

EARTH / CHEMISTRY LICENSURE Fall 2016
REQUIRES A TOTAL OF 68 SEMESTER HOURS

Pedagogy Requirements: (4 sem. hrs. req.)

EDT 434 Science Methods For AYA	3
EDT 434L Science Methods For AYA Lab.....	1
STANDER SYMPOSIUM Presentation and Participation in Science	
https://stander.udayton.edu	

Earth Science Requirements: (24 sem. hrs. req.)

GEO 115 Physical Geology	3
GEO 115L Physical Geology Laboratory.....	1
GEO 116 Geological History of the Earth	3
GEO 116L Geological History of the Earth Laboratory.....	1
GEO 201 Mineralogy.....	3
GEO 201L Mineralogy Laboratory	1
GEO 208 Environmental Geology	3
GEO 208L Environmental Geology Laboratory	1
GEO 301 Structural Geology.....	3
GEO 301L Structural Geology Laboratory	1
<u>Select additional courses to total 24 hours in Geology:</u>	
GEO 307 Geomorphology	3
GEO 307L Geomorphology Laboratory.....	1
GEO 309 Surface and Groundwater Hydrology	3
GEO 309L Surface and Groundwater Hydrology Laboratory...	1
GEO 303 Field Geology	6
GEO 401 Paleontology	3
GEO 401L Paleontology Laboratory.....	1
GEO 403 Sedimentary	3
GEO 403L Sedimentary Laboratory.....	1

Chemistry Requirements: (20 sem. hrs. req.)

CHM 123 General Chemistry I.....	3
CHM 123L General Chemistry I Laboratory	1
CHM 124 General Chemistry II.....	3
CHM 124L General Chemistry II Laboratory	1
CHM 201 Quantitative Analysis.....	3
CHM 201L Quantitative Analysis Laboratory	1
CHM 313 Organic Chemistry I.....	3
CHM 313L Organic Chemistry I Laboratory	1
<u>Select additional courses to total 20 hours in Chemistry:</u>	
CHM 302 Physical Chemistry	3
CHM 314 Organic Chemistry II	3
CHM 314L Organic Chemistry II Laboratory.....	1
CHM 341 Environmental Chemistry	3
CHM 341L Environmental Chemistry Laboratory	1
CHM 420 Biochemistry.....	3

Biology & Physics Science Requirements: (8 sem. hrs. req.)

BIO 151 Concepts of Biology I.....	3
BIO 151L Biology Laboratory Investigation I.....	1
PHY 201 General Physics I	3
PHY 201L General Physics I Laboratory	1

Math Requirements: (12 sem. hrs. req.)

MTH 168 Analytical Geometry and Calculus I.....	4
MTH 169 Analytical Geometry and Calculus II.....	4
MTH 218 Analytical Geometry and Calculus III	4

Computer Requirements:

Use of computers is required in BIO 151L, BIO 152L, PHY 210L, and PHY 211L. Students who do not possess needed skills should take CPS 111 or a higher level CPS course.

LIFE SCIENCE / EARTH LICENSURE Fall 2016
REQUIRES A TOTAL OF 77 SEMESTER HOURS

Pedagogy Requirements: (4 sem. hrs. req.)

EDT 434 Science Methods For AYA	3
EDT 434L Science Methods For AYA Lab.....	1
STANDER SYMPOSIUM Presentation and Participation in Science	
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Biology Requirements: (27 sem. hrs. req.)

BIO 151 Concepts of Biology I.....	3
BIO 151L Biology Laboratory Investigation I.....	1
BIO 152 Concepts of Biology II.....	3
BIO 152L Biology Laboratory Investigations II.....	1
BIO 301 Evolution	3
BIO 309 Comparative Anatomy	3
BIO 309L Comparative Anatomy Laboratory	1
BIO 310 Ecology.....	3
BIO 310L Ecology Laboratory	1
BIO 314 Plant Biology	3
BIO 314L Plant Biology Laboratory.....	1
BIO 411 General Microbiology.....	3
BIO 411L General Microbiology Laboratory	1

Earth Science Requirements: (24 sem. hrs. req.)

GEO 115 Physical Geology	3
GEO 115L Physical Geology Laboratory	1
GEO 116 Geological History of the Earth	3
GEO 116L Geological History of the Earth Laboratory	1
GEO 201 Mineralogy.....	3
GEO 201L Mineralogy Laboratory	1
GEO 208 Environmental Geology	3
GEO 208L Environmental Geology Laboratory	1
GEO 301 Structural Geology.....	3
GEO 301L Structural Geology Laboratory	1

Select additional courses to total 24 hours in Geology:

GEO 303 Field Geology	6
GEO 307 Geomorphology.....	3
GEO 307L Geomorphology Laboratory	1
GEO 308 Problems and Decisions in Environmental Geology.....	3
GEO 308L Problems and Decisions in Environmental Geology Lab ...	1
GEO 309 Surface and Groundwater Hydrology	3
GEO 309L Surface and Groundwater Hydrology Laboratory.....	1
GEO 401 Paleontology	3
GEO 401L Paleontology Laboratory	1
GEO 403 Sedimentology	3
GEO 403L Sedimentology Laboratory	1
PHY 250 Descriptive Astronomy	3

Chemistry & Physics Requirements: (16 sem. hrs. req.)

CHM 123 General Chemistry I.....	3
CHM 123L General Chemistry I Laboratory	1
CHM 124 General Chemistry II	3
CHM 124L General Chemistry II Laboratory	1
CHM 313 Organic Chemistry I.....	3
CHM 313L Organic Chemistry I Laboratory	1
PHY 201 General Physics I.....	3
PHY 201L General Physics I Laboratory.....	1

Math Requirements: (6 sem. hrs. req.)

MTH 148 Introductory Calculus I	3
MTH 149 Introductory Calculus II.....	3

Computer Requirements:

Use of computers is required in BIO 151L and BIO 152L. Students who do not possess needed skills should take CPS 111 or a higher level CPS course.