COURSE SYLLABUS
BIOLOGY 105 GENERAL BIOLOGY I
FALL 2011

Text:	Life (6th Ed.) by Lewis et al.	
Instructor:	Bob Trentham	
Phone:	471-3253	
Office:	DSC 213	
Office Hours:	Monday	9:00 - 11:00 a.m.
	Tuesday	10:30 a.m. – 12:00 p.m.
	Wednesday	9:00 - 11:00 a.m.; 1:00 – 2:00 p.m.
	Thursday	10:30 a.m. - 12:00 p.m.
	Friday	9:00 - 11:00 a.m.
E-mail Address:	btrentham@cn.edu	

Course Objectives:

This course is the first half of a two-semester sequence in General Biology. Although there are no prerequisites for this class, **Biology 105 is designed for Biology/Science/Health Professions majors** and serve as prerequisites for all upper level Biology classes. Non-major courses (Biology 101 [Human Biology], Biology 102 [Environmental Science]) are taught within the Biology Department and can be taken to fulfill the General Education requirements for the college.

The objective of the course is to introduce the student who is majoring in the Biological Sciences to various core themes in biology. Animal behavior, ecology, evolution, genetics, chemistry applied in living systems, cell structure and function, energy transductions, mitosis, and meiosis will be covered in this course. It is hoped the student will gain a basic understanding of some of the more complex 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. **Do not miss 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, Kathleen Manley Wellness Center (865-471-3268 Office; 865-471- 3350 Receptionist; dhumphrey@cn.edu)

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. Campus wide emergency messages will be sent via cell phone text messaging. **If you observe or receive an emergency alert, immediately inform your instructor.**

General Education Statement: Course goals and goal assessment:

This course is one of the approved courses for Studies in Mathematics and Science (Goal IVB) in the Liberal Arts Core. Our goal is for all Carson-Newman graduates to exhibit scientific literacy and quantitative reasoning skills critical for making informed decisions.

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 syllabus.*

Attendance:

College policy requires students to **attend all classes and daily attendance will be taken**. **If a student misses more than 12 regular classes, for any reason, that student will be dropped from the course and will earn a failing grade.** Attendance is also required on test dates. 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 prior to your absence where possible. Generally, no make-ups will be given.

Attendance will be taken in lab as well. Students are required to attend all labs. If a student misses two labs, the student's overall final grade for the course will be reduced 10 %. A third miss will cause the student to be dropped from the course, failing the class.

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. Lab work will also comprise an integral part of the overall grade. Each student will be expected to maintain an organized portfolio of their work (i.e. - notes, lab assignments, etc.) throughout the semester! **The portfolio will be utilized as a reference in future upper division Biology courses.** These portfolios will be checked at of the four regular exam dates!

90 – 100% = A
80 – 89% = B
70 – 79% = C
60 – 69% = D
Below 60 = F

4 - one hour lecture exams (100 points each)	= 400 pts.
12 - Lab assignments & writing assignments	= 180 pts.
1 - Comprehensive final	= 100 pts.
1 – Portfolio	= 40 pts. (10 pts/review)
Total	= 720 pts.

Test & Portfolio Review Schedule

1st Hour Exam & Portfolio Review	Monday, Sept. 19	= Exam on Chapters 1 and 42-46 (Ecology)
2nd Hour Exam & Portfolio Review	Monday, Oct. 10	= Exam on Chapters 2-8 (Cells)
3rd Hour Exam & Portfolio Review	Wednesday, Nov. 9	= Exam on Chapters 15-19 (Genetics)
4th Hour Exam & Portfolio Review	Monday, Dec. 5	= Exam on Chapters 9-14 (Evolution)
Final Exam **(Section A)**	Monday, Dec. 12	= 8:30 – 10:30 a.m. (Comprehensive)

Also, please note in the fall 2011 schedule the following dates:

Convocation	**Tue., Aug 30 *9:30 a.m., Holt Fieldhouse**
Last day to add, change, or drop a course without receiving a grade	Wed., Aug. 31
Midterm grades turned in	Fri., Oct. 14
Last day to drop and receive a W	Wed., Nov. 2
(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 instructors 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.

POLICY ON PLAGERISM:

- 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.**

Minimum penalty for cheating and plagiarism will be a zero for that work.
No cell phone or laptop use in class. Do not bring cell phones to class or lab, they will be confiscated!
No grades will be discussed via e-mail or phone.

LECTURE SCHEDULE

TOPIC	CHAPTER
An Introduction/what is Life?	1
Behavioral Ecology	42
Population Ecology	43
Community Ecology & Ecosystems	44
Biomes & Aquatic Ecosystems	45
Environmental Challenges	46 (1^{ST} Hour Exam) Ecology
Of Atoms & Molecules: Chemistry Basics	2
Life Chemistry	3
Cells: Units of Life	4
Cell Surfaces and Cytoskeleton	5
The Energy of Life	6
How Cells Release Energy	8 (2^{nd} Hour Exam) Cells
The Cell Cycle & Cell Division	9
Meiosis	10
Transmission of Inherited Traits	11
Chromosomes	12
DNA Structure & Replication	13
Genetic Technology	14 (3^{rd} Hour Exam) Genetics
The Evolution of the Evolutionary Thought	15
The Force of Evolutionary change, microevolution	16
Speciation & Extinction	17
Evidence for Evolution	18
The Origin of History of Life	19 (4^{th} Hour Exam) Evolution

LAB SCHEDULE
FALL 2011

Week/Day	Title	Assignment
1. Aug 24/25	No Lab, First Week of Class	
2. Aug 31/Sept1	*Cosmic Voyage* Video	15 points
3. Sept 7/8	Ex 51 Animal Behavior	**15 points***
4. Sept 14/15	Mossy Creek Quality Assessment	**15 points***
5. Sept 21/22	Nat. Select Simulation & Set up Fast Plants	**15 points***
6. Sept 28/ 29	Gather and Graph Fast Plants Data	15 points
7. Oct 5/6	Propose and Set Up Fast Plants Inquiry	15 points
8. Oct 12/13	No Labs, Fall Break	15 points
9. Oct 19/20	Collect and Graph Fast Plants Data	
10. Oct 26/27	Present Posters on Fast Plants Inquiry	15 points
11. Nov 2/3	Cells Exercise 4	**15points***
12. Nov 9/10	Standard Curve	**15 points***
13. Nov 16/17	Enzyme Assay, Part I	**15 points***
14. Nov 23/24	No Labs, Thanksgiving	
15. Nov 30/Dec 1	Enzyme Inquiry	15 points
16. Dec 7/8	No Labs, Class Ends/ Reading & Study Day	
Total Points		**180 possible lab pts.**

***NOTE: On these weeks, the lab points will be divided into two parts: 5 points at the beginning of lab and 10 points at the end of lab. On these weeks, you will be given a 5 point quiz at the beginning of the lab. The quiz will pertain to homework that you receive at the end of the previous week's lab. At the end of lab you will turn in a 10 point assignment that deals with the material covered that day in lab.**

INSTRUCTIONS FOR CONSTRUCTING A BIOLOGY DEPT. PORTFOLIO

The portfolio (notebook) will be a resource collection for your Biology courses (starting with Biology 105 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 sections, which should include:

- Notes
- Handouts
- Quizzes
- Homework
- Lab material

*Your portfolios should include a table of contents. In addition, **a 1-page reflection (written in your own words)** on what you learned & found interesting **in 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 at mid term and near the end of each semester in Biology 105, according to four primary parameters:

1)	Reflections -		20 pts*
2)	Neatness -	}	
3)	Order -	}	20 pts.*
4)	Organization -	}	
	Total Points -		40 pts.

* Your portfolio will be checked four times in order to obtain these points

Syllabus Addendum I, 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.

FALL 2011 LAB

BIOLOGY 105 LA, LB, LC, LD
WRITING AND ORAL PRESENTATION GUIDELINES AND GRADING

Grading Criteria for the Abstract

_____ 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

Grading Criteria for Introduction/Works Cited

_____ 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
_____ Uses flowcharts and diagrams as appropriate

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

Grading Criteria for the Discussion

_____ Draws conclusions from the data
_____ Relates results to earlier studies
_____ Discusses potential Applications
_____ Identifies potential weaknesses in the data
_____ Identifies possible directions for future research (changes in methods, new questions, etc.)

Grading Criteria for the Final Oral Presentation

_____ All team members participate
_____ Data supports the conclusions
_____ Transparencies are easy to read
_____ Transparencies are well used
_____ Presentation summarizes and critiques the study

*Each item in each area is worth 1 points