

## Washtenaw Community College Comprehensive Report

### BIO 107 Introduction to Field Biology Effective Term: Winter 2018

#### Course Cover

**Division:** Math, Science and Engineering Tech

**Department:** Life Sciences

**Discipline:** Biology

**Course Number:** 107

**Org Number:** 12110

**Full Course Title:** Introduction to Field Biology

**Transcript Title:** Introduction to Field Biology

**Is Consultation with other department(s) required:** No

**Publish in the Following:** College Catalog , Time Schedule , Web Page

**Reason for Submission:** Three Year Review / Assessment Report

**Change Information:**

**Consultation with all departments affected by this course is required.**

**Course description**

**Outcomes/Assessment**

**Objectives/Evaluation**

**Rationale:** This course has not been assessed in several years and the master syllabus did not reflect the current, established course content or assessment tools. Changes made in the revised master syllabus will be used for assessment and submitted in the forthcoming CAR.

**Proposed Start Semester:** Winter 2018

**Course Description:** This course is an introduction to the field study of biological systems and biodiversity. Students will explore the techniques and complexities of studying Michigan organisms and ecosystems in an outdoor setting. Topics will include wetland and river habitats, native trees, shrubs and wild flowers, fungi, animal diversity, and ecology. Several off-campus trips will enhance the field experience in addition to exploring the natural areas on campus. As part of this course, students will keep a semester-long field journal on a specific natural area of study.

#### Course Credit Hours

**Variable hours:** No

**Credits:** 3

**Lecture Hours: Instructor:** 45 **Student:** 45

**Lab: Instructor:** 0 **Student:** 0

**Clinical: Instructor:** 0 **Student:** 0

**Total Contact Hours: Instructor:** 45 **Student:** 45

**Repeatable for Credit:** NO

**Grading Methods:** Letter Grades

Audit

**Are lectures, labs, or clinicals offered as separate sections?:** NO (same sections)

#### College-Level Reading and Writing

College-level Reading & Writing

## **College-Level Math**

### **Requisites**

### **General Education**

#### **MACRAO**

MACRAO Science & Math

#### **General Education Area 4 - Natural Science**

Assoc in Applied Sci - Area 4

Assoc in Science - Area 4

Assoc in Arts - Area 4

#### **Michigan Transfer Agreement - MTA**

MTA Science (no lab)

### **Request Course Transfer**

#### **Proposed For:**

Central Michigan University  
Eastern Michigan University  
Ferris State University  
Grand Valley State University  
Jackson Community College  
Michigan State University  
Oakland University  
University of Michigan  
Wayne State University  
Western Michigan University

### **Student Learning Outcomes**

1. Identify fungi, plant, and animal species common to specific Michigan habitats.

#### **Assessment 1**

Assessment Tool: Exam questions

Assessment Date: Fall 2017

Assessment Cycle: Every Three Years

Course section(s)/other population: All

Number students to be assessed: All students

How the assessment will be scored: Answer key

Standard of success to be used for this assessment: 70% of students will score a 70% or higher on related exam questions.

Who will score and analyze the data: Departmental Faculty

2. Discuss the biodiversity, ecology, and importance of terrestrial and aquatic ecosystems commonly found in Michigan.

#### **Assessment 1**

Assessment Tool: Essay questions on final exam.

Assessment Date: Fall 2017

Assessment Cycle: Every Three Years

Course section(s)/other population: All

Number students to be assessed: All students

How the assessment will be scored: Departmentally developed rubric

Standard of success to be used for this assessment: 70% of students will score a 70% or better on related exam questions.

Who will score and analyze the data: Departmental Faculty

3. Compare and contrast the seasonal changes (both biotic and abiotic) of a specified natural area of study throughout the course of the semester.

#### **Assessment 1**

Assessment Tool: Journal entries

Assessment Date: Fall 2017

Assessment Cycle: Every Three Years

Course section(s)/other population: All

Number students to be assessed: All students

How the assessment will be scored: Departmentally developed rubric

Standard of success to be used for this assessment: 70% of students will score a 70% or higher on their final field journal grade.

Who will score and analyze the data: Departmental faculty

#### **Course Objectives**

1. Identify native, non-native, and invasive wildflowers in several Michigan habitats.
2. Identify common insect and invertebrate species of animals found in various Michigan habitats.
3. Identify common aquatic animals (both invertebrate and vertebrate) found in Michigan ponds, rivers, vernal pools, and lakes.
4. Identify, compare and contrast several outdoor communities in Michigan including wetlands, ponds, rivers, fields, and forests.
5. Identify common vertebrate species of fishes, amphibians, reptiles, birds, and mammals found in Michigan.
6. Identify common fungal species found in Michigan forests.
7. Define ecological terms relevant to a specific organism or ecological system.
8. Identify several species of woody shrubs and trees common to Michigan.
9. Discuss the ecology of riparian ecosystems in relation to both biotic and abiotic factors.
10. Explain the importance of Michigan's geological past in relation to watersheds and riparian habitats.
11. Label the regions of a pond's edge in relation to plant types.
12. Compare and contrast the thermoregulatory physiology of ectotherms vs. endotherms.
13. Describe the migratory physiology, ecology, and routes (flyways) of migratory birds.
14. Differentiate the structure and ecological role of fungi vs. plants.
15. Identify several different types of mammal tracks native to Michigan and associated scat.
16. Analyze the information obtained from animal tracks, scat, browse lines, runs, scrapes, and skeletal remains.
17. Discuss the ecological relationships of fungi, animals, and plant communities within a forest food web.
18. Compare and contrast the biology of amphibians and reptiles in relation to body integument and reproduction.
19. Differentiate between poisonous vs. venomous organisms.
20. Discuss the physiology and ecology of different types of insect metamorphosis.
21. Identify environmental indicator species and discuss their importance in ecology.

- 22. Describe the differences in structure, photosynthesis, and seasonal ecology between gymnosperms and angiosperms.
- 23. Create and keep a semester-long field journal based on the seasonal changes (both abiotic and biotic) of a selected natural area.

**New Resources for Course**

**Course Textbooks/Resources**

- Textbooks
- Manuals
- Periodicals
- Software

**Equipment/Facilities**

- Level III classroom
- Off-Campus Sites

<b><u>Reviewer</u></b>	<b><u>Action</u></b>	<b><u>Date</u></b>
<b>Faculty Preparer:</b> <i>David Wooten</i>	<i>Faculty Preparer</i>	<i>May 19, 2017</i>
<b>Department Chair/Area Director:</b> <i>Anne Heise</i>	<i>Recommend Approval</i>	<i>May 22, 2017</i>
<b>Dean:</b> <i>Kristin Good</i>	<i>Recommend Approval</i>	<i>May 30, 2017</i>
<b>Curriculum Committee Chair:</b> <i>Lisa Veasey</i>	<i>Recommend Approval</i>	<i>Aug 31, 2017</i>
<b>Assessment Committee Chair:</b> <i>Michelle Garey</i>	<i>Recommend Approval</i>	<i>Sep 06, 2017</i>
<b>Vice President for Instruction:</b> <i>Kimberly Hurns</i>	<i>Approve</i>	<i>Sep 07, 2017</i>