



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 Modern Languages advisor for transcript evaluation and suggested courses.

Required Courses/Credit Hours/Title		Substitute Course Prefix / # / Institution	Credit Hours	When?	Grade	Advisor Initials
<b>Biology</b>						
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					
<b>Chemistry</b>						
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					
<b>Earth/Space Science</b>						
GEL 1010 - 4	Physical Geology					
ENV 1200 - 3 or GEG 1100 - 3	Introduction to Environmental Science or Introduction to Physical Geography					
<b>Mathematics</b>						
MTH 1410 - 4	Calculus I					
MTH 2410 - 4	Calculus II					

MTH 2420 - 4	Calculus III					
<b>Advanced Physics</b>						
PHY 2311 - 4	General Physics I					
PHY 2321 - 1	General Physics I Laboratory					
PHY 2331 - 4	General Physics II					
PHY 2341 - 1	General Physics II Laboratory					
PHY 2711 - 4	Vibrations, Waves, and Mathematical Methods					
PHY 2811 - 4	Modern Physics I					
PHY 2821 - 1	Modern Physics Laboratory					
PHY 3011 - 3	Modern Physics II					
PHY 3711 - 2	Physics Laboratory I					
PHY 4921 - 1	Physics Senior Seminar					

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				
<b>TEACHER EDUCATION COURSES TOTAL</b>		<b>40</b>			

\* 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.

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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.

Updated 1-18-21 Yeh

## 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 (chemistry emphasis)
(4) Knowledge of organic chemistry laboratory techniques	CHE 3120 (chemistry emphasis)
(5) Knowledge of fundamental biochemistry	CHE 4310 (chemistry emphasis; 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, MTH 2410, MTH 2420
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### Physics

(1) Knowledge of motion, forces, waves, sound, energy, work, and power	PHY 2311 and PHY 2321
(2) Knowledge of electricity, light, and magnetism	PHY 2331 and PHY 2341
(3) Knowledge of atoms, radioactivity, conservation, and properties of matter	PHY 2311 and PHY 2321
(4) Knowledge of investigative processes in physics and applications to engineering, health, and environment	PHY 2321 and PHY 2341

## Advanced Physics

(1) Knowledge of thermodynamics	PHY 2010, PHY 2311, PHY 3011
(2) Knowledge of nuclear physics, subatomic structures, quantum mechanics, space-time relationships, and special relativity	PHY 2811, PHY 2821, PHY 3011
(3) Knowledge of angular rotation and momentum, centripetal forces, and vector analysis	PHY 2311, PHY 2321
(4) Knowledge of light behavior, including wave-particle duality and models	PHY 2711
(5) Knowledge of electrical phenomena including electric fields, vector analysis, energy, potential, capacitance, and inductance	PHY 2331, PHY 2341, PHY 3711
(6) Knowledge of issues such as nuclear waste, light pollution, shielding communication systems	PHY 3011
(7) Knowledge of historical development of and theories in physics	PHY 2311, PHY 2321
(8) Knowledge of applications of physics and engineering in society, business, industry and health fields	PHY 2311, PHY 2321