

**CHEMISTRY / PHYSICS LICENSURE 2014-2015**  
**REQUIRES A TOTAL OF 64 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 & Participation in Science <a href="https://stander.udayton.edu">https://stander.udayton.edu</a>	

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

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

PHY 206 General Physics I—Mechanics .....	3
PHY 207 General Physics II—Electricity and Magnetism .....	3
PHY 208 General Physics III—Mechanics of Waves .....	3
PHY 210L General Physics Laboratory I .....	1
PHY 211L General Physics Laboratory II .....	1
PHY 250 Descriptive Astronomy .....	3
PHY 321 Atomic and Nuclear Physics .....	3
PHY 395 Research Participation I .....	1
<u>Select additional courses to total 20 hours in Physics:</u>	
PHY 303 Intermediate Mechanics I .....	3
PHY 333 Digital and Analog Electronics for Scientists .....	3

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

BIO 151 Concepts of Biology I .....	3
BIO 151L Biology Laboratory Investigation I .....	1
GEO 115 Physical Geology .....	3
GEO 115L Physical Geology 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.

**EARTH / PHYSICS LICENSURE 2014-2015**  
**REQUIRES A TOTAL OF 72 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 <a href="https://stander.udayton.edu">https://stander.udayton.edu</a>	

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

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

PHY 206 General Physics I—Mechanics .....	3
PHY 207 General Physics II—Electricity and Magnetism .....	3
PHY 208 General Physics III—Mechanics of Waves .....	3
PHY 210L General Physics Laboratory I .....	1
PHY 211L General Physics Laboratory II .....	1
PHY 250 Descriptive Astronomy .....	3
PHY 321 Atomic and Nuclear Physics .....	3
PHY 395 Research Participation I .....	1
<u>Select additional courses to total 20 hours in Physics:</u>	
PHY 303 Intermediate Mechanics I .....	3
PHY 333 Digital and Analog Electronics for Scientists .....	3

Biology & Chemistry Requirements: (12 sem. hrs. req.)

BIO 151 Concepts of Biology I .....	3
BIO 151L Biology Laboratory Investigation I .....	1
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

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.