



North Central State College  
MASTER SYLLABUS  
2020-2021

- A. Academic Division: Health Sciences
- B. Discipline: Biology
- C. Course Number and Title: BIOL1231 Biology II
- D. Course Coordinator: Justin Tickhill  
Assistant Dean: Melinda Roepke, MSN, RN

Instructor Information:

1. Name: [Click here to enter text.](#)
2. Office Location: [Click here to enter text.](#)
3. Office Hours: [Click here to enter text.](#)
4. Phone Number: [Click here to enter text.](#)
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- E. Credit Hours: 4  
Lecture: 3 hours  
Lab: 3 hours
- F. Prerequisites: BIOL1230 Biology I
- G. Syllabus Effective Date: Fall 2020
- H. Textbook(s) Title:

*Campbell Biology with Mastering Biology*

- Author(s): Reece, Urry, et al.
- Copyright Year: 2017
- Edition: 11<sup>th</sup>
- ISBN: 9780134093413

1. Workbook(s) and/or Lab Manual:

*Investigating Biology Laboratory Manual*

- Author(s): Morgan and Carter
- Copyright Year: 2017
- Edition: 9<sup>th</sup>
- ISBN: 9780134473468

- J. Course Description: This course is continuation of BIOL 1230 Biology I. The course will introduce fundamental concepts of biology including evolution, classification, ecosystems, similarities and differences, among plants, animals and microorganisms in form and function. Historical contributions and application of biological principles to biotechnology will be discussed. Students will meet three lecture hours and three lab hours per week.

K. College-Wide Learning Outcomes

<b>College-Wide Learning Outcomes</b>	<b>Assessments - - How it is met &amp; When it is met</b>
Communication – Written	
Communication – Speech	
Intercultural Knowledge and Competence	
Critical Thinking	
Information Literacy	
Quantitative Literacy	

L. Course Outcomes and Assessment Methods:

Upon successful completion of this course, the student shall:

<b>Outcomes</b>	<b>Assessments – How it is met &amp; When it is met</b>
1. Describe the evidence for evolution	Quizzes throughout term Mid-term and final exam
2. Identify the evolutionary processes that lead to adaptation and biological diversity	Homework assignments, Quizzes throughout term Mid-term and final exam
3. Describe levels of biological organization from cells, the basic unit of life, to the organism and the relationship of structure to function at all levels of biological organization.	Quizzes throughout term Mid-term and final exam
4. Describe the basic structures and fundamental processes of life at molecular, cellular, and organismal levels.	Quizzes throughout term Mid-term and final exam
5. Recognize that all living organisms consist of cells. Discuss the differences between prokaryotic and eukaryotic cells.	Quizzes throughout term Mid-term and final exam
6. Describe the basic plant and animal cell structure and function including their respective organelles and other components, particularly cell membranes, and methods of study	Quizzes throughout term Mid-term and final exam
7. Describe the general organization of the animal body and vascular plants	Quizzes throughout term Mid-term and final exam
8. Describe and contrast reproduction and development in plant and animal systems	Quizzes throughout term Mid-term and final exam
9. Compare the structure of nutrient procurement and processing systems in plants and animals	Quizzes throughout term Mid-term and final exam
10. Describe the structure and function of the nervous system, the musculo-skeletal system, the respiratory system and the mechanisms of internal transport and regulation in various organisms	Quizzes throughout term Mid-term and final exam
11. Understand the fundamentals of the endocrine system at the systemic level	Quizzes throughout term Mid-term and final exam
12. Describe basic processes of infectious disease and defense against infection.	Quizzes throughout term Mid-term and final exam

<b>Outcomes</b>		<b>Assessments – How it is met &amp; When it is met</b>
13.	Explain differences among classes of organisms in terms of biological structures and their functions.	Quizzes throughout term Mid-term and final exam
14.	Outline and describe the major invertebrate and vertebrate phyla in terms of structure, nutrition, life history, and evolutionary relationships	Quizzes throughout term Mid-term and final exam
15.	Describe the processes and results of scientific inquiry with the remodeling of animal phylogenetic relationships	Quizzes throughout term Mid-term and final exam
16.	Describe the relationship between life forms and their environment and ecosystems.	Quizzes throughout term Mid-term and final exam
17.	Describe the different types of relationships that exist between living organisms.	Quizzes throughout term Mid-term and final exam
18.	Explain how populations grow, and how we can describe this mathematically.	Quizzes throughout term Mid-term and final exam
19.	Explain how energy moves through an ecosystem	Quizzes throughout term Mid-term and final exam
20.	Describe the basic principles of conservation biology	Quizzes throughout term Mid-term and final exam
21.	Describe and explain various types of animal behavior.	Quizzes throughout term Mid-term and final exam
22.	Describe advantages and disadvantages of social behavior	Quizzes throughout term Mid-term and final exam
23.	Document the solution to scientific problems through the collection, organization, analysis and interpretation of qualitative and quantitative data. Incorporate findings into broader context of biological knowledge	Lab reports, Quizzes throughout term Mid-term and final exam
24.	Apply current research literature, information related to biological issues in the mass media	Lab reports, Quizzes throughout term Mid-term and final exam
25.	Integrate and relate knowledge to real life situations	Quizzes throughout term Mid-term and final exam

M. Topical Timeline (Subject to Change):

<b>WEEK</b>	<b>CONTENT</b>
1, 2, 3, & 4	Form and function of major domains living things <ol style="list-style-type: none"> <li>1. Organization and Basic structures fundamental to life</li> <li>2. Structures and function of integration</li> <li>3. Structures of energy procurement</li> <li>4. Structures of respiration</li> <li>5. Structures internal transport and regulation</li> <li>6. Endocrine system</li> <li>7. Immune system</li> </ol>
5, 6, 7, & 8	Principles and practices of biological classification <ol style="list-style-type: none"> <li>1. Importance of classification</li> <li>2. Historical and modern schemes</li> <li>3. Characteristics of major phyla</li> </ol>

WEEK	CONTENT
9, & 10	Principles of biological evolution 1. Darwin and development of the theory of natural selection 2. Evolutionary processes and evidence for Evolution
11, 12, & 13	Ecological systems 3. Relations between organisms and the environment 4. Food Webs and flows of energy 5. Conservation
14& 15	Evaluation of scientific literature
16	Final Exam

Lab - Weeks will correspond to Lecture Material Presentation Time Schedule

1. Anatomy: Structures necessary for life
2. Nervous and Respiratory
3. Digestive and endocrine
4. Reproduction
5. Plant anatomy
6. Classification: Bacteria
7. Classification: Protists and Fungi
8. Plant Diversity I
9. Plant Diversity II
10. Animal Diversity I
11. Animal Diversity II
12. Animal Behavior
13. Ecology

Note: A homework component after each lab, students are expected to design a “next step” experiment to reinforce the concepts using scientific method.

N. Course Assignments:

1. Homework Assignments
2. Quizzes
3. Mid-term Exam
4. Final Exam

O. Recommended Grading Scale:

NUMERIC	GRADE	POINTS	DEFINITION
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93-100	A	4.00	Superior
90-92	A-	3.67	Superior
87-89	B+	3.33	Above Average
83-86	B	3.00	Above Average
80-82	B-	2.67	Above Average
77-79	C+	2.33	Average
73-76	C	2.00	Average
70-72	C-	1.67	Below Average
67-69	D+	1.33	Below Average
63-66	D	1.00	Below Average
60-62	D-	0.67	Poor
00-59	F	0.00	Failure

P. Grading and Testing Guidelines:

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Q. Examination Policy:

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R. Class Attendance and Homework Make-Up Policy:

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S. Classroom Expectations:

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T. College Procedures/Policies:

**Important information regarding College Procedures and Policies can be found on the [syllabus supplement](#) located at**

**<http://catalog.ncstatecollege.edu/mime/download.pdf?catoid=5&ftype=2&foid=3>**