COURSE SYLLABUS
BIOLOGY 106 GENERAL BIOLOGY II
SPRING 2011

Instructor: Bob Trentham
Phone: 471-3253
Office: DSC 213
Office Hours: Monday 9:00 a.m. - 10:00 a.m.
Tuesday 10:30 a.m. - 12:00 p.m.
Wednesday 9:00 a.m. - 12:00 p.m.
Thursday 10:30 a.m. - 12:00 p.m.
Friday 9:00 a.m. - 12:00 p.m.
E-mail Address: btrentham@cn.edu

Course Objectives:
This course is the second half of a two semester sequence in General Biology. Although there are
no prerequisites for this class, Biology 106 is designed for Biology/Science/Health Professions majors
and serves as a prerequisite (along with Biology 105, General Biology I) for all upper level Biology
classes.

The objective of the course is to introduce the student who is majoring in the Biological Sciences
to the diversity of life by surveying the kingdoms Bacteria, Archaea, Protista, Fungi, Plantae, and
Animalia (with emphasis placed upon human systems), along with specific study of structures and life
processes in plants and animals. Systematics and taxonomy will also be a component of our study. The
course is designed to afford the student a basic understanding of some of the fundamentals of science that
will be built upon in later biology courses. It is essential to keep up with and understand the lecture
material on a daily basis.

It may be possible for you to ‘cram’ facts the night before an exam, but this is not the case in
trying to understand the material. Exams will be designed to test your retention and understanding of the
material. They will challenge you to think and not merely memorize! Tests may include questions on
material not covered in class.

Any student with a special disability (sight, hearing, language, mobility, etc.) that may affect
class activities must inform the instructor of the learning disability. To request accommodations, please
contact David Humphrey in the Kathleen Manley Wellness Center (865-471-3268 Office; 865-471-3350
Receptionist; dhumphrey@cn.edu), this should be accomplished as soon as possible.

If an emergency arises in this classroom, your instructor will inform you of actions to follow to
enhance your safety. As a student in this class, you are responsible for knowing the location of the
nearest emergency evacuation route. These directions appear on the maps posted on the walls, at or near
the fire extinguishers, throughout this building. If police or college officials order us to evacuate the
classroom or building, follow the posted emergency route in an orderly manner and assist those who
might need help. To receive emergency messages, set your cellular phones on silent mode before entering
this classroom. If you observe or receive an emergency alert, immediately inform your instructor.

Note: Students seeking to fulfill knowledge & skill areas within the Biology endorsement for the teacher
education program should pay particular attention to Addendum I at the end of this syllabi.
Grading:
Four one-hour lecture exams will be given at prescribed times during the semester. A comprehensive final exam will be given during finals week. Thirteen lab investigations will also comprise a part of the total grade. Students are expected to keep and maintain a portfolio (just as in General Biology I, Biol. 105) of their semester’s work (i.e. - notes, quizzes, homework, lab assignments, etc.)! These portfolios will be checked four times, at the end of each unit of information.

4 - one hour lecture exams (100 pts each) = 400 pts
1 - portfolio (1st review/10 pts, 2nd review/10 pts, 3rd review/10 pts, 4th review/10 pts) = 40 pts
13 - lab investigations and assignments = 160 pts
1 - comprehensive final = 100 pts
Total = 700 pts

The grading scale will be as follows:

Percentage
90-100% of the 705 possible points = A
80-89% of the 705 possible points = B
70-79% of the 705 possible points = C
60-69% of the 705 possible points = D
Below 60% of the 705 possible points = F

Test Schedule:
1st Hour Exam = Tuesday, February 8
2nd Hour Exam = Thursday, March 3
3rd Hour Exam = Thursday, April 7
4th Hour Exam = Tuesday, May 3
Final Exam = Tuesday, May 10 (8:00 – 10:00 a.m.)

Portfolios will be taken up on each of the test dates. The final portfolio review will occur on Tuesday, May 3. Students will be able to pick up their graded notebooks and other work on Thursday, May 5 (Reading and Study Day before finals week) in Room 215, the General Biology Lab room.

Also, please note in the spring 2011 schedule the following dates:
Last day to drop without receiving a grade = Thursday, January 27
Midterm grades turned in = Friday, March 11
Last day to drop and receive a W = Thursday, March 31
Courses dropped after this date will receive a WF

Dr. Trentham reserves the right to change this syllabus/grading procedure. The class will be notified verbally of such changes. NO ‘extra credit’ projects are allowed. Your grade will be based on the criteria specified above. If you are having trouble with the course, see the instructor or contact the Academic Support Center (early in the semester—don’t wait until the end of the semester). If you are absent from class, it is your responsibility to obtain what was covered (assignments, announcements, etc.). Any questions and/or concerns about a grade received must be brought to the attention of your instructor within one week of receiving that grade - otherwise the grade will stand.

No cell phone or laptop use in class. Do not have cell phones out in class, they will be confiscated! No grades will be discussed via e-mail or phone.
# Lecture Schedule

<table>
<thead>
<tr>
<th>Unit</th>
<th>Topic</th>
<th>Chapter</th>
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<tbody>
<tr>
<td><strong>Unit I</strong></td>
<td><strong>Viruses</strong></td>
<td>20</td>
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<td></td>
<td>Bacteria and Archaea</td>
<td>21</td>
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<td></td>
<td>Protists</td>
<td>22</td>
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<td></td>
<td>Fungi</td>
<td>24</td>
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<td></td>
<td>Animals I – Sponges to Echinoderms</td>
<td>25</td>
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<td>Animals II – Chordates</td>
<td>26</td>
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<tr>
<td><strong>Test 1</strong></td>
<td><strong>Unit II</strong></td>
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<tr>
<td></td>
<td>Animal Tissues and Organs</td>
<td>31</td>
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<td></td>
<td>Muscles and Bones</td>
<td>35</td>
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<tr>
<td></td>
<td>The Circulatory System</td>
<td>36</td>
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<td></td>
<td>The Respiratory System</td>
<td>37</td>
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<td></td>
<td>Digestion and Nutrition</td>
<td>38</td>
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<td>Body Temperature and the Excretory System</td>
<td>39</td>
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<td><strong>Test 2</strong></td>
<td><strong>Unit III</strong></td>
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<td></td>
<td>Neurons – The Nervous System</td>
<td>32</td>
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<td></td>
<td>Sensory Systems</td>
<td>33</td>
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<td></td>
<td>Animal Hormones</td>
<td>34</td>
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<td></td>
<td>The Immune System</td>
<td>40</td>
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<td></td>
<td>Animal Reproduction and Development</td>
<td>41</td>
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<tr>
<td><strong>Test 3</strong></td>
<td><strong>Unit IV</strong></td>
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<td></td>
<td>Plants</td>
<td>23</td>
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<td></td>
<td>Plant Anatomy</td>
<td>27</td>
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<td></td>
<td>Photosynthesis</td>
<td>7</td>
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<td></td>
<td>Plant Nutrition and Transport</td>
<td>29</td>
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<tr>
<td><strong>Test 4</strong></td>
<td><strong>Note:</strong></td>
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**Note:** *College policy requires students to attend all classes and labs, attendance will be taken.*

Only verifiable medical or legal excuses will be accepted as reasons for missing a test, otherwise, missed exams will count as zero. Permission for missing a test should be obtained from Dr. Trentham. Generally, no make-ups will be given. Attendance will be taken in lab as well. Each lab missed will result in a 10-point reduction from your final grade point total. Missed labs should be made up within the week they are missed; if not the student will also loose 10 additional points from the lab exercise.

If a student misses more than 8 regular classes, for any reason, that student will be dropped from the course and will earn a failing grade.

**Policy on Plagiarism:**

- Written assignments, including lab work, must be written in the student’s own words. Any writing which bears too close a resemblance to another student’s work or any published reference materials will not be accepted and a grade of zero will be recorded for the assignment.

- Consult pages 61-64 of the CN Writing Guide (Fifth Edition) for examples of plagiarism. Please note that providing a citation at the end of a sentence or paragraph only gives you permission to present factual information you obtained from that source. Even when a citation is given, just “changing words here and there” is still plagiarism and will not be accepted.
LAB SCHEDULE

<table>
<thead>
<tr>
<th>Lab Day (W/R)</th>
<th>Lab #</th>
<th>Topic</th>
<th>Points</th>
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<tbody>
<tr>
<td>1.</td>
<td>Jan. 19/20</td>
<td>25&amp;26</td>
<td>10</td>
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<td>Algae &amp; Protozoa Survey (hay infusion)</td>
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<td>2.</td>
<td>Jan. 26/27</td>
<td>27</td>
<td>10</td>
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<td>Fungi Survey</td>
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<td>3.</td>
<td>Feb. 2/3</td>
<td>37&amp;38</td>
<td>10</td>
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<td>Worms</td>
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<td>4.</td>
<td>Feb. 9/10</td>
<td>41</td>
<td>10</td>
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<td>Vertebrate Tissues</td>
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<td>5.</td>
<td>Feb. 16/17</td>
<td>43</td>
<td>10</td>
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<td>Muscles (human A &amp; P)</td>
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<td>6.</td>
<td>Feb. 23/24</td>
<td>45</td>
<td>10</td>
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<td>Circulation (human A &amp; P)</td>
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<td>7.</td>
<td>Mar. 2/3</td>
<td>44</td>
<td>10</td>
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<td>Breathing (human A &amp; P)</td>
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<td>8.</td>
<td>Mar. 9/10</td>
<td>Inquiry Planning</td>
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<td></td>
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<td>(based upon INVESTIGATIONS pp. 487 or 495)</td>
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<td>(Written and Oral proposal=10 pts. each)</td>
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<td>9.</td>
<td>Mar. 16/17</td>
<td>Student Investigations Conducted</td>
<td>10</td>
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<td>10.</td>
<td>Mar. 30/31</td>
<td>Finish experiments, write paper</td>
<td>0</td>
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<td>11.</td>
<td>April 6/7</td>
<td>Research Conference/Results Presented</td>
<td>40</td>
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<td>(Paper = 30 points/ Presentation = 10 points)</td>
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<td>12.</td>
<td>April 20/21</td>
<td>32</td>
<td>10</td>
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<td></td>
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<td>Plants Anatomy</td>
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<td>13.</td>
<td>April 27/28</td>
<td>Respiration &amp; Photosynthesis</td>
<td>10</td>
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**Total Lab Points**  160

*10 pt. lab assignments will be due at the end of the lab period for each week.

For your lab report format and style, refer to your Writing at Carson-Newman College 5th ED. handbook *(what you used in English 101, 201, and 301)* p. 92-93, pp. 97-102 and p. 124.
Instructions for Constructing a Biology Dept. Portfolio

The portfolio will be a resource collection for your Biology courses (starting with Biology 105 and 106 and will include all upper division biology course work). It should be complete and well organized for easy access to the compiled information gathered throughout your academic career in the Biology department. Use a three ring binder and section dividers for unit sections, which should include:

- Notes
- Handouts
- Quizzes
- Homework
- Exams
- Lab material

*Your portfolios should include a thorough table of contents. In addition, a 1-page summary (written in your own words) of each chapter will need to be included at the end of each chapter section. Be sure to include how the chapter’s information is relevant to you personally.

You may also include any other material that seems appropriate.

The portfolios will be graded on each exam date, except the comprehensive final, according to four primary parameters:

1) Content - 20 points*
2) Neatness -
3) Order -
4) Organization -

Total Points - 40 points*

* Your portfolios will be checked four times in order to obtain these points
Grading Criteria for the Abstract (1pt. each item)

______ Gives the reader a brief summary  
______ Briefly explains the importance of the study  
______ Briefly describes the study  
______ Briefly summarizes the results  
______ Briefly summarizes the conclusions  
______ Allows reader to grasp quickly the essence of the work

Grading Criteria for Introduction/Works Cited

______ Proper science style citation format was utilized  
______ All works cited in the text were listed in the bibliography  
______ All works listed in the bibliography were used in the text  
______ Sufficient background was given to orient the reader  
______ Information was given on related earlier research  
______ The reason for the current research was explained, but not details were given on how the research was done or what the results were

Grading Criteria for the Materials and Methods

______ Would allow interested readers to duplicate the study  
______ Written in past tense  
______ Does not reveal any results or conclusions  
______ Explains how data were collected and analyzed  
______ Avoids unnecessary duplication  
______ Written in narrative form, without “cookbook” lists.

Grading Criteria for the Results

______ Includes appropriate tables and graphs  
______ Tables and graphs are properly labeled  
______ Summarizes data (range, mean, etc.)  
______ Does not simply report “raw data”  
______ Does not interpret the results or draw conclusions  
______ Is the sequence of experiments logical and are the parts adequately linked

Grading Criteria for the Discussion

______ Draws conclusions from the data  
______ Relates results to earlier studies  
______ Discusses potential applications  
______ Identifies potential weaknesses in the data  
______ Explains significance of the results  
______ Identifies possible directions for future research (changes in methods, new questions, etc.)
Grading Criteria for the Final Oral Presentation (2pts each item)

_____ All team members participate (*introduce yourselves)
_____ Data supports the conclusions
_____ Visuals are easy to read
_____ Visuals are well used
_____ Presentation summarizes and critiques the study (*ask for questions)

GRADING CRITERIA FOR THE FINAL WRITTEN LAB REPORT

Write the lab report in your own words. (Only the Results should be shared among team members, although you may discuss the study among yourselves before you begin to write.)

6 points each:
   Abstract conforms to previous criteria
   Introduction and Works Cited conform to previous criteria
   Materials and Methods conforms to previous criteria
   Results conforms to previous criteria
   Discussion conforms to previous criteria
Syllabus Addendum for Students Seeking Teacher Licensure in Grades 7-12

Knowledge and Skills covered in this course:
Understand cellular organelles including the structure of DNA and the internal biochemical processes associated with their interaction within an organism, including photosynthesis and cellular respiration.

Understand the structure and function of the human body.

Operate laboratory instrumentation, including the compound and dissecting microscopes.

Recognize taxonomic divisions of organisms and identify examples of each within the biological community.

Identify characteristics of vertebrates and invertebrates and behaviors of such organisms.

Identify characteristics on non-vascular and vascular plants and understand their physiology.

Understand the major concepts and principles of life and environmental science.

Understand the unifying concepts of science such as scale and model, form and function, organization, interactions, change and conservation, and be able to apply them to science teaching.

Use a variety of technologies, such as hand tools, measuring instruments, calculators, and computers to collect, analyze, and display data.

Design and conduct inquiry-based, open-ended investigations – both laboratory and field-based – in a learning environment that maintains an appropriate level of safety.

Relate the major concepts of the various science disciplines to each other and show how these disciplines are interconnected.

Demonstrate processes of science such as posing questions, observing, investigating phenomena, interpreting findings, communicating results, and making judgments based on the evidence.

Apply scientific methods in appropriate situations.

Demonstrate a broad general understanding of the major concepts of the discipline they teach.