



North Central Michigan College Master Course Syllabus

PART 1:

Course Name: Introduction to Biology

Course Number: BIO 101

Credit Hrs. 4 Lecture Hrs. 3 Lab Hrs. 2 Clinical Hrs. 0 Variable Hrs. 0

Total Hours of Instruction: 5 Total Contact Hours: 88
(Total Contact hour's formula: (lecture hrs. + lab hrs. + clinical hrs) x 17.6)

Course Description:

Designed especially for non-science majors and for those students wishing to improve their skills before attempting more advanced studies. During lecture, class discussion and lab activities, students are introduced to biological concepts and made aware of the importance of these concepts to life on earth. Dissection is *not* required.

Prerequisite (s): None

Co-requisite (s): None

Course Objectives:

After successfully completing this course students will be able to:

- Discuss the methods by which scientists gain knowledge.
- Explain basic biological concepts and their application to the real world.
- Practice proper and safe scientific methods in the laboratory.
- Use scientific methods to solve biological problems.

Reasonable accommodations can be provided for students with documented disabilities. Please contact Learning Support Services to arrange for these (231)348-6687 or (231)348-6817, Room 533 SCRC.



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PART 2:

Course Objectives and Linked Lumina DQP Outcomes

See *PART 3* of this syllabus for the complete language of each Lumina DQP outcome.

- Discuss the methods by which scientists gain knowledge. DQP (4)
- Explain basic biological concepts and their application to the real world. DQP (2,6)
- Practice proper and safe scientific methods in the laboratory. DQP (7)
- Use scientific methods to solve biological problems. DQP (8)



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Suggested Methods of Instruction:

Lecture, audio visual presentations, lab activities, experiential activities, demonstrations, field trips, and student presentations.

Suggested Methods of Assessment and Evaluation:

Exams, worksheets, course portfolio, lab reports, participation, and group or individual projects.

Adopted Text at Time of Course Adoption/Revision:

Concepts in Biology by Enger & Ross

*Any college-level, non-science major style text for freshman-level Biology is acceptable.

*For instructors who do not write their own lab activities, an college-level, non-science major style lab manual such as Biology Laboratory Manual by Vodopich and Moore is recommended,

Topics Covered During the Semester:

Sequence of topics and time allowance are at the discretion of the instructor

- Science and the Scientific Method
- Basic Chemistry
- Organic Compounds
- Cells
- Microscopy and slide presentation
- Autotrophs and Heterotrophs
- Photosynthesis and Cellular Respiration
- DNA/RNA
- Cell Division
- Inheritance
- Adaption
- Extinction
- Classification of Living Things
- The Ecosystem
- Succession
- Biomes of the World

Part 1 & Part 2 approved by CRDAP on: 05 01 15

Part 2 approved by AD:

Date:

Part 2 approved by CRDAP Chair:

Date:

Rev02/15



North Central Michigan College

Master Course Syllabus

PART 3:

LUMINA DQP OUTCOMES – Use this reference sheet for **PART 2** of Master Course Syllabus.

Specialized Knowledge

1. Describes the scope and principal features of the field of study, citing at least some of its core theories and practices, and offers a similar explication of at least one related field.
2. Illustrates contemporary terminology used in the field.
3. Generates substantially error-free products, reconstructions, data, juried exhibits or performances as appropriate to the field.

Broad Integrative Knowledge

4. Describes how existing knowledge or practice is advanced, tested and revised
5. Describes and examines a range of perspectives on key debates and their significance both within the field and in society.
6. Illustrates core concepts of the field while executing analytical, practical or creative tasks.
7. Selects and applies recognized methods of the field in interpreting characteristic discipline-based problems.
8. Assembles evidence relevant to characteristic problems in the field, describes the significance of the evidence, and uses the evidence in analysis of these problems.
9. Describes the ways in which at least two disciplines define, address and interpret the importance of a contemporary challenge or problem in science, the arts, society, human services, economic life or technology.

Intellectual Skills – Analytic Inquiry

10. Identifies, categorizes and distinguishes among elements of ideas, concepts, theories and/or practical approaches to standard problems.

Intellectual Skills – Use of Information Resources

11. Identifies, categorizes, evaluates and cites multiple information resources necessary to engage in projects, papers or performance in his or her program.

Intellectual Skills – Engaging Diverse Perspectives

12. Describes how knowledge from different cultural perspectives would affect his or her interpretations of prominent problems in politics, society, the arts and/or global relations.

Intellectual Skills – Communication Fluency

13. Presents accurate calculations and symbolic operations, and explains how such calculations and operations are used in either his or her specific field of study or in interpreting social and economic trends.
14. Presents substantially error-free prose in both argumentative and narrative forms to general and specialized audiences.

Applied Learning

15. Describes in writing at least one substantial case in which knowledge and skills acquired in academic settings are applied to a challenge in a non-academic setting; applies that learning to the question; and analyzes at least one significant concept or method related to his or her course of study in light of learning outside the classroom.
16. Locates, gathers and organizes evidence on an assigned research topic addressing a course-related question or a question of practice in a work or community setting; offers and examines competing hypotheses in answering the question.

Civic Learning

17. Describes his or her own civic and cultural background, including its origins and development, assumptions, and predispositions.
18. Describes diverse positions, historical and contemporary, on selected democratic values or practices, and presents his or her own position on a specific problem where one or more of these values or practices are involved.
19. Takes an active role in a community context (work, service, co-curricular activities, etc.), and examines the civic issues encountered and the insights gained from the community experience.

The Degree Qualifications Profile was adopted by CRDAP: April 11, 2012