at Intermediate I (2003) level

UNIV 1001: University Perspectives

- (Freshmen must complete during first year; **ARSC 1201 satisfies this requirement and is one entry option into licensure program**)

SOCIAL SCIENCES (3 courses from at least 2 fields • 9 hours)

- AGECE 1103 Principles of Agricultural Microeconomics
- AGECE 2103 Principles of Agricultural Macroeconomics
- ANTH 1023 Intro to Cultural Anthropology
- COMM 1023 Communication in a Diverse World
- ECON 2013 Principles of Macroeconomics
- ECON 2023 Principles of Microeconomics
- ECON 2143 Basic Economics: Theory and Practice
- GEOS 1123 Human Geography
- GEOS 2003 World Regional Geography
- HESC 1403 Life Span Development
- HESC 2413 Family Relations
- HIST 1113 Institutions and Ideas of World Civilizations I
- HIST 1123 Institutions and Ideas of World Civilizations II
- HIST 2003 History of the American People to 1877
- HIST 2013 History of the American People 1877 to Present
- HUMN 1114H* Honors Roots of Culture to 500 C.E.
- HUMN 2114H* Honors Birth of Modern Culture, 1600-1900
- PLSC 2003 American National Government
- PLSC 2013 Intro to Comparative Politics
- PLSC 2203 State and Local Government
- PSYC 2003 General Psychology
- RESM 2853 Leisure and Society
- RSOC 2603 Rural Sociology
- SOCI 2013 General Sociology
- SOCI 2033 Social Problems
- STEM 2003 Art of STEM Communication (one entry option into the STEM Education program)**

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Major Requirements

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CHEMISTRY CORE (3-4 courses; 12-16 hours)

- CHEM 1103/1101L University Chemistry I
- CHEM 1123/1121L University Chemistry II
- and**
- CHEM 3603/3601L Organic Chemistry I
- CHEM 3613/3611L Organic Chemistry II
- or**
- CHEM 2613/2611L Organic Physiological Chemistry

MATHEMATICS (1 course; 3-4 hours)

- MATH 2043 Survey of Calculus
- or**
- MATH 2554 Calculus I

MATH OR STATISTICS (1 course; 3-4 hours)

- STAT 2023 Biostatistics
- STAT2303 Principles of Statistics
- STAT 4003/4001 Statistical Methods
- MATH 2183 Mathematical Reasoning

PHYSICS (2 courses; 8 hours)

- PHYS 2013/2011L College Physics I
- PHYS 2033/2031L College Physics II

STEM EDUCATION (24 hours)

- ARSC 1201 Intro to Teaching STEM Subjects **and**
- ARSC 1212 Field Exp. in Teaching STEM Subjects
- or**
- STEM 2003 Art of STEM Communication
- STEM 2103 Knowing and Learning
- STEM 3203 Classroom Interactions
- BIOL 3273 Inquiry & Modeling in Science Education
(counted in BIOL 3000 level electives)
- SEED 4003 Teaching Secondary Science
- STEM 4333 History & Philosophy of Teaching
Science
- STEM 4403 Teaching Seminar
- STEM 4506 Supervised Teaching Internship

BIOLOGY FOUNDATION (1 course; 4 hours)

- BIOL 1584 Biology for Majors **Note:** A student who, after completing BIOL 1543/1541L Principles of Biology/Lab with a grade of "B" or better in both courses, wishes to substitute BIOL 1543/1541L for the required BIOL 1584 may petition the Department of Biological Sciences to do so. These petitions will be considered on a case by case basis for approval.

BIOLOGY CORE (4 courses + 1 lab • 13 hours)

- BIOL 2533 Cell Biology
- BIOL 2323 General Genetics
- BIOL 3863 General Ecology
- A lab from one of the three BIOL courses above
- BIOL 3023 Evolutionary Biology

BIOLOGY ELECTIVES numbered 3000 or higher (3 courses • 9 hours)

- _____
- _____
- *BIOL 3273 Inquiry and Modeling in Science Ed.

BIOLOGY ELECTIVES numbered 2000 or higher with a lab (1 course • 4 hours)

Students must complete a minimum of 20 hours from these areas or complete an additional BIOL 3000+ level course.

BIOLOGY WRITING REQUIREMENT

*Students can use their inquiry project paper in BIOL 3273 as a starting point for the Biology Writing Requirement- **under the supervision of a biology faculty member**. Otherwise the requirement can be met by completion of BIOL 498V supervised by a biology faculty member, or by an honors' thesis.

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SAMPLE COURSE SEQUENCE

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Fall Semesters		Hours	Spring Semesters		Hours
<i>Freshman Year</i>					
ARSC 1201	Intro to Teaching STEM Subjects (& UNIV 1001)	1	ARSC 1212	Field Exp. in Teaching STEM Sub.	2
CHEM 1103/L	University Chemistry I	4	CHEM 1123/L	University Chemistry II	4
MATH 2043	Survey of Calculus	3/4	BIOL 2323/2321L	General Genetics (lab opt)	3/4
BIOL 1584/1L	Biology for Majors	4	ENGL 1023	English Composition II	3
ENGL 1013	English Composition I	3	PHIL	Required Core Electives	3
TOTAL		15 - 16	TOTAL		14-15
<i>Sophomore Year</i>					
STEM 2103	Knowing and Learning	3	STEM 3203	Classroom Interactions	3
CHEM 3603/L	Organic Chemistry I	4	CHEM 3613/L	Organic Chemistry II	4
BIOL 2533	Cell Biology (lab opt)	3/4	BIOL 3023	Evolutionary Biology	3
STAT 2023	Biostatistics	3	FA/HIST/SS	Required Core Elective	3
FA/HIST/SS	Required Core Elective	3	FA/HIST/SS	Required Core Elective	3
TOTAL		16-17	TOTAL		16
<i>Junior Year</i>					
PHYS 2013/L	College Physics I	4	BIOL 3273	Inquiry & Modeling in Sci. Ed	3
BIOL lab	Biology course w/lab 2000 or higher	4	BIOL 3863	General Ecology (lab opt)	3/4
FA/HIST/SS	Required Core Elective	3	PHYS 2033/L	College Physics II	4
BIOL 3000	Biology Upper-Level Elective	3	Free elective	Electives as needed	3
Free Elective	Elective as needed	3	FA/HIST/SS	Required Core Elective	3
TOTAL		17	TOTAL		16-17
Prelicensure Checklist					
<i>Senior Year</i>					
SEED 4003	Teaching Secondary Science	3	STEM 4506	Supervised Teaching Internship	6
STEM 4333	History & Philosophy Science Teaching	3	STEM 4403	Teaching Seminar	3
BIOL 3000	Biology Upper-Level Elective	3	Free elective	Electives as needed	1
Free elective	Electives as needed	6			
TOTAL		15	TOTAL		10
Total hours for degree: 120					