

MASTERS OF SCIENCE IN BIOLOGY TEACHING
With option for combined BS/MEd in Secondary Level Science Teaching
 2/15/21

This plan of study fulfills USBE requirements for teaching endorsements in Biology and Chemistry, with options for endorsement in Environmental Science and English as a Second Language (ESL). Additional coursework is required to obtain a teaching license and can be taken post-BS or as part of the joint BS/MEd program in Biology Teaching and Educational Psychology. Note that the BS/MEd option only adds one course to the requirements for licensure so most students will benefit from this pathway. Students should consult with an advisor early in the program to ensure that the appropriate pre-requisite, general education and endorsement courses are taken.

REQUIRED SCIENCE CORE COURSES (30-37 CR)

COURSE	TITLE	CR
MATH 1050 & MATH 1060 OR MATH 1080	COL ALGEBRA (4) & TRIGONOMETRY (3) OR PRECALCULUS	7 OR 5
MATH 1170 or MATH 1210	CALCULUS FOR BIOLOGISTS I OR CALCULUS I	4
MATH 1180 or MATH 1220	STATISTICS WITH CALCULUS FOR BIOLOGIST OR CALCULUS II	4
CHEM 1210	GENERAL CHEMISTRY I	4
CHEM 1225	GENERAL CHEMISTRY LAB I	1
CHEM 1220	GENERAL CHEMISTRY II	4
CHEM 1225	GENERAL CHEMISTRY LAB II	1
CHEM 2310	ORGANIC CHEMISTRY I	4
PHYS 2010	GENERAL PHYSICS I	4

PHYS 2020	GENERAL PHYSICS II	4
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REQUIRED BIOLOGY COURSES (26 CR)

COURSE	TITLE	CR
BIOL 1610	FUND PRINC OF BIOLOGY I	3
BIOL 1615	FUND PRINC OF BIOLOGY LAB I	1
BIOL 1620	FUND PRINC OF BIOLOGY II	3
BIOL 1625	FUND PRINC OF BIOLOGY LAB II	1
BIOL 2020	PRINC OF CELL BIOLOGY	3
BIOL 2030	PRINCIPLES OF GENETICS	3
BIOL 3410	ECOL & EVOL	3
BIOL 3510	BIOCHEMISTRY I	3
BIOL 3310 OR BIOL 5350 OR BIOL 5370 OR BIOL 5480	COMPARATIVE VERTEBRATE MORPHOLOGY OR ORNITHOLOGY OR MAMMALOLOGY OR ENTOMOLOGY	3
BIOL 2325 OR	HUMAN ANATOMY OR	3

BIOL 2420	PHYSIOLOGY	
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COMPLETE 1 CELL AND MOLECULAR BIOLOGY LAB COURSE FROM LIST BELOW (2-3 CR)

COURSE	TITLE	CR
BIOL 3125	MOL EVOL LAB*	3
BIOL 3215	CELL BIOL LAB	2
BIOL 3235	DEVELOP LAB	2
BIOL 3246	CELL NEURO LAB	2
BIOL 3515	BIOL CHEM LAB	2
BIOL 2525	MBIOL DNA LAB	3
BIOL 4955	INDIVIDUAL RESEARCH*	2-3

*Can only be counted once

COMPLETE 1 ENVIRONMENTAL & ORGANISMAL BIO LAB COURSE (1-3 CR)

COURSE	TITLE	CR
BIOL2355	FIELD BOTANY	2
BIOL 2425	HUMAN PHYS LAB	1
BIOL 3125	MOL EVOL LAB*	2
BIOL 3246	CELL NEURO LAB	3
BIOL 3325	COMP PHYS LAB	3
BIOL 4955	INDIVIDUAL RESEARCH*	2-3

*Can only be counted once.

COMPLETE 1 UPPER DIVISION BIOLOGY ELECTIVE (3-4 CR)

COURSE	TITLE	CR
BIOL 3XXX-5XXX	Rec 3550, 5471, 5495,5665, or 5910 for QI	3-4

COMPLETE 1 ADVANCED OR APPLIED CHEMISTRY ELECTIVE (3-4 CR)

COURSE	TITLE	CR
CHEM 3XXX-5XXX OR GEO 2100 OR BIOL 3520	CHEM 3XXX-5XXX OR REACTIVE EARTH OR BIOLOGICAL CHEMISTRY II	3-4

COMPLETE 1 SCIENCE ELECTIVE FROM EACH GROUP FOR USBE ENDORSEMENT IN ENVIRONMENTAL SCIENCE (OPTIONAL) (6 CR)

COURSE	TITLE	CR
GEO 1010	EXPLORING EARTH	3

OR GEO 1100 OR GEO 3030	OR EVOLVING EARTH OR INTRO TO EARTH SYSTEMS OR EARTHQUAKES & VOLCANOS (IR)	
ATMOS 1010 OR ATMOS 1020 OR GEO 3800	SEVERE & UNUSUAL WEATHER OR CLIMATE CHANGE OR THE OCEANS	3

TOTAL SCIENCE CREDITS = 65-83

REQUIRED EDUCATION COURSES (17-18 CR)

COURSE	TITLE	CR
EDU 1010 OR SCI 3670 OR SCI 5050	INTRO TO TEACHING OR SCIENCE COMM & MENTORING OR SCIENCE OF LEARNING	2-3
ETHNC 2550 OR ETHNC 2570 OR ETHNC 2580 OR ETHNC 2590	AFRICAN AMER EXP (HF) OR AMER INDIAN EXP (HF) OR ASIAN PACIFIC AMER EXP (BF) OR PACIFIC ISLANDER EXP (HF)	3
ECS 2150	INTRO TO MULTICULTURAL ED	3
EDPS 3721	ADOLESCENT PSYCHOLOGY	3
EDU 5170	SECONDARY SCIENCE METHODS	3
ECS 5709	BUILDING FAMILY PARTNERSHIPS (32 field hours required)	3

OPTIONAL ELECTIVES FOR COMPLETION OF ENGLISH AS A SECOND LANGUAGE (ESL) ENDORSEMENT (9 CR)

COURSE	TITLE	CR
EDU 5200	TEACHER LANGUAGE AWARENESS	3
ECS 5645	ASSESSMENT OF LINGUISTICALLY DIVERSE POPULATIONS (PR: ECS 2150 OR ECS 5634 OR ECS 6634 OR ECS 5715 OR ECS 6715 AND SP ED 5021/6021 OR ECS 6035)	3

ECS 5647	INSTRUCTIONAL METHODS FOR LINGUISTICALLY DIVERSE POPULATIONS (PR: EDU 5200, ECS 5645)	3 (16 HRS FIELD)
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*ESL ENDORSEMENT REQUIRED TO TEACH IN GRANITE AND SALT LAKE CITY SCHOOL DISTRICTS. CAN BE TAKEN AFTER HIRE

**TOTAL REQUIRED CREDITS FOR BIOLOGY
TEACHING MAJOR = 82-101**

NOTE: This plan of study fulfills USBE requirements for teaching endorsements in Biology and Chemistry, with an option for endorsement in Environmental Science. Students must also complete all General Education and Bachelor's degree requirements to total a minimum of 122 credit hours in order to graduate.

-END OF BS IN BIOLOGY TEACHING REQUIREMENTS-

REQUIREMENTS FOR MASTERS OF EDUCATION IN EDUCATIONAL PSYCHOLOGY with LICENSURE

(Combined BS/MEd in Secondary Level Science Teaching **only**)(29-32 cr)

(For information about the MEd program contact sara.hatch@utah.edu at the Urban Institute for Teacher Education)

COURSE	TITLE	CR	SEM	REQUIREMENT
ED PS 6151	Educational Applications of Technology	3	1	Licensure, MEd
ED PS 6035	Instructional Assessments: Design, Implementation, and Analysis (online)	3	1	Licensure, MEd
SP ED 6022	Principles of Instruction & Behavior Support	3	1	Licensure, MEd
EDU 6201	Teaching Practices, Ethics & Professional Development (PPAT)	1	1	Licensure, MEd
EDU 6490	Field Practicum: Secondary (9 hours/week in field)	3	1	Licensure, MEd
EDU 6491	Professional Development & Teacher Research	3	2	Licensure, MEd
SP ED 5012	Teaching Students with Disabilities in Inclusive Secondary Classrooms	3	2 or 3	Licensure, Med
EDU 6495	Student Teaching: Secondary (12 weeks full-time)	9	2	Licensure, MEd
ED PS/EDU 5XXX- 6XXX or other	STEM Instruction Elective (see adviser for options)	1-3	2	MEd

TOTAL REQUIRED MEd and LICENSURE

CREDITS = 29-32

Students must complete a minimum of 30 hours to graduate