

# BIOLOGY - CELL/PHYSIOLOGY REQUIREMENTS (BSE)

## Licensure

Code	Title	Units
<b>Licensure Requirements - 41 units</b>		
SPECED 205	INTRODUCTION TO SPECIAL EDUCATION	3
BIOLOGY 257	INTRODUCTION TO ECOLOGY	3
Foundations Block:		9
EDFOUND 212	EDUCATIONAL PSYCHOLOGY	
EDFOUND 243	FOUNDATIONS OF EDUCATION IN A PLURALISTIC SOCIETY	
EDFNDPRC 210	INTRODUCTION TO EDUCATION AND TEACHING	
EDFOUND 425	MEASUREMENT AND EVALUATION IN THE SECONDARY SCHOOL	3
SECNDED 466	LITERACY IN THE DISCIPLINES	3
SECNDED 429	METHODS OF TEACHING SCIENCE	3
CIFLD 492	FIELD STUDY	3
Select one of the following Directed Teaching groups:		14
Group A		
CIFLD 402	DIRECTED TEACHING - ALTERNATIVE PLACEMENT MIDDLE SCHOOL (2 units)	
CIFLD 414	DIRECTED TEACHING-SECONDARY (12 units)	
Group B		
CIFLD 404	DIRECTED TEACHING - ALTERNATIVE PLACEMENT SECONDARY SCHOOL (2 units)	
CIFLD 412	DIRECTED TEACHING-MIDDLE SCHOOL (12 units)	
Total Units		41

## Major

Code	Title	Units
<b>Major Requirements - 41 units</b>		
BIOLOGY 141	INTRODUCTORY BIOLOGY I	5
BIOLOGY 142	INTRODUCTORY BIOLOGY II	5
BIOLOGY 251	INTRODUCTION TO GENETICS	4
BIOLOGY 253	INTRODUCTION TO CELL BIOLOGY	3
BIOLOGY 254	BIOTECHNOLOGY LABORATORY METHODS I	2
BIOLOGY 257	INTRODUCTION TO ECOLOGY	3
BIOLOGY 258	FIELD EXPERIENCE	2-3
or BIOLOGY 451	NATURAL HISTORY OF YELLOWSTONE NP AND THE UPPER GREAT PLAINS	
BIOLOGY 311	MICROBIOLOGY	4
Select one of the following:		8
BIOLOGY 340 & BIOLOGY 345	COMPARATIVE VERTEBRATE ANATOMY and ANIMAL PHYSIOLOGY	

BIOLOGY 361 & BIOLOGY 362	HUMAN ANATOMY AND PHYSIOLOGY I and HUMAN ANATOMY AND PHYSIOLOGY II	
BIOLOGY 446	ORGANIC EVOLUTION	4
BIOLOGY 390	BIOLOGY COLLOQUIUM	0.5
BIOLOGY 400	SENIOR BIOLOGY COLLOQUIUM	0.5
BIOLOGY 498R	INDEPENDENT STUDY - UNDERGRADUATE RESEARCH (select at least one unit)	1
Total Units		42

Code	Title	Units
<b>Unique and Writing Requirements</b>		
BIOLOGY 200	WRITING IN BIOLOGY	3
or ENGLISH 372	TECHNICAL AND SCIENTIFIC WRITING	
CHEM 102	GENERAL CHEMISTRY I (GL)	5
CHEM 104	GENERAL CHEMISTRY II (GL)	5
CHEM 251	ORGANIC CHEMISTRY	3
CHEM 252	ORGANIC CHEMISTRY	3
Select one of the following:		3-5
MATH 152	PRECALCULUS (GM)	
MATH 243	SHORT CALCULUS	
MATH 250	APPLIED CALCULUS SURVEY FOR BUSINESS AND SOCIAL SCIENCES	

One of the following are strongly recommended:

PHYSICS 140 & PHYSICS 141	PRINCIPLES OF PHYSICS I (GL) and PRINCIPLES OF PHYSICS II (GL)	
PHYSICS 180 & PHYSICS 181	PHYSICS FOR SCIENTISTS AND ENGINEERS I (GL) and PHYSICS FOR SCIENTISTS AND ENGINEERS II (GL)	

An approved minor is required for this major.