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**Ohio Articulation Number (OAN)
Course Submission Form
2005-2006**



College/University Owens Community College

Course(s) Submitted(Title & Course #) BIO 201 General Biology I for
Ohio Articulation Number OSC 003

Date 2/1/06 Course 1 of a 1 Course OAN mapping.

Name and title of individual submitting on behalf of the college/university

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Credit Hours 5 qtr _____ sem 5

Lecture Hours 4

Laboratory Hours 3 (if applicable)

Pre-Requisites(s) Course work (if applicable)

N/A

Placement Score (if applicable)

(Name of test)N/A

(Domain) _____ (Score) _____

Catalog/Course Description (Includes Course Title and Course #)

This is the first semester of a two-semester course which will serve as the basis for all students wishing to pursue a degree in biology and other students who need a comprehensive science course that includes a lab. Basic life processes shared by all organisms will be covered. These include metabolism, movement, digestion,

reproduction, and evolution. Processes unique to certain groups, such as photosynthesis in plants, will also be included. This first semester will be general and inclusive; that is, processes that all organisms share will be described, and similarities between groups will be emphasized. Diversity will be explored more fully during the second semester. The lab section is a required part of the course.

Texts/Outside Readings/Ancillary Materials

Text:

Campbell and Reece, 2005, Biology, seventh edition vol. I, Pearson Custom Publishing.

Lab Text:

Vodopich and Moore, 2005, Biology Laboratory Manual, seventh edition, McGraw-Hill.

Course Objectives and/or Plan of Work

The student should be able to:

1. identify and describe the principles of chemistry which are involved in physiological processes shared by all living organisms.
2. identify and the components of cells and understand the functions of these components.
3. describe how organisms capture, store, and use energy.
4. describe the principles of how organisms reproduce, including the chemical nature of DNA and other nucleic acids.
5. describe how organisms interact with their environment and identify forces that might alter this interaction.
6. describe how organisms are classified.
7. describe the principles of Darwin's Theory of evolution.
8. read and study science, and recognize contributors to Biology.

Description of Assessment and/or Evaluation of Student Learning

Lecture: Evaluation of the student's performance in the lecture portion of the course will be determined by 4 scheduled quizzes, 10 pop quizzes, and 4 exams. The quizzes will be over new material and will be given two weeks or so before each exam. The format may vary and is at the instructor's discretion. The timing and format "pop" quizzes are at the instructor's discretion. Three of the exams will not be comprehensive and will consist of 30 multiple-choice questions worth 1 point each, 10 fill-in-the-blank questions worth 1 point each, and 2 short essay questions worth 5 points each. The fourth exam will be given during exam week and will consist of 30 non-comprehensive multiple-choice questions and 10 comprehensive multiple-choice questions covering material from earlier tests. Each of these questions will be worth 1 point. There will be 10 fill-in questions worth one point each. There will also be 2 short essay questions worth 5 points each. The total points possible for the lecture part of the course is 300.

4 scheduled quizzes	10 points	40 points
10 "pop" quizzes	5 points	50 points
3 non-comprehensive exams	50 pts each	150 points
1 final exam	60 points	<u>60 points</u>

300 points

Lab: Evaluation of the student's performance in the laboratory portion of the course will be determined as follows:

7 lab reports	10 points each	70 points
6 question sets	10 points each	60 points
1 midterm exam	40 points	40 points
1 final exam	40 points	<u>40 points</u>
		200 points

Lab Procedures:

There will be 13 exercises and 2 exams.

The exams will consist of practical questions.

The students have no more than 1 week to turn in question sets and lab reports. Students may not turn in work for labs they do not attend.

Question sets will come from the lab manual.

Lab reports will be required where the experimental nature of the exercise makes this format more appropriate than question sets.

GRADING:

Grading for BIO 201 is based on a total point accumulation system. The points from the lecture part will be combined with the points from the lab for a total of 500 possible points.

Letter grades are assigned according to the following scale:

- 500 to 450 total points = A
- 449 to 400 total points = B
- 399 to 350 total points = C
- 349 to 300 total points = D
- 299 and fewer total points = F

Master Syllabi and Working Syllabi (if both are used)

BIO 201 Course Outline

GENERAL BIOLOGY 1

BIO 201

Credit Hours: 5 (4 lecture + 3 lab)

Prerequisites: none officially; however, it is strongly recommended that the student have some background in chemistry.

Course description:

This is the first semester of a two-semester course which will serve as the basis for all students wishing to pursue a degree in biology and other students who need a comprehensive science course that includes a lab. Basic life processes shared by all organisms will be covered. These include metabolism, movement, digestion, reproduction, and evolution. Processes unique to certain groups, such as photosynthesis in plants, will also be included. This first semester will be general and inclusive; that is, processes that all organisms share will be described, and similarities between groups will be emphasized. Diversity will be explored more fully during the second semester. The lab section is a required part of the course.

Text:

Campbell and Reece, 2005, Biology, seventh edition vol. I, Pearson Custom Publishing.

Lab Text:

Vodopich and Moore, 2005, Biology Laboratory Manual, seventh edition, McGraw-Hill.

Objectives:

The student should be able to:

1. identify and describe the principles of chemistry which are involved in physiological processes shared by all living organisms.
2. identify and the components of cells and understand the functions of these components.
3. describe how organisms capture, store, and use energy.
4. describe the principles of how organisms reproduce, including the chemical nature of DNA and other nucleic acids.
5. describe how organisms interact with their environment and identify forces that might alter this interaction.
6. describe how organisms are classified.
7. describe the principles of Darwin's Theory of evolution.
8. read and study science, and recognize contributors to Biology.

Course Requirements:

1. Attendance at lecture is very important, since most of the exam material will come from the lecture notes.
2. Required readings from the texts will be assigned to support the lectures and labs. Occasionally there will be questions on the exams that will come directly from the readings on material not covered in lecture. The "post test" in the back of each chapter is an excellent review.
3. Notes from both lectures and labs should be kept in a notebook.
4. Attendance at lab is essential for student success.

Evaluation: Lecture: Evaluation of the student's performance in the lecture portion of the course will be determined by 4 scheduled quizzes, 10 pop quizzes, and 4 exams. The quizzes will be over new material and will be given two weeks or so before each exam.

The format may vary and is at the instructor's discretion. The timing and format "pop" quizzes are at the instructor's discretion. Three of the exams will not be comprehensive and will consist of 30 multiple-choice questions worth 1 point each, 10 fill-in-the-blank questions worth 1 point each, and 2 short essay questions worth 5 points each. The fourth exam will be given during exam week and will consist of 30 non-comprehensive multiple-choice questions and 10 comprehensive multiple-choice questions covering material from earlier tests. Each of these questions will be worth 1 point. There will be 10 fill-in questions worth one point each. There will also be 2 short essay questions worth 5 points each. The total points possible for the lecture part of the course is 300.

4 scheduled quizzes	10 points	40 points
10 "pop" quizzes	5 points	50 points
3 non-comprehensive exams	50 pts each	150 points
1 final exam	60 points	<u>60 points</u>
		300 points

Lab: Evaluation of the student's performance in the laboratory portion of the course will be determined as follows:

7 lab reports	10 points each	70 points
6 question sets	10 points each	60 points
1 midterm exam	40 points	40 points
1 final exam	40 points	<u>40 points</u>
		200 points

Lab Procedures:

There will be 13 exercises and 2 exams.

The exams will consist of practical questions.

The students have no more than 1 week to turn in question sets and lab reports. Students may not turn in work for labs they do not attend. Question sets will come from the lab manual.

Lab reports will be required where the experimental nature of the exercise makes this format more appropriate than question sets.

GRADING:

Grading for BIO 201 is based on a total point accumulation system. The points from the lecture part will be combined with the points from the lab for a total of 500 possible points.

Letter grades are assigned according to the following scale:

500 to 450 total points = A
449 to 400 total points = B
399 to 350 total points = C
349 to 300 total points = D

299 and fewer total points = F

LECTURE CONTENT:

Text: Campbell and Reece, Biology, 7th edition vol. I, 2005. Pearson Custom Publishing, Chapters 1-26

Week 1 Chapters 1-3

List the characteristics of organisms.

Define the word "hypothesis."

What is the difference between inductive and deductive reasoning?

What are the major points of Darwin's Theory of Natural Selection?

Name the 3 subatomic particles, their charges, and their locations in the atom. What is a redox reaction?

Compare ionic bonds, covalent bonds, and hydrogen bonds.

What properties of water are important to life on earth?

Define pH, and be able to solve pH problems.

Week 2 Chapters 4 & 5

Name the 4 macromolecules that are the chemical building blocks of all organisms.

Describe the subunit composition of fat and why it is such an efficient molecule for the storage of chemical energy.

Know the difference between a protein's primary, secondary, tertiary, and quaternary structure and how the amino acid's R group contributes to each.

What are the components of a nucleic acid, and how do DNA and RNA differ?

Week 3 Chapter 6

Know the Cell Theory.

Why are cells so small?

Briefly compare bacterial, animal, and plant cells.

Know the structure and functions of various organelles, including the nucleus, endoplasmic reticulum, nucleolus, Golgi apparatus, lysosomes, mitochondria, chloroplasts, and flagellum.

What are the components of the cytoskeleton?

Week 4 Chapter 7

Describe the components of biological membranes.

Compare osmosis, diffusion, and active transport.

Describe ways by which cells selectively transport molecules.

How do cells communicate with one another?

Week 5 Chapter 8

Compare kinetic energy and potential energy.
Know the First and Second Laws of Thermodynamics.
Compare exergonic and endergonic reactions.
What is activation energy? How can this be altered?
What factors affect enzyme activity?
Know the structure of ATP and why it is called the "energy currency" of the cell.
Compare oxidation and reduction.

Week 6 Chapter 9

Compare fermentation and oxidative respiration.
Be aware of the steps in glycolysis, and know the net and total production of ATP via the passage of 1 molecule of glucose through the entire glycolytic pathway (glycolysis, formation of acetyl-CoA, citric acid cycle, electron transport).
Name the products of the citric acid cycle, and know where it occurs. Know the components of the electron transport chain and where it occurs.
Know how energy is derived from the metabolism of proteins and fats.

Week 7 Chapter 10

What is the basic unit of light energy?
Which end of the visible spectrum is more energetic?
What is the overall equation for photosynthesis?
Compare the light and dark reactions.
How is light energy captured?
Where in the chloroplast do the light reactions and dark reactions occur?

Week 8 Chapters 12 & 13

What is the molecular composition of eukaryotic chromosomes and nucleosomes?
Identify the different stages of the cell cycle.
Identify the stages of mitosis?
How are mitosis and meiosis different?
Compare somatic cells with germ cells.
Define synapsis.

Week 9 Chapters 14 & 15

Define the following terms: gene, genotype, phenotype, homozygous, heterozygous, dominant, recessive, test cross, allele, locus, haploid, diploid, parental generation, first filial generation, second filial generation, independent assortment, sex linkage, crossing-over.
Know how to use a Punnett square.
Be aware of the work and laws of Gregor Mendel, Walter Sutton, and Thomas Hunt Morgan and others. What is a karyotype?
Be aware of the basis of several human genetic diseases.

Week 10

Chapter 16

What is the chemical nature of nucleic acids?

What did the following researchers contribute to the field of molecular genetics: J. Hammerling; Briggs and King; Griffith and Avery; Hershey and Chase; Watson, Crick, Franklin and Wilkins; Meselson and Stahl Beadle and Tatum. Define "semiconservative replication." Define "mutation", and describe how certain mutations arise.

Be aware of the molecular basis of some cancers

Week 11

Chapters 17, 18 and 19

Compare replication, transcription, and translation, and identify the enzymes involved in each process.

How is gene expression regulated?

Week 12

Chapter 20

What is a plasmid, what is a bacteriophage, and how do they differ?

What is a restriction enzyme? What is a genetic library?

Briefly describe how to clone a gene into a plasmid.

Week 13

Chapter 21

Define "totipotent."

What are the features of *Drosophila*, *Caenorhabditis*, frogs, and mice that make these organisms so attractive to researchers studying development?

What are homeotic mutations?

Appreciate the historical development of the theory of evolution.

What evidence exists to support microevolution and macroevolution.

Week 14

Chapters 22 & 23

Define macroevolution, microevolution, adaptation, and genetic drift.

What is the Hardy-Weinberg Principle, and how is it affected by mutation, gene flow (migration), genetic drift, nonrandom mating, and selection?

What are the different forms of selection?

Week 15

Chapters 24, 25, & 26

Compare species to ecological races.

Identify reproductive isolating mechanisms, and differentiate between prezygotic and postzygotic mechanisms.

What are the types of speciation? What is adaptive radiation?

Describe the Urey-Miller experiment. What is its significance?

Define coacervates. Are they alive?

Compare contemporary and ancient photosynthesizers.
Compare autotrophs and heterotrophs.
How are fossils created and how are they dated?
Define Pangea, plate tectonics, continental drift.
What happened during the Paleozoic, Mesozoic, and Cenozoic Eras?

Week 16

Chapter 26

Describe steps in primate evolution.
What are the species in the genus *Homo*, and what was a new feature for each of them?

Revised by Anne M. E. Bullerjahn, PhD January 31, 2006

Working Lecture Syllabus:

Owens Community College
Arts and Science Division
SYLLABUS

Course Title: **General Biology 1**
Course Number: **BIO 201** **Credit Hours:** **5**
Prerequisite: None; however, it is **strongly recommended** that the student have some background in Chemistry (CHM 100, PHY 115, or equivalent), or have **recently** taken high-school biology.

Dr. Anne Bullerjahn MS 163 (567) 661-7775 abullerjahn@owens.edu

Office Hours: **M & W: 1:00 – 3:30 R: 11:30 – 1:30**

COURSE DESCRIPTION:

This is the first semester of a two-semester course which will serve as the basis for all students wishing to pursue a degree in biology and other students who need a comprehensive science course that includes a lab. Basic life processes shared by all organisms will be covered. These include metabolism, reproduction, and evolution as well as chemical properties. Processes unique to certain groups, such as photosynthesis in plants, will also be included. This first semester will be general and inclusive; that is, processes that are common to all organisms will be described, and similarities between groups will be emphasized. Diversity will be explored more fully during the second semester. The lab is a required part of the course.

MAJOR TEXT:

Campbell and Reece, 2005, Biology, seventh edition vol. I, Pearson Education/Benjamin Cummings (Publishers). First 26 Chapters

LAB TEXT:

Vodopich and Moore, 2005, Biology Laboratory Manual, seventh edition, McGraw-Hill.

INPUTS:

Students entering this course should have the following skills:

1. Math skills – be familiar with exponents and square roots, scientific notation, basic algebra.
2. Writing skills – be able to describe observations objectively using complete sentences and coherent paragraphs.
3. Reading skills – be able to read and gain information from a textbook, even a “boring” one.
4. Study skills – be able to learn large amounts of factual information.

OBJECTIVES:

By completing this course, the student should be able to:

1. identify and describe the principles of chemistry that are involved in physiological processes shared by all living organisms,
2. identify the components of cells and understand the functions of these components,
3. describe how organisms capture, store and use energy,
4. describe the principles of how organisms reproduce, including the chemical nature of DNA and other nucleic acids,
5. describe how organisms interact with their environment and identify forces that might alter this interaction,
6. describe the principles of Darwinian evolution,
7. describe how organisms are classified,
8. read and study science, and recognize contributors to biology.

COURSE REQUIREMENTS:

1. Attendance at lecture is very important, since most of the exam material will come from the lecture notes. Please try to be on time. Late arrivals cause distractions. **Civil behavior is expected in lecture class and in lab.**
2. Required readings from the texts will be assigned to support the lectures and labs. Occasionally there will be questions on the exams that will come directly from the readings on material not covered in lecture. The *Study Guide* is an excellent review. The answers to the questions are given in the back of the *Study Guide*.
3. Notes from both lectures and readings should be kept in a notebook. This notebook should also be able to accommodate handouts.
4. **Lab Attendance: Attendance at lab is essential for student success.**

EVALUATION:

Lecture: Evaluation of the student's performance in the lecture portion of the course will be determined by 10 "pop" quizzes, 4 scheduled quizzes and 4 exams. The "pop" quizzes will be given at the instructor's discretion. Each will be worth 5 points. If you are in class and paying attention, you should be able to earn all 5 points. The scheduled quizzes will be given at some time during the 3rd, 11th, and 15th week and will cover material presented since the previous exam. The format of the quizzes will vary. Three of the exams will not be comprehensive and will consist of 30 multiple-choice questions worth 1 point each, 10 fill-in or short-answer questions worth 1 point each, and 2 short essay questions worth 5 points each. The fourth exam will be given during exam week and will consist of 30 non-comprehensive multiple-choice questions on material presented after exam #3, 10 multiple-choice questions on material presented prior to exam #3 (hence, "comprehensive"). Each multiple-choice question will be worth 1 point. There will also be 10 fill-in, short-answer questions worth 1 point each and 2 short essay questions worth 5 points each on material presented since exam #3. The total points possible for the lecture part of the course is 300. If you miss an exam or quiz, contact your instructor **immediately**. The timing and format of any make-up exam is at the discretion of the instructor. If you miss 1 scheduled quiz, the percentage of your final exam will be used as that quiz grade. The grade for any more missed quizzes will be 0. There are no make-up "pop" quizzes.

3 non-comprehensive exams	50 points each	150 points
10 "pop" quizzes	5 points each	50 points
4 scheduled quizzes	10 points each	40 points
<u>1 final exam</u>	60 points	<u>60 points</u>
TOTAL		300 points

Laboratory: Evaluation of the student's performance in the laboratory portion of the course will be determined as follows:

4 lab reports	20 points each	80 points
7 question sets	10 points each	70 points
1 midterm exam	25 points	25 points
<u>1 final exam</u>	25 points	<u>25 points</u>
TOTAL		200 points

You must attend lab every week to be successful in this course.

LAB PROCEDURES:

1. There will be 12 exercises and 2 exams.
2. The exams will consist of many practical questions. If a student misses a lab exam, the student will be allowed to take a make-up exam in essay format.
3. The students will usually have no more than 1 week to turn in the question sets and lab reports. Students may not turn in work for labs they do not attend.
4. Question sets may come from the lab manual.

5. Lab reports will be required where the experimental nature of the exercise makes this format more appropriate than question sets.

GRADING:

Grading for BIO 201 is based on a total point accumulation system. The points from the lecture part will be combined with the points from the lab part for a total of 500 possible points.

Letter grades are assigned according to the following scale:

500 to 450 total points = A

449 to 400 total points = B

399 to 350 total points = C

349 to 300 total points = D

299 and fewer total points = F

Cheating will not be tolerated and will be dealt with according to the college handbook.

THERE IS NO EXTRA CREDIT!

DISABILITY STATEMENT:

If you have a disability or acquire one, you may be entitled to receive individualized services and/ or accommodations intended to assure you an equal opportunity to participate in and benefit from the program. To receive more information or to apply for services, please contact the Disability Resources Services Office.

STUDENT ATHLETE POLICY:

All student athletes will be treated the same as all other students as per policies in the course syllabus.

COLLEGE'S STATEMENT ON THE ASSESSMENT OF STUDENT LEARNING

Please refer to page 13 of the 2005 – 2006 college catalog for the College's statement on the Assessment of Student Learning.

LECTURE CONTENT:

Text: Campbell and Reece, Biology vol. I, 7th edition, 2005.

Pearson Education/ Benjamin Cummings, Chapters 1-26

Website: <http://blackboard.owens.edu/>

Week 1

Chapters 1 - 3

List the characteristics of organisms.

Define the word "hypothesis", and know the parts of the Scientific Method.

What is the difference between inductive and deductive reasoning?

What are the major points of Darwin's Theory of Natural Selection?

Name the 3 subatomic particles, their charges, and their locations in the atom. What is a redox reaction?

Compare ionic bonds, covalent bonds, and hydrogen bonds.

What properties of water are important to life on earth?

Define pH, and be able to solve pH problems.

Week 2

Chapters 4 & 5

Name the 4 macromolecules that are the chemical building blocks of all organisms.

Describe the subunit composition of fat and why it is such an efficient molecule for the storage of chemical energy.

Know the difference between a protein's primary, secondary, tertiary, and quaternary structure and how the amino acid's R group contributes to each.

What are the components of a nucleic acid, and how do DNA and RNA differ?

Week 3

Chapter 6

Quiz #1

Know the Cell Theory.

Why are cells so small?

Briefly compare bacterial, animal, and plant cells.

Know the structure and functions of various organelles, including the nucleus, endoplasmic reticulum, nucleolus, Golgi complex, lysosomes, mitochondria, chloroplasts, and flagellum.

What are the components of the cytoskeleton?

Week 4

Chapter 7

Describe the components of biological membranes.

Compare osmosis, diffusion, and active transport.

Describe ways by which cells selectively transport molecules.

How do cells communicate with one another?

Review

Week 5

Chapter 8

EXAM #1 (Monday, September 19 or Tuesday, September 20)

Compare kinetic energy and potential energy.

Know the First and Second Laws of Thermodynamics.

Compare exergonic and endergonic reactions.

What is activation energy? How can this be altered?
What factors affect enzyme activity?
Know the structure of ATP and why it is called the "energy currency" of the cell.
Compare oxidation and reduction.

Week 6 Chapter 9

QUIZ #2

Compare fermentation and oxidative respiration.
Be aware of the steps in glycolysis, and know the net and total production of ATP via the passage of 1 molecule of glucose through the entire aerobic glycolytic pathway (glycolysis, formation of acetyl-CoA, citric acid cycle, electron transport).
Name the products of the citric acid cycle, and know where it occurs. Know the components of the electron transport chain and where it occurs.
Know how energy is derived from the metabolism of proteins and fats.

Week 7 Chapter 10

What is the basic unit of light energy?
Which end of the visible spectrum is more energetic?
What is the overall equation for photosynthesis?
Compare the light and dark reactions.
How is light energy captured?
Where in the chloroplast do the light reactions and dark reactions occur? **Review**

Week 8 Chapters 12 & 13

EXAM #2 (Monday, October 10 or Tuesday, October 11)

What is the molecular composition of eukaryotic chromosomes and nucleosomes?
Identify the different stages of the cell cycle.
Identify the stages of mitosis and meiosis.
How are mitosis and meiosis different?
Compare somatic cells with germ cells.
Define synapsis.
Be aware of the evolutionary consequences of sexual reproduction.

Week 9 Chapters 14 & 15

Define the following terms: gene, genotype, phenotype, homozygous, heterozygous, dominant, recessive, test cross, allele, locus, haploid, diploid, parental generation, first filial generation, second filial generation, independent assortment, sex linkage, crossing-over.
Know how to use a Punnett square.
Be aware of the work and laws of Gregor Mendel, Walter Sutton, and Thomas Hunt Morgan and others. What is a karyotype?
Be aware of the basis of several human genetic diseases.

Week 10 Chapter 16

What is the chemical nature of nucleic acids?

What did the following researchers contribute to the field of molecular genetics: J. Hammerling; Briggs and King; Griffith and Avery; Hershey and Chase; Watson, Crick, Franklin and Wilkins; Meselson and Stahl; Beadle and Tatum. Define "semiconservative replication." Define "mutation", and describe how certain mutations arise.

Be aware of the molecular basis of some cancers (Chapter 19).

Week 11 Chapters 17, 18, & 19

Quiz #3

Compare replication, transcription, and translation, and identify the enzymes involved in each process.

How is gene expression regulated?

Week 12 Chapter 20

What is a plasmid, what is a bacteriophage, and how do they differ?

What is a restriction enzyme? What is a genetic library?

Briefly describe how to clone a gene into a plasmid.

Know the basics of genomics.

Review

Week 13 Chapter 21

EXAM #3 (Monday, November 14 or Tuesday, November 15)

Define "totipotent."

What are the features of *Drosophila*, *Caenorhabditis*, frogs, and mice that make these organisms so attractive to researchers studying development?

What are homeotic mutations?

Week 14 Chapters 22 & 23

Appreciate the historical development of the theory of evolution.

What evidence exists to support microevolution and macroevolution.

Define macroevolution, microevolution, adaptation, and genetic drift.

What is the Hardy-Weinberg Principle, and how is it affected by mutation, gene flow (migration), genetic drift, nonrandom mating, and selection?

What are the different forms of selection?

THANKSGIVING

Week 15 Chapter 24, 25, & 26

Quiz #4

Compare species to ecological races.

Identify reproductive isolating mechanisms, and differentiate between prezygotic and

postzygotic mechanisms.

What are the types of speciation? What is adaptive radiation?

Describe the Urey-Miller experiment. What is its significance?

Compare contemporary and ancient photosynthesizers.

Compare autotrophs and heterotrophs.

How are fossils created and how are they dated?

Define Pangea, plate tectonics, continental drift.

What happened during the Paleozoic, Mesozoic, and Cenozoic Eras?

Describe steps in primate evolution.

What are the species in the genus *Homo*, and what was a new feature for each of them?

Week 16

Review

During Exam Week (Monday, December 12 or Tuesday, December 13)

Working Laboratory Syllabus:

BIO 201 – GENERAL BIOLOGY I LABORATORY SYLLABUS OWENS COMMUNITY COLLEGE Select Semester Semester, Select Year

Course Section: *Type in your course section number here*
CRN: *Type in your CRN here*
Instructor: *Type in your name here*
Phone: *Type in your phone number here (if applicable)*
College Voice Mail: *Type in your college voice mail extension here*
Office Hours: *Type in your office hours or availability here (if applicable)*
E-Mail: *Type in your email address here*

Course Description: (Lecture and Laboratory)

This is the laboratory portion for the first semester of a two-semester course which will serve as the basis for students wishing to pursue a degree in biology and other students who need a comprehensive science course that includes a lab. Basic life processes shared by all organisms will be covered. These include metabolism, reproduction, evolution, and chemical properties. Processes unique to certain groups, such as photosynthesis in plants, will also be included. This first semester, processes that are common to all organisms will be described, and similarities between groups will be emphasized. Diversity will be explored more fully during the second semester in BIO 202. The lab is a required part of the

course.

General Laboratory Objectives:

This laboratory is associated with the lecture portion of BIOLOGY 201. Students will acquire a familiarity with standard biological techniques and procedures.

Specific Laboratory Objectives:

- Be able to use both dissecting and compound microscopes.
- Be able to construct competent laboratory reports through conclusions drawn from lab.
- Identify the components of cells and understand the functions of these components.
- Describe how organisms capture, store and use energy.
- Be able to understand basic fundamentals of genetics.
- Understand biotechnology, including the chemical nature of DNA and other nucleic acids.
- Describe how organisms interact with their environment and identify forces that might alter this interaction.
- Describe the processes of mitosis and meiosis and know the differences between them.
- Describe the principles of the Darwinian evolution.

Required Materials:

- *Campbell, Neil A., and J.B. Reece, Biology, Seventh Edition, Pearson/Benjamin Cummings, 2005.*
- *Vodopich, D.S. and R. Moore, Biology Laboratory Manual, Seventh Edition, WCB McGraw-Hill, 2005.*

Laboratory Attendance Policy:

Attendance is taken at each laboratory session. If you are more than 30 minutes late for a laboratory you will not be permitted to attend that session. During the first 30 minutes your instructor covers the basic information necessary to successfully complete the laboratory, mandatory safety issues, precautions and location of needed materials. After the session has begun, for safety purposes, your instructor needs to be working with all students, not covering the information for those students who are late. Therefore, if you are more than 30 minutes late, you will not be permitted to attend the laboratory and will be counted absent. You are encouraged to obtain missed information from other students in the laboratory. You will not be permitted to submit laboratory assignments for sessions in which you have been counted absent.

To achieve success in this course, laboratory attendance is critically important.

- You will not receive any points for any of the work from a missed laboratory session.
- You are **ONLY** permitted to attend the laboratory section in which you are registered.
- There are no make-up laboratory sessions.
- You must pass the laboratory with a 60% or higher in order to pass the entire course (lecture and laboratory).
- Students retaking the course must repeat both the lecture and the laboratory portion.
- Laboratory grade is worth 40% of overall BIO 201 grade.

Safety Requirements:

- **All eating, drinking and smoking are not permitted in the laboratory.**
- **Non-registered persons are not permitted in the laboratory.**
- No shorts, sandals or open-toed shoes are permitted in the laboratory. You will NOT be allowed to enter the laboratory without proper and safe footwear.

Responsibilities:

- Read the laboratory assignment and appropriate lecture material prior to each laboratory session. It is recommended that a laboratory notebook be kept to record observations, experimental results and instructor notes.
- Be on time and use the full laboratory period.
- Ask questions and participate in each activity.
- Turn in all work as assigned.
- **CLEAN UP:** Be certain that your area of the laboratory table is properly cleaned after use. Wash and return all glassware and other instruments to the proper areas. Check the sink to be sure that it is clear of all glassware and trash.

Laboratory Evaluation

The laboratory grade will be based on laboratory assignments and laboratory exams.

4 Laboratory reports (20 points each)	80 points
8 Question sets (10 points each)	80 points
Exam #1	25 points
Exam #2	25 points
* Lowest question set (10 points) will automatically be dropped	

Total	200 points
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There is absolutely NO provision for any EXTRA CREDIT to be given beyond the designated points for each laboratory exam and activity.

Laboratory Reports and Question Sets:

A laboratory report or question set will be specifically assigned for each experiment performed. See the attached weekly schedule.

Each laboratory report will be graded on a 20-point scale. Each question set will be graded on a 10-point scale. Both questions sets and reports are due at the beginning of the next laboratory session.

The lowest question set score will be dropped. **Eight question sets will be completed and the lowest score will be dropped.**

There are NO make-up laboratory sessions.

You will not receive any points for any of the work from a missed laboratory session.

All assignments are due at the beginning of laboratory period following the lab in which the assignment was given. Late assignments will receive a 10% grade deduction for each day late. Any assignment over 1 week late will receive a zero (0%) grade. Late reports **MUST** be submitted to the Copy Center in Administration Hall (Toledo Campus) and the Mail/Copy Center (Findlay Campus). Be sure to include your name, instructor's name and course/section number on the assignment. No laboratory work will be accepted at the Toledo Campus Math/Science Department office.

Laboratory Exams:

The exams will each consist of 25 questions. Each question will be worth 1 point for a total of 25 points.

The exam questions will be comprised from material covered in the laboratory manual, experiments, and laboratory lectures. Exams will include the following types of questions: multiple-choice, practical application, fill-in the blank, and short essay.

- Exam #1 (lab activity #9) will cover laboratories 1 through 8.
- The final laboratory exam will include material from the remaining laboratories 8 and 11-14.
- Exam #2 is NOT comprehensive.
- There will be NO open book or open notes allowed for the exams.

The student **MUST** contact the laboratory instructor within 1 week of missing exam #1 in order to make arrangements for a make-up exam.

If a student misses exam #2, the student must contact the instructor on the day of the missed exam.

A student who misses a laboratory exam may choose one of the following options:

- Take an essay exam by the date and time as assigned by the instructor. **All make-up exams will be in an essay format.**
- Not take the exam and receive 0 points.

College's Statement on Cheating and Plagiarism

Dishonest scholarly practices include but are not limited to, taking, using, or copying another's work and submitting it as one's own. Refer to pages 58 and 59 of the 2005 - 2006 college catalog for the college's official statements on cheating and plagiarism.

College's Statement on the Assessment of Student Learning

Please refer to page 13 of the 2005 - 2006 college catalog for the College's Statement on the Assessment of Student Learning.

lete Statement

All student athletes will be treated the same as all other students as per policies in the course syllabus and college's student handbook.

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If you have a disability or acquire one, you may be entitled to receive individualized services and/or accommodations intended to assure you an equal opportunity to participate in and benefit from the program. To receive more information or to apply for services, contact the **Disability Resources Services Office** at 567-661-7007 (Toledo Campus) or 567-429-3500 (Findlay Campus).

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For assistance in writing your laboratory reports, you are encouraged to use the **College Writing Center** located on the Toledo Campus in College Hall 156D (567-

661-7351), on the Findlay Campus in the Faculty House (567-429-3509) or see your instructor.

ence Learning Center

The staff of the **Math/Science Department Natural Science Learning Center** is available for further assistance. A schedule of hours of operation for the NSLC on both the Toledo and Findlay campuses are posted throughout the Math/Science building (Toledo Campus) and Classroom building (Findlay Campus).

See attached weekly laboratory schedule for semester dates and assignments.

Additional Documentation

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OBR Use	Action
Approved	
Additional Information Requested	
Rejected	
Date	

Ohio Articulation Number Form Directions

This form is used to submit your course information to the Ohio Board of Regents, for all courses that make up OAN requirements. This document is a form, so the only fields that need to be filled in can be. When you open this, make sure the top of the screen, where the name of the document is displayed, says "Document1" or something similar to that. When you open this form from a location other than inside of word, it creates a blank template to fill in. Please fill it in with the appropriate course information from your institution. All of the fields in this document are expandable, and will grow to fit as much data in them as you need. Note that these fields are implemented as MS Word tables. Keep that in mind as you are copying and pasting between your syllabi and this form.

Once you are done entering your course information, you need to save this file. Since Word opened a blank version of this file, you will need to rename it to save it. Under file, choose "Save as" and then enter the name of the file. The naming scheme for this form is Institution-Year-OAN number-Course Title.

Example, if you were ABC Community College, and you were submitting your Calculus110 course, the name of the file would be ABC-2005/06-OMT005-Calculus110. If two (or more) courses are required to fulfill that same OAN, you would submit ABC-2005/06-OMT005-Calculus110Calculus111.

When you are done with your submissions, please send them electronically to the Ohio Board of Regents at atpanels@regents.state.oh.us so we can keep your information on file.

If you encounter any problems or have any questions, please contact any of the individuals listed bellow:

Jim Ginzer (614) 752-9486 jginzer@regents.state.oh.us

Sam Stoddard (614) 752-9532 sstoddard@regents.state.oh.us

Nick Wilson (614) 466-4158 nwilson@regents.state.oh.us