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



College/University Youngstown State University

Course(s) Submitted(Title & Course #) General Biology: Molecules and
Cells. Biology 2601/2601L

Ohio Articulation Number OSC 003
for

Date 2/5/06 Course 1 of a 2 Course OAN mapping.

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

Name Robert E. Leipheimer Title Professor/Chairperson
Department of Biological Sciences

Address One University Plaza
Youngstown, OH 44555

E-mail releipheimer@ysu.edu

Phone 330-941-3601

Fax 330-941-1483

Credit Hours 4 qtr _____ sem X

Lecture Hours 3/week

Laboratory Hours 3/week (if applicable)

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

High School biology and chemistry

Placement Score (if applicable)

(Name of test) CLEP AP
exam Biology

(Domain) General (Score) 49 Advanced Placement [Score] 3
Biology Biology

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

2601/2601L. General Biology: Molecules and Cells. The chemical and physical foundations of life, structure and function of cells and organelles, metabolism, basic molecular biology and inheritance, and principles of evolution. Required of all Biological Science majors. Three hours of lecture, three hours of lab per week.

Texts/Outside Readings/Ancillary Materials

“Biology” Raven and Johnson 7th ed.; “Biological Science” Scott Freeman Vol 1.

Course Objectives and/or Plan of Work

- distinguish between covalent bonds, ionic bonds, hydrogen bonds, protons and neutrons, atomic number and atomic mass.
- distinguish between polar and non-polar groups and identify the functional groups.
- understand the composition of macromolecules such as nucleic acids, lipids, proteins and carbohydrates.
- understand the nature of cellular organelles and their functions.
- understand the unique nature of biological membranes.
- to know and understand the following metabolic pathways: Glycolysis, Krebs cycle, Calvin Benson cycle as well as the nature of electron transport.
- to understand the basic principles of Mendelian genetics
- to understand the nature of DNA, transcription, translation and gene control.
- The overall theory of evolution.
- The meaning of the Hardy-Weinberg principle, gene pool, gene flow, genetic drift.
- The significance of reproductive isolation.
- The difference between a virus and a free-living cell.

Description of Assessment and/or Evaluation of Student Learning

**Youngstown
State University
Annual Report on the
General Education
Assessment of Student
Learning due**

September 30, 2005

General Education Committee

Instructions: The purpose of this report is to demonstrate that the department has completed for each of its general education courses that portion of its approved assessment plan designed for this academic year. The General Education Committee (GEC) will review the reports and keep a record for the appropriate accrediting agencies. The approved assessment *plans* will be posted on the assessment website. **Please submit a separate form for each GenEd course, but remember that there is no requirement to cover all courses each year.**

Name: Diana L. Fagan

Title: Chair, Assessment Committee, Department of Biological Sciences

Email: dlfagan@ysu.edu

Phone: 330-941-1554

Department/Program: Biological Sciences

GenEd Course Covered By This Report: Biol 2601

Please respond to each question below. You may expand the space as needed. There is no minimum length required, but please limit comments to a total of four pages. E-mail the completed form to Dr. Bill Jenkins, Coordinator of General Education, at wdjenkins@ysu.edu

- 1) Have you changed the learning outcomes, assessment tools, sampling technique, responsibility for gathering and analyzing the data, or procedure for involving the department from the assessment plan previously approved by the GEC?

YES _____ NO _____

If YES, describe the changes and why they were made.

- 2) Describe or summarize the overall results of the yearly assessment without any reference to individual faculty performance. Please indicate strengths and weaknesses of the course as it relates to student learning.

Student course evaluations have shown that over 85% of students felt that Biology 2601 provided them with a greater understanding of basic biological principles and 77% felt that the course provided them with a better understanding of hypothesis (LO2) building and the proper reporting of data

Embedded test questions showed that students understand the basic functions of cellular organelles (LO1) but have more difficulties understanding the functions of genes and how genetic change relates to evolution and disease processes (LO3).

3) Describe the changes in curriculum, instruction, or use of resources that will occur to correct perceived weaknesses.

None at this time. Course evaluation tools are still being developed.

4) What additional resources are needed to address the concerns in #3?

None at this time.

5) Describe the mechanisms or forum used to disseminate the results of assessment to faculty, students and other constituents.

Data was forwarded by the course instructors to the assessment chair. A faculty meeting has been scheduled to discuss assessment results and goals for each of the general education courses. The Department Chair and the Chair of the Assessment Committee will report the results of the faculty meeting to the University General Education Committee. Assessment data will also be presented for student discussion during the capstone course.

6) How have your departmental recommendations for improvement made in last year's report worked? Have they improved the course as it relates to student learning?

DOES NOT NEED TO BE ANSWERED FOR FALL 2005 REPORT

7) Do you have supporting evidence on file in the department of how the department has used results from assessment to improve its general education courses on an ongoing basis (as an audit trail of the assessment process and the feedback loop for up to a five year time period)? In the space below, list the types of documentation you have on file in your Department. Such documentation can include minutes of relevant meetings, data files or reports, matrices and other related materials.

Embedded questions, and cumulative data from embedded questions have been placed in a file in the department office for review. In addition, minutes from the faculty meeting concerning assessment will also be placed in that file.

Random sampling should match one of the following categories: a) if the total number of students is over 300, select 10%; b) if the total number is between 30

and less than 300, randomly select at least 30 students as a minimum; or c) if the total number of students is less than 30, sample the entire class or classes.

Master Syllabi and Working Syllabi (if both are used)

Biology 2601
Office:
Beecher
Office Hours:
Phone:
E-mail
WebCt Vista
Go to YSU homepage and click on WebCt Vista

David Asch
3002 Ward
9-10 MWF
10-11 TuTH
941-3187
dkasch@ysu.edu

Text: “Biology” Raven and Johnson 7th ed.
“ Biological Science” Scott Freeman Vol 1.

Date	Topic	Chapters (R= Raven) (F= Freeman)
January 18	Introduction	
January 20	Science of Biology	Chapter 1 R Chapter 1 F
January 23	Nature of Molecules	Chapter 2 R Chapter 2F
January 25	“	“
January 27	Building Blocks of Life	Chapter 3 R Chapter 3 F
January 30	“	
February 1	Cell Structure	Chapter 5 R Chapter 5 F
February 3	Quiz I	Chapters 1-3 R Chapters 1-3 F
February 6	Cell Structure cont	

February 8	Membranes	Chapter 6 R Chapter 4 F
February 10	“	“
February 13	Energy and Metabolism	Chapter 8 R
February 15	Cells and Energy	Chapter 9 R Chapter 6 F
February 17	Quiz II	Chapters 5,6,8 R Chapters 5,4,6 F
February 20	Cells and Energy cont	
February 22	Photosynthesis	Chapter 10 R Chapter 7 F
February 24	“	“
February 27	Cell Division	Chapter 11 R Chapter 8 F
March 1	“	“
March 3	Sex and Meiosis	Chapter 12 R Chapter 9 F
March 6	Quiz III	Chapters 9,10,11 R Chapters 6,8,9 F
March 8	Inheritance	Chapter 13 R Chapter 10 F
March 10	“	“
March 13-17	Spring Break	
March 20	DNA	Chapter 14 R Chapter 11 F
March 22	Genes and how they work	Chapter 15 R Chapter 11-13F

March 24	“	“
March 27	Control of Gene Expression	Chapter 18 R Chapter 14-15 F
March 29 F	Quiz IV	Chapter 13,14,15 R Chapters 10,11,13
March 31	Gene Technology	Chapter 16 R
April 3	Population Genetics	Chapter 21 R
April 5	“	
April 7	Evidence for Evolution	Chapter 22 R
April 10	“	
April 12 R	Quiz V	Chapter 16,18,21
April 14	Origin of Species	Chapter 23 R
April 17	Classification	Chapter 25 R
April 19	‘	
April 21	Viruses	Chapter 26 R
April 24	Quiz VI	
April 26		
April 28	Bacteria	Chapter 27 R
May 1	“	
May 3	Quiz VII	
May 5	Off Day	
Final Exam Monday May 8 8:00-10:00		

Grading

Lab	125 pts
Seven quizzes @ 50 pts each	350 pts
In Class Assignments	25 pts

Total	500 pts

The final is optional and may be used to replace your two lowest quiz scores. The final is cumulative. Makeup exams are **strongly discouraged**. You may take the final to replace a missed quiz. The final may not be used to replace the lab score.

Grading Scale:

89.5-100	A
79.5-89.4	B
69.5-79.4	C
59.5-69.4	D
Less than 59.4	F

Class objectives:

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- The difference between a virus and a free-living cell.

Additional Documentation

2601 Lab Syllabus Spring 05

Include this outline and grading policy in your regular syllabus.

Week 1 (Jan 17)	No lab
Week 2 (Jan 23)	Intro
Week 3 (Jan 30)	Scientific method Data collection (Stick drop)
Week 4 (Feb 6)	Osmosis I (Report due)
Week 5 (Feb 13)	Osmosis I
Week 6 (Feb 20)	Fermentation I (Report due)
Week 7 (Feb 27)	Fermentation II
Week 8 (March 6)	Quiz I (Report due)
(March 13)	Spring Break
Week 9 (March 20)	Genetics (Hand in report)
Week 10 (March 27)	Gel Electrophoresis
Week 11 (April 6)	Gel Electrophoresis
Week 12 (April 13)	Bacteria (Report Due)
Week 13 (April 20)	Bacteria

Week 14 (April 27)	Final Quiz (Report due)
Grading 125 pts	
Reports 6@ 15pts each 90 pts	
2 Quizzes @ 25 each	50pts
Attendance	15pts
6 Reports 10 each	60pts
Total	125pts
<p>Reports will be short 1-2 pages. Will include hypothesis, data and conclusions. We will hand out a more complete report format later.</p>	

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 below:

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