



SCHOOL OF EDUCATION ADVISING GUIDE

Post-Baccalaureate Licensure in Secondary Science (7th-12th Grade) - Chemistry Emphasis (Fall 2020 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.

Required Courses/Credit Hours/Title	Substitute Course Prefix / # / Institution	Credit Hours	When?	Grade	Advisor Initials
Biology					
BIO 1080 - 3	General Biology I				
BIO 1090 - 1	General Biology Laboratory I				
BIO 1081 - 3	General Biology II				
BIO 1091 - 1	General Biology Laboratory II				
Chemistry					
CHE 1800 - 4	General Chemistry I				
CHE 1801 - 1	General Chemistry I Laboratory				
CHE 1810 - 4	General Chemistry II				
CHE 1811 - 1	General Chemistry II Laboratory				
Earth/Space Science					
GEL 1010 - 4	Physical Geology				
ENV 1200 - 3 or GEG 1100 - 3	Introduction to Environmental Science or Introduction to Physical Geography				
Mathematics					
MTH 1410 - 4	Calculus I				

Physics						
PHY 2010 - 4	College Physics I					
PHY 2030 - 1	College Physics I Laboratory					
PHY 2020 - 4	College Physics II					
PHY 2040 - 1	College Physics II Laboratory					
Advanced Chemistry						
CHE 3000 - 3	Analytical Chemistry					
CHE 3010 - 2	Analytical Chemistry Laboratory					
CHE 3100 - 4	Organic Chemistry I					
CHE 3120 - 1	Organic Chemistry Laboratory I					
CHE 3110 - 3	Organic Chemistry II					
CHE 3130 - 2	Organic Chemistry Laboratory II					
CHE 3190 - 4	Survey of Physical Chemistry					
CHE 3200 - 1	Survey of Physical Chemistry Laboratory					
Two upper division CHE electives (6 credit hours; please consult with a CHE faculty advisor):						

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 Urban 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				
CLD 3510-3	Perspectives in Education for Culturally and Linguistically Diverse Learners				
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)				
EDS 3280-3**	Disciplinary Literacy in Culturally and Linguistically Diverse Schools				
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		40			

* 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 EDUCATION ADVISOR: _____

DATE: _____

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

Content Category

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

Chemistry

(1) Knowledge of fundamental chemistry including atomic structure, bonding, periodicity, conservation, kinetics, gas laws, stoichiometry, solutions, acids/bases, redox, and nuclear chemistry	CHE 1800/1810
(2) Knowledge of inorganic chemistry laboratory techniques	CHE 1801/1811
(3) Knowledge of fundamental organic chemistry and processes in chemistry	CHE 3100
(4) Knowledge of organic chemistry laboratory techniques	CHE 3120
(5) Knowledge of fundamental biochemistry	CHE 4310 (optional)

Earth/Space Science

(1) Knowledge of oceans, climate, weather, and cycles, flows, and interactions of matter and energy	GEG 1100 or ENV 1200
(2) Knowledge of characteristics and changes in land, atmosphere, and ocean systems on Earth	GEG 1100 or ENV 1200
(3) Knowledge of natural resources and Earth materials	GEL 1010 or ENV 1200
(4) Knowledge of origin, evolution, and structure of the Earth and the universe	GEL 1010 or GEG 1100 or ENV 1200
(5) Knowledge of investigative processes in Earth and space sciences and applications to health and environment	GEG 1100 or ENV 1200

Mathematics

(1) Knowledge of calculus and simple differential equations	MTH 1410
---	----------

Physics

(1) Knowledge of motion, forces, waves, sound, energy, work, and power	PHY 2010 and PHY 2030
(2) Knowledge of electricity, light, and magnetism	PHY 2020 and PHY 2040
(3) Knowledge of atoms, radioactivity, conservation, and properties of matter	PHY 2010 and PHY 2020
(4) Knowledge of investigative processes in physics and applications to engineering, health, and environment	PHY 2030 and ENV 1200

Advanced Chemistry

(1) Knowledge of electrochemistry	CHE 1810 and CHE 3000
(2) Knowledge of transition/coordination chemistry	CHE 1810
(3) Knowledge of bonding, including molecular orbitals, aromaticity, ionic and metallic bonds	CHE 1810
(4) Knowledge of physical chemistry including kinetics, equilibrium, gas laws, and thermodynamics	CHE 3190 and CHE 3200
(5) Knowledge of molecular geometry and reactivity	CHE 1800, CHE 3100, and CHE 3110
(6) Knowledge of acids, bases, and buffers	CHE 3100, CHE 3110, (CHE 4310)
(7) Knowledge of biological compounds and their reactions	CHE 4310/4350 (optional)
(8) Knowledge of solvent systems	CHE 3000
(9) Knowledge of organic chemistry including syntheses, reactions, and mechanisms	CHE 3100 and CHE 3110
(10) Knowledge of green chemistry and sustainability	CHE 3100/3110 and CHE 3120/3130
(11) Ability to design, conduct, and report research in chemistry	CHE 3130