Instructor: Dr. Bethany Pereira, PhD  
Email: pereira@dcccd.edu  
By email only for office hours.  
Certification: May 20, 2019  
Last day to drop with a “W”: May 30, 2019

Course Description

INET BIOL-1408 is designed for students who are not majoring in science. Selected topics in biology are presented to students to promote their understanding of biological concepts and enable them to use these concepts in their daily lives. Topics include life chemistry, the cell, respiration, photosynthesis, cell reproduction, genetics and evolution.

Prerequisite - None.

Instructional materials needed for INET Biol 1408

1. **FREE OpenStax** Biology. Students can use the Free OpenStax Biology or any Biology textbook for nonmajors. The online version of the textbook is available Free at OpenStax CNX. Powerpoints & individual chapters of Open Stax are available on your course on ecampus Blackboard. You may print individual chapters Free. You may also purchase hard copy in the book ISBN 978-1-938168-09-3 for a cheaper cost from anywhere or one can also use (the cengage textbook cited on econnect)

2. **Lab Internet Access Code**: Totally Online Basic Biology I by Shelp ISBN 978-0-996-5286-0-3. It is recommended that you purchase the access code directly from www.biolabmanual.com as it is easier to register on www.biolabmanual.com or purchase a card in the college bookstore that will enable you to gain access to the totally online labs.

The above instructional materials may be purchased online at www.biolabmanual.com or in the College Bookstore www.follet.com.

Introduction

The goal of this course is to prepare the student to be an informed and educated citizen. The course will fulfill requirements for the student that is majoring in fields other than the biological sciences.

The world today is dominated by science and technology. Students majoring in fields other than science will need a science background to function effectively in most jobs today. Students majoring in business may find themselves in accounting, marketing, or sales for a company which produces high-tech products in the area of defense, electronics, food production, Sustainability, agriculture, Green energy, Recycling and Reducing toxic waste, environment and global warming, and genetic engineering. Regardless of your vocational endeavor, your life is affected by science.

Responsible citizenship today requires informed decisions related to such topics as radiation, toxic waste, Sustainability, Green Generation, Green Energy, Recycling, Reducing Waste, Clean Drinking Water and Clean Oceans and Rivers, Climate change, Populations, Environment and Ecology, safe housing, transportation, genetically modified foods, and health.

These decisions require a background in science. The instructor will present the concepts of biology in a context that will help you effectively read science related articles online or in daily newspapers and periodicals such as Time, Newsweek, Discovery, and National Geographic.
Specific Course Learning Outcomes

Prescribes what students must demonstrate to successfully complete an assignment

Course Outline covers only some of the chapters for summer
Ch 1 & 2 Study of Life; Chemical Foundation of Life
Ch 3 Biological Macromolecules
Ch 4 Cell Structure
Ch 5 Plasma Membranes
Ch 6 Metabolism enzymes
Ch 7 Cellular Respiration
Ch 8 Photosynthesis (omitted for Maymester)
Ch 10 Cell Reproduction; Mitosis (extra credit)
Ch 11 Meiosis & Sexual Reproduction (extra credit)
Ch 14, 15 & 17 DNA Structure & Function; Genes and Proteins; Biotechnology (partially covered)
Ch 12 Mendel’s Experiments (omitted for the summer; covered as a Youtube video assignment Special event Human genome project)
Ch 13 Modern Inheritance (omitted for the summer; covered as a Youtube video assignment Special event Human genome project)
Ch 18 Evolution and Origin of Species (extra credit)

Procedure

The method of teaching employed in INET Biol 1408 approaches the learning process from the point of view that learning is something done by you the student, not something done to you. The student is responsible for his/her own learning. The instructor will facilitate the investigative learning process by assigned readings, chats, discussion boards, reviews, practice quizzes, test, etc. This course is not self-paced. The content of the course will follow the schedule with specific deadlines for each activity. The MAJOR contributing factor to student failure in this class is procrastination.

Text Assignments

The text assignments consist of selecting OpenStax or other Internet sources which will prepare the student to take a lecture quiz for each lesson.

Laboratory

The laboratory activities will provide you with the opportunity to participate in the scientific process by using an Internet Access Code. Read each laboratory assignment carefully as you work through the online lab. Complete a Lab Report using the templates found at www.biolabmanual.com. Submit the Lab Report via eCampus (Blackboard) to your instructor. Submit early enough to allow 24 hours for grading and time for you to take the quiz. Your instructor will evaluate the lab and, if satisfactory, email you a password so you can compare your answers to the Answer Keys also available at www.biolabmanual.com. When you are sure you understand the concepts of that lab you will take a 10 point multiple choice quiz online located in your Blackboard course.

Lecture

A 15 question multiple choice quiz will be taken at the end of each lesson. You will take a comprehensive final exam at the end of the semester. Please see the semester course schedule for details about the time frame for each part of the course.
Locks on Quiz or Test in Gradebook
If you see a lock in place of a grade, you had a computer error or selected the back arrow during your exam. Your test is locked and will have to be cleared to retake the test. For security measures, one unlock is allowed without penalty. Be sure you are on a reliable computer and do not use the back arrow.

Discussion Boards
You will be asked to participate in class Discussion Boards. To receive full credit you must add a new post following the instructions for each DB and reply to at least one other student’s post. To add a new post, select the “+ Thread” button in the upper left corner of the discussion board screen. To respond, select “Reply” below the thread you are replying to. Anonymous messages on the discussion are NOT allowed.

Assignments:
One Bio in the News assignments worth 40 points each is required. Latest scientific advances required. One Sustainability article is possible where the article deals with environmental and population sustainability, green generation, recycling, reducing the carbon footprint, ecology, Climate change and global warming, reducing CFCs in the atmosphere, water use and clean water, clean Green Energy

One Special event worth 40 points is required.

How Your Grade Is Determined
The course grade is determined on the basis of the following point system.

<table>
<thead>
<tr>
<th>Points</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A = 313 - 350</td>
<td>A = 90 - 100</td>
</tr>
<tr>
<td>B = 278 - 312</td>
<td>B = 80 - 89</td>
</tr>
<tr>
<td>C = 243 - 277</td>
<td>C = 70 - 79</td>
</tr>
<tr>
<td>D = 208 - 242</td>
<td>D = 60 - 69</td>
</tr>
<tr>
<td>F = 0 - 207</td>
<td>F = 0 - 59</td>
</tr>
</tbody>
</table>

You may accumulate points as follows:

1. **Lecture** Timed online multiple choice Lecture quizzes worth 15 points each will be given at the conclusion of each Lesson. Three attempts are allowed for each Lecture quiz.

2. **Laboratory** Labs will coordinate with the text material. When you complete each lab, submit your Lab Report via ecampus. Your instructor will evaluate your lab exercises and email you a password. This password will enable you to check your answers with the answer key for the lab. Then, using the same password, take the 10 point multiple choice quiz.

3. **Laboratory Practicals** Two lab practicals worth 40 points each will be given. Laboratory understanding, critical thinking skills, and the ability to interpret data will be evaluated.
4. **Biology in the News.** An activity is provided which will relate the textbook biology to the world around you - they may consist of news research reports, television programs, assigned movies, and other special event opportunities.

5. **Special Events.** During the semester the usual text reading and laboratory procedure will be replaced with an activity that will relate the textbook biology to the world around you. The event during these two weeks may consist of selected websites, television programs, assigned movies, and other special event opportunities.

6. **Discussion Boards** During the semester group interaction activities will give students the opportunity to discuss issues related to topics in the course. Each discussion will count 5 points.

7. **Final Exam** A comprehensive, 60 question multiple choice exam covering the major objectives of all textbook reading assignments will be taken at the end of the semester. Each question will count 1 point.

8. **Extra Credit** There are two/three extra credit opportunities. The orientation quiz is worth 10 points extra credit and 10 points for turning all work in on time.

9. **Late Policy/Makeup Week** Only late work with a documented excuse may be made up. Notify your instructor in advance if you have a conflict with a deadline for approval to makeup the work. In case of an emergency, provide a valid, documented excuse within 24 hours of the missed deadline. Late work without documentation will not receive credit. All excused late work for the first half of the semester MUST be completed by midterm week (see your schedule for deadline). All excused late work for the second half of the semester is due prior to finals week (see your schedule for dates). Lab Reports must be completed within 48 hours of the due date for credit.

In summary:

**Grading Scheme**

<table>
<thead>
<tr>
<th>LAB</th>
<th>Number x Point Value</th>
<th>Total Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lab Practicals</td>
<td>2 x 40</td>
<td>80</td>
</tr>
<tr>
<td>Lab Quizzes</td>
<td>6 x 10</td>
<td>60</td>
</tr>
</tbody>
</table>

**LECTURE**

<table>
<thead>
<tr>
<th>Quiz</th>
<th>6 x 15</th>
<th>90</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final Exam</td>
<td>1 x 60</td>
<td>60</td>
</tr>
<tr>
<td>1 Biology in the News</td>
<td>1 x 20</td>
<td>20</td>
</tr>
<tr>
<td>4 Discussion Boards</td>
<td>4 x 5</td>
<td>20</td>
</tr>
<tr>
<td>1 Special Event</td>
<td>1 x 20</td>
<td>20</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>350</strong></td>
</tr>
</tbody>
</table>

**extra credit opportunities available**

* It is the student's responsibility to withdraw from the course in the event that they wish to drop out of the course. Non-completion without an official drop will result in an 'F' grade.

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The instructor reserves the right to amend this syllabus as necessary.

**Educational Outcomes for Biology 1408**

**Student Learning Outcomes (Lecture)**

Upon successful completion of this course, students will:
1. Distinguish between prokaryotic, eukaryotic, plant and animal cells, and identify major cell structures.
2. Identify stages of the cell cycle, mitosis (plant and animal), and meiosis.
3. Interpret results from cell physiology experiments involving movement across membranes, enzymes, photosynthesis, and cellular respiration.
4. Apply genetic principles to predict the outcome of genetic crosses and statistically analyze results.
5. Describe karyotyping, pedigrees, and biotechnology and provide an example of the uses of each.
6. Identify parts of a DNA molecule, and describe replication, transcription, and translation.
7. Analyze evidence for evolution and natural selection.

Student Learning Outcomes (Lab)
Upon successful completion of this course, students will:
1. Apply scientific reasoning to investigate questions, and utilize scientific tools such as microscopes and laboratory equipment to collect and analyze data.
2. Use critical thinking and scientific problem-solving to make informed decisions in the laboratory.
3. Communicate effectively the results of scientific investigations.
4. Distinguish between prokaryotic, eukaryotic, plant and animal cells, and identify major cell structures.
5. Identify stages of the cell cycle, mitosis (plant and animal), and meiosis.
6. Interpret results from cell physiology experiments involving movement across membranes, enzymes, photosynthesis, and cellular respiration.
7. Apply genetic principles to predict the outcome of genetic crosses and statistically analyze results.
8. Identify the importance of karyotypes, pedigrees, and biotechnology.
9. Identify parts of a DNA molecule, and describe replication, transcription, and translation.
10. Analyze evidence for evolution and natural selection.

Core Objectives
Biology 1409 is part of the Life and Physical Sciences Foundational Component Area 030.

i. Courses in this category focus on describing, explaining, and predicting natural phenomena using the scientific method.
ii. Courses involve the understanding of interactions among natural phenomena and the implications of scientific principles on the physical world and on human experiences.
iii. The following four Core Objectives must be addressed in each course approved to fulfill this category requirement:
   (A) Critical Thinking Skills: to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information;
   (B) Communication Skills: to include effective development, interpretation and expression of ideas through written, oral and visual communication;
   (C) Empirical and Quantitative Skills: to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusions;
   (D) Teamwork: to include the ability to consider different points of view and to work effectively with others to support a shared purpose or goal;

INSTITUTIONAL POLICIES
Institutional Policies relating to this course can be accessed from the following link.
www.northlakecollege.edu/syllabipolicies

COUNSELING SERVICES (A430)
Counseling services for personal issues are provided to all students currently enrolled at North Lake College. These services are provided by licensed professionals who are bound by confidentiality (within ethical parameters) at no
charge. With the assistance of a counselor, students are able to identify, understand, resolve issues and develop appropriate skills. To make an appointment call 972-273-333 or visit A 430.

THE ACADEMIC SKILLS CENTER (A332)
The Academic Skills Center (ASC) is designed to provide assistance to students in the following areas:

- Labs for students enrolled in foreign language, Developmental Reading, and ESOL courses. One-on-one tutoring is available.
- The Writing Center can help students clarify writing tasks, understand instructors' requirements, develop and organize papers, explore revision options, detect grammar and punctuation errors, and properly use and document sources. Rather than merely editing or "fixing" papers, tutors focus on helping students develop and improve their writing skills.
- The Online Writing Lab (OWL) allows students to submit papers to our writing tutors electronically and get feedback within 24-72 hours. The OWL can be accessed through eCampus. After logging on to eCampus, click on the Community Tab at the top. Type “OWL” in the search field and click “Go.” Next, click on the double drop-down arrows next to “NLC-OWL2,” and then click on “Enroll.” Once enrolled, students can receive services from the OWL.

For more information or to schedule a tutoring appointment, come by A-332 or call 972-273-3089.

SCIENCE CENTER (P333)
The Science Learning Center is available to all online students. It is located in P333 just across from the Science Division Office. This room has computers, eCampus connection, and qualified tutors. All of this is free to you who have registered from the Inet Biol 1408 course. If you would like to have tutoring for specific topics, this service is free to you as well as the on campus students. I am aware that some students are not within the range of the North Lake College campus. I have added as much additional information as possible to help. If you need a specific answer or have questions, you are welcome to call during my office hours and I will be glad to give you time for question and answer session.

Grade reports are no longer mailed. Convenient access is available online. Just use your student identification number when you log in to eConnect. Web site address: https://econnect.dcccd.edu/

How to check your grades online: Go to the student menu on eConnect

1. Select "My Grades" under "My Personal Information."
2. If you are not already logged in, you will be prompted to do so.
3. Select the grade type you wish to review.
4. Press the submit button.
5. All Grades for the selected grade type will be displayed.
6. Note: You will need your 7 digit Student ID # and your 6 digit PIN to log in.

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