

# SECONDARY CERTIFICATION TEACHING MAJOR/MINOR BIOLOGY

## Major Requirements

A minimum of 32 semester hours is required.

Code	Title	Credit Hours
<b>Required Courses</b>		
BIOL 130 & 130L	Intro Org and Environ Biology and Intro Org & Envir Biol Lab/Rec	4
BIOL 140 & 140L	Intro Molec & Cellular Biology and Intr Molec & Cell Biol Lab/Rec	4
<b>Cellular and Molecular Biology:</b>		
Select two courses from below. One must be a laboratory course: 6-8		
BIOL 301 & 301L	Cell Biology and Cell Biology Lab	
BIOL 306 & BIOL 307	General Genetics and General Genetics Laboratory <sup>1</sup>	
BIOL 370	Principles of Biochemistry	
BIOL 380	Epidemiology	
BIOL 385 & 385L	Microbiology and Microbiology Lab	
BIOL 405 & 405L	Environmental and Public Health Microbiology and Environmental and Public Health Microbiology Laboratory	
BIOL 406	Microbial Genetics <sup>1</sup>	
BIOL 450	Virology	
BIOL 455	Immunology	
BIOL 470 & BIOL 472	Biochemistry I and Biochemistry Lab I	
BIOL 471 & BIOL 473	Biochemistry II and Biochemistry Laboratory II	
BIOL 474 & 474L	Molecular Biology and Molecular Biology Lab	
BIOL 485	Physiology and Biochemistry of Microorganisms	
<b>Organismal Biology:</b>		
Select two courses from below. One must be a laboratory course: 7-9		
BIOL 303 & 303L	Comparative Animal Physiology and Comparative Anim Physiol Lab	
BIOL 310 & 310L	Histology and Histology Lab	
BIOL 311 & 311L	Embryology and Embryology Lab	
BIOL 324	Invertebrate Zoology	
BIOL 333 & 333L	Plant Biology and Plant Biology Lab	
BIOL 335 & 335L	Plant Physiology and Plant Physiology Lab	
BIOL 350 & 350L	Introduction to Neurobiology and Intro to Neurobiology Lab	
BIOL 353	Ornithology	

Population and Environmental Biology:

Select two courses from below. One must be a laboratory course:		7-8
BIOL 304 & 304L	Ecology and Ecology Lab	
BIOL 315	Aquatic Ecosystems	
BIOL 320	Field Biology	
BIOL 360 & BIOL 361	Population Genetics & Evolution and Population Genetics & Evol Lab <sup>1</sup>	
BIOL 419	Behavior and Evolution	
BIOL 420	Advanced Field Ecology	

**Electives**

Select 0-4 credit hours from above:	0-4
<b>Total credits required minimum</b>	<b>32</b>

<sup>1</sup> One course in genetics: either BIOL 306, or BIOL 360, must be selected.

*Major Notes:*

1. A minimum GPA of 2.75 is required for a major.
2. For the major, 16 semester hours must be in courses numbered 300 or above.
3. At least 15 semester hours in UM-Dearborn courses required for a major.
4. Additional courses may be required to satisfy program and 32 semester hour requirement.

*Program Notes:*

1. Minimum GPA's are required for program completion: 2.75 cumulative, 2.75 in major, 2.75 in minor, and 2.75 in Professional Studies.
2. *Advising Policy:* The student is responsible for complying with requirements described in the Undergraduate Catalog as well as on the Four Phase Checklist. Students are expected to meet with their College of Education, Health, and Human Services advisor at least once per year and in the term prior to graduation.
3. Courses taken on a PASS/FAIL basis will NOT be accepted toward program completion.
4. CEHHS recommends successful program completers for State of Michigan Certification, however, it is ultimately up to the State of Michigan to issue certificates. Certain offenses on a criminal record can keep individuals from obtaining teacher certification. Please refer to The Revised School Code, Act 451 of 1976, section 380.1539b.
5. Initial certification program students must have passing scores on the appropriate MTTC subject area test reported to the University of Michigan-Dearborn College of Education, Health, and Human Services by electronic delivery or direct mail from Pearson Evaluation Systems prior to student teaching.
6. Certified teachers pursuing an endorsement in a post-degree program must complete all program requirements and have passing scores on the appropriate MTTC subject area test reported to the University of Michigan-Dearborn College of Education, Health, and Human Services by electronic delivery or direct mail from Pearson Evaluation Systems prior to a recommendation being made to the State of Michigan Department of Education.

## Minor Requirements

A minimum of 21 semester hours is required.

Code	Title	Credit Hours
<b>Required courses</b>		<b>21</b>
BIOL 130	Intro Org and Environ Biology	
BIOL 140	Intro Molec & Cellular Biology	
EDD 481	Practicum in Science:Secnd Grd	
<b>Cell and Molecular Biology</b>		
Select at least one course from major list		
<b>Organismal Biology</b>		
Select at least one course from major list		
<b>Population and Environmental Biology</b>		
Select at least one course from major list		
<b>Total Credit Hours</b>		<b>21</b>

*Minor Notes:*

1. A minimum GPA of 2.75 is required for a minor.
2. For the minor, 7 semester hours must be in courses numbered 300 or above.