



MASTER COURSE OUTLINE

A. BIOL 1000 Biological Science

B. COURSE DESCRIPTION:

This is a one-semester course is designed for students who do not plan to major in science. Emphasis is placed on the major biological principles and their relationship to man and ecology. Topics studied include the scientific method, characteristics of life, biological chemistry, cell structure and function, genetics, evolution, classification and ecology.

MnTC (Goal 3/NS and Goal 2/CT); (3 Cr – 2 lect, 1 lab)

C. *MnTC Discipline: Natural Sciences **Core Theme: Critical Thinking

D. RIVERLAND INSTITUTIONAL LEARNING OUTCOMES:

This course addresses the following Riverland Institutional Learning Outcome(s):

- ILO 1: critical thinking (*Core Theme Goal 2*)
- ILO 2: awareness of the larger global community (*Core Theme Goal 7 or 8*)
- ILO 3: ethical, engaged citizenship (*Core Theme Goal 9 or Goal 10*)
- ILO 4: communication and collaboration (*Discipline Goal 1 and by any learning outcome(s) involving communication or collaboration*)

E. MAJOR CONTENT AREAS:

- Science and the scientific method
- Characteristics of life
- Compounds and chemistry of life
- Cellular structure, function and reproduction
- Genetics
- Evolutionary processes
- Classification and characteristics of life's major taxonomic divisions
- Population ecology
- Ecosystems and ecosystem processes
- Environmental problems/issues

F. GOAL TYPE, OBJECTIVES, AND OUTCOMES:

<u>GOAL TYPE</u>	<u>OBJECTIVES</u> Students will be able to	<u>OUTCOMES</u> The student will successfully
<u>MnTC Goal 3a</u>	demonstrate understanding of scientific theories.	<ol style="list-style-type: none"> 1. demonstrate an understanding of scientific theories related to the areas of the scientific method, evolution, cell biology, ecology, and classification of life. 2. define and explain the pertinent vocabulary terms related to the outcomes above.
<u>MnTC Goal 3b</u>	formulate and test hypotheses by performing laboratory simulation or field experiments in at least two of the natural science disciplines. One of these experimental components should develop, in greater depth, students' laboratory experience in the collection of data, its statistical and graphical analysis, and an appreciation of its sources of error and uncertainty.	<ol style="list-style-type: none"> 1. participate in and demonstrate an understanding of laboratory and field exercises related to the areas of cell biology, ecology, evolution, and classification. 2. demonstrate an understanding of data collection techniques, statistical and graphical analysis of data, and develop an appreciation for the sources of error and uncertainty inherent in any scientific inquiry.
<u>MnTC Goal 3c</u>	communicate their experimental findings, analyses, and interpretations both orally and in writing.	<ol style="list-style-type: none"> 1. discuss experimental findings in oral and written formats.
<u>MnTC Goal 2a</u>	gather factual information and apply it to a given problem in a manner that is relevant, clear, comprehensive, and conscious of possible bias in the information selected.	<ol style="list-style-type: none"> 1. demonstrate the ability to gather and appropriately analyze factual information, especially experimental results obtained during laboratory exercises.
<u>MnTC Goal 2b</u>	imagine and seek out a variety of possible goals, assumptions, interpretations, or perspectives which can give alternative meanings or solutions to given situations or problems.	<ol style="list-style-type: none"> 1. explore other interpretations, possibilities, perspectives, etc. that could be derived from the experimental results of the lab exercises. 2. display an understanding of the assumptions underlying the interpretation of data.
<u>MnTC Goal 2c</u>	analyze the logical connections among the facts, goals, and implicit assumptions relevant to a problem or claim; generate and evaluate implications that follow from them.	<ol style="list-style-type: none"> 1. analyze the logical connections between the didactic learning in the course, the results of laboratory exercises and other practical applications. 2. state goals and hypotheses related to the laboratory exercises. 3. analyze the assumptions relevant to the experimental process.
<u>CS</u>	utilize analytical tools (real or simulated) to gather the biologically relevant data necessary to test hypothesis and come to logical conclusions.	<ol style="list-style-type: none"> 1. demonstrate the use of any combination of real or simulated analytical tools, sensors, microscope in gathering data. 2. draw conclusions based on data analysis, and demonstrated

		through class or online discussions and/or written laboratory reports.
<u>CS</u>	process and evaluate current biologically relevant studies, reports, news, seminars etc. from various print, online, or other sources.	1. demonstrate their understanding of current biological issues through any combination of oral/online discussions, written works, or other assessment tools.

G. SPECIAL INFORMATION:

This course may require use of the Internet, the submission of electronically prepared documents and the use of course management software. Students who have a disability and need accommodations should contact Accessibility Services at the beginning of the semester. This information will be made available in alternative format, such as Braille, large print, or current media, upon request.

H. COURSE CODING INFORMATION: Course Code C/Class Maximum 48; Letter Grade

Revision date: 09/28/10; 01/31/18; 09/06/22
AASC Approval date: 03/06/18; 09/20/22

*Riverland Community College Disciplines	MnTC Goal Number
Communication (CM)	1
Natural Sciences (NS)	3
Mathematics/Logical Reasoning (MA)	4
History and the Social & Behavioral Sciences (SS)	5
Humanities and Fine Arts (HU)	6

**Riverland Community College Core Themes	MnTC Goal Number
Critical Thinking (CT)	2
Human Diversity (HD)	7
Global Perspective (GP)	8
Ethical and Civic Responsibility (EC)	9
People and the Environment (PE)	10

*These five MnTC Goals have been identified as Riverland Community College Disciplines.

** These five MnTC Goals have been identified as Riverland Community College Core Themes.

NOTE: The Minnesota Transfer Curriculum “10 Goal Areas of Emphasis” are reflected in the five required discipline areas and five core themes noted in the Riverland Community College program of study guide and/or college catalog.