



SCHOOL OF EDUCATION ADVISING GUIDE

Post-Baccalaureate Licensure in Secondary Science (7th-12th Grade) - Biology Emphasis (Fall 2016 catalog year and later)

Name: _____ 900# _____

All courses required for licensure must be passed with a grade of C- or better.

All licensure students must complete the School of Education admission process.

Please see your Secondary Education advisor and approved Science advisor to plan your course of study.

CONTENT COURSES

Please see an approved Science advisor for transcript evaluation and suggested courses.

Content Category	Completed Applicable Coursework	Planned Applicable Coursework <i>(MSU Denver options listed, but other substitutions are acceptable)</i>	Credit Hours	When ?	Grade	Advisor Initials
Biology						
(1) Knowledge of molecular biology, including genetics, homeostasis, and structure and function of cells		BIO 1080 and BIO 1090				
(2) Knowledge of ecology and population dynamics		BIO 1081 and BIO1091				
(3) Knowledge of evolution and organization of life		BIO 1081 and BIO1091				
(4) Knowledge of energy flow through Earth and living systems		BIO1081				
(5) Knowledge of biomechanics, behavior of organisms, and differences among organisms		BIO1081 and BIO 1091				
(6) Knowledge of investigative processes in biology and applications to health and environment		BIO 1081, BIO 1091, and ENV 1200				
Chemistry						
(7) Knowledge of fundamental chemistry including atomic structure, bonding, periodicity, conservation, kinetics, gas laws, stoichiometry, solutions, acids/bases, redox, and nuclear chemistry		CHE 1100 or CHE 1800/1810				
(8) Knowledge of inorganic chemistry laboratory techniques		CHE 1150 or CHE 1850				
(9) Knowledge of fundamental organic chemistry and processes in chemistry		CHE 2100 or CHE 3100				
(10) Knowledge of organic chemistry laboratory techniques		CHE 2100 or CHE 3120				
(11) Knowledge of fundamental biochemistry		CHE 2100 or CHE 4310				

CONTENT COURSES (CONTINUED)

Content Category	Completed Applicable Coursework	Planned Applicable Coursework	Credit Hours	When?	Grade	Advisor Initials
Earth/Space Science						
(12) Knowledge of oceans, climate, weather, and cycles, flows, and interactions of matter and energy		ENV 1200 and GEG 1100 OR ENV 1200, GEL 1010, and MTR 2400				
(13) Knowledge of characteristics and changes in land, atmosphere, and ocean systems on Earth		GEG 1100 or GEL 1010				
(14) Knowledge of natural resources and Earth materials		ENV 1200				
(15) Knowledge of origin, evolution, and structure of the Earth and the universe		GEG 1100 or GEL 1010				
(16) Knowledge of investigative processes in Earth and space sciences and applications to health and environment		ENV 1200 and either GEG 1100 or GEL 1010				
Mathematics						
(17) Knowledge of pre-calculus		MTH 1400				
(18) Knowledge of statistics and probability		MTH 1210				
Physics						
(19) Knowledge of motion, forces, waves, sound, energy, work, and power		PHY 2010 and PHY 2030				
(20) Knowledge of electricity, light, and magnetism		PHY 2020 and PHY 2040				
(21) Knowledge of atoms, radioactivity, conservation, and properties of matter		PHY 2010 and PHY 2020				
(22) Knowledge of Investigative processes in physics and applications to engineering, health, and environment		PHY 2030 and ENV 1200				
Advanced Biology						
(1) Knowledge of biochemical interactions of organisms and their environments		BIO 3050 and BIO 3230				
(2) Knowledge of causes, characteristics, and avoidance of viral, bacterial, and parasitic diseases		BIO 2400				
(3) Knowledge of molecular genetics		BIO 3600				
(4) Knowledge of biotechnology and environmental issues		BIO 3050 and BIO 4850				
(5) Knowledge of historical development of and theories in biology		BIO 2400, BIO 3050, and BIO 4850				
(6) Ability to design, conduct, and report research in biology		BIO 2400 and BIO 3050				

Based on my review, this student has completed all content area requirements for Secondary Science licensure.

SIGNATURE OF
SCIENCE ADVISOR: _____

DATE: _____

CONTENT GPA: _____

TEACHER EDUCATION COURSES

Courses listed with heavy outlines must be taken together.

Course	Substitute Course # / Title / College	Credit Hours	When?	Grade	Advisor Initials
EDS 3130-4*	Foundations of Educational Psychology and Philosophy				
EDS 3140-1*	First Field Experience in Secondary Education (60-hour field experience)				
EDS 3150-3*	Issues in Multicultural Education in Secondary Schools (Must be taken concurrently with or after completion of EDS 3130 and EDS 3140)				
EDT 3010-3	Integrating Educational Technology into Teaching				
SED 3600-3	Exceptional Learners in the Classroom				
EDS 3210-3**	Classroom Management, Planning, and Assessment in Secondary Schools				
EDS 3240-1**	Field Experience: Classroom Management, Planning, and Assessment in Secondary Schools (60-hour field experience)				
RDG 3280-3**	Teaching Content Literacy Skills				
SCI 3950-3	Teaching Science in Secondary Schools				
SCI 3960-1**	Field Experience in Teaching Science in Secondary Schools (60 hour field experience)				
EDS 4290-12**	Student Teaching and Seminar: Secondary 7-12				
TEACHER EDUCATION COURSES TOTAL		37			

* Requires at least provisional admission to the teacher licensure program.

** Requires formal admission to the teacher licensure program.

In addition to the courses on this guide, you may also be required to complete additional coursework to meet the State of Colorado's standards for English language learners. You must meet with a School of Education faculty advisor to have your ELL requirements entered and approved below.

Before you begin student teaching, you will need all content area courses on the front of this guide initialed by an appropriate advisor. You will also need all of the education courses on this side of the guide initialed by your education advisor, as well as your education advisor's signature below once all courses have been initialed.

Based on my review, this student is eligible to apply for student teaching.

SIGNATURE OF ADVISOR: _____ DATE: _____

Please visit the School of Education website for updated licensure exam requirements for Secondary Science Education.