University of North Texas at Dallas
Spring 2014
SYLLABUS

Course Abbreviation/Number/Title/Semester Hrs **BIOL 1082D_090/390: Biology for Educators: 3 Hrs/0 Hrs**	
Department of Health and Life Sciences	**Division of Liberal Arts and Sciences**

Instructor Name:	Dr. Irene T. Rodriguez
Office Location:	Room 253, Founders Hall
Office Phone:	972-338-1525
Email Address:	Irene.Rodriguez@unt.edu
Office Hours:	Tuesday and Thursday: 10:00 - 11:00 am; or by appointment
Virtual Office Hours:	N/A
Classroom Location:	Lecture: Room 213, Founders Hall (DAL2) Laboratory: Room 255, Founders Hall (DAL2)
Class Meeting Days & Times:	Lecture: Monday and Wednesday 10:00 am – 11:20 am Laboratory: Monday 1:00 pm – 3:50 pm
Course Catalog Description:	Develop a meaningful and functional command of key biological concepts; an understanding of the interrelationships among all living things; and a correlation between what pre-service teachers are required to learn and what they will be required to teach. Includes laboratory. BIOL 1082D is a general biology course with laboratory designated for elementary and middle school education majors for seeking teacher certification. Note: this course may not be used to satisfy the laboratory science requirement for majors in the College of Arts and Sciences
Prerequisites:	None
Co-requisites:	BIOL 1082D_390 Laboratory
Required Text:	Lecture: Audesirk T, Audesirk G, Byers BE. 2014. *Biology: Life on Earth with Physiology*. Tenth Edition. Pearson Education, Inc., Glenview, IL, United States of America. ISBN-13: 978-0-321-79426-0 Laboratory Manual: Thompson R, Nugent J, King MK, Piccolo KC. 2007. *The Scope of Biology. From Cells to Ecosystems.* Kendall/Hunt Publishing Co. Dubuque, IA, United States of America. ISBN: 978-0-7575-4428-6
Recommended Text and References:	
Access to Learning Resources:	UNT Dallas Library: phone: (972) 780-3625; web: http://www.unt.edu/unt-dallas/library.htm UNT Dallas Bookstore: phone: (972) 780-3652; e-mail: 1012mgr@fheg.follett.com

Course Goals or Overview:

The goal of this course is to provide the student with a broad background in biology that can be used in elementary and secondary education. This course will provide a brief overview of the major topics within the biological sciences

Learning Objectives/Outcomes:	
1	Explore the natural sciences
2	Be able to locate, evaluate, and organize information including the use of information technologies
3	Be able to think critically and creatively, and learn to apply different systems of analysis
4	Develop problem solving skills that incorporate multiple viewpoints and differing contexts in their analysis
5	Cultivate intellectual curiosity and self-responsibility, building a foundation for life-long learning
6	Engage with a variety of others in thoughtful and well crafted communication
7	Broaden and refine their thinking as a part of the give and take of ideas, seeking to better understand other's perspectives as well as their own

Learning Objective/Outcome Assessments

Objective 1–3, 5: Students perform a collaborative project in which they research a human disorder and the means of treatment. They then, as a group, present the information they have collected to the class using a variety of media including, power point, prezi, posters, or any combination of these. This will introduce them to the tools required for research in many disciplines, and facilitate successful research in the future. Students are graded on the quality of content, quality of presentation, quality of references (two of which must be from a peer-reviewed journal and at least one from the internet), the extent to which they have though critically about the feasibility of treatment and degree of exploration.
Objective 4: During the third midterm, students are presented an essay question in which they compare and contrast mechanisms of evolution and determine which of the mechanisms will consistently lead to adaptive evolution and why.
Objective 6 and 7: Students will participate in a discussion of evolution and other explanations of the origin of life. Students will be graded on their participation.

Rubrics:
Objective 1–3, 5:

1. Content of paper (15 points)
    a. Does the scope of the paper adequately represent our current understanding of the topic? (5 points)
    b. Has the material been organized in a clear and accessible manner? (5 points)
    c. Are the tables, figures, diagrams appropriate for the content? (5 points)
2. Discussion of feasibility of treatment (10 points)
3. Citations (5 points)
    a. 5 citations
        i. 2 peer-reviewed publications (2 points)
        ii. 3 other publications, including one from the internet (1 point)
    b. Are the publications cited correctly in the text and in the "Literature Cited" section? (2 points)

Objective 4:

Score:	Description
4 – Exceeds expectations	The student demonstrates a complete knowledge of foundational concepts and is able to use those concepts to explain evolutionary phenomena or predict genetic consequences
3 – Acceptable	The student demonstrates a complete knowledge of foundational concepts, but is unable to use those concepts to explain evolutionary phenomena or predict genetic consequences
2 – Below expectations	The student attempts the item, but fails to complete it. The student shows limited knowledge, but is unable to adequately compare or predict from the available data
1 – Unacceptable	The student either does not attempt to complete the item, or is incapable of demonstrating knowledge of the basic concepts necessary to complete the item

Objectives 6 and 7:

Score:	Description
4 – Exceeds expectations	The student contributed to the discussion by offering his/her opinion, or by clarifying a topic of conversation. The information shared by the student will demonstrate that he/she has assimilated course curriculum and curriculum obtained from extra readings, or research, or both

3 – Acceptable	The student contributed to the discussion by offering his/her opinion, or by clarifying a topic of conversation. The information shared by the student will demonstrate that he/she has assimilated course curriculum
2 – Below expectations	The student contributed to the discussion, but the comments made by the student demonstrated a lack of understanding of course curriculum
1 – Unacceptable	The student did not contribute to the discussion

Course Outline

This schedule is subject to change by the instructor. Any changes to this schedule will be communicated by the instructor in class.

TOPICS	TIMELINE
1. Chemical nature of life and tour of the cell (Chapters 2-8)	Jan 13 – Feb 3
EXAM 1	**Feb 5**
2. Cellular reproduction and genetics (Chapters 9-13)	Feb 10 – Mar 3
EXAM 2	**Mar 5**
3. Evolution and diversity of life (Chapters 14-16, 18-24)	Mar 17 – Apr 7
EXAM 3	**Apr 9**
4. Ecology and animal anatomy and physiology (Chapters 25-27, selected from 32-41)	Apr 14 – Apr 28
EXAM 4	**Apr 30**
FINAL EXAM - COMPREHENSIVE	***May 7 (10:00 am - 12:00 pm)***

Lecture Schedule

DATE	TOPIC	CHAPTERS
Jan 13	Introduction to Biology	1
Jan 15, Jan 22	Atoms and Molecules	2, 3
Jan 27, Jan 29	Cells, Membranes, and Flow of Energy	4, 5, 6, 7, 8
Feb 3, Feb 5	**Complete/Review/Exam 1 (Feb 5)**	**2-8**
Feb 10, Feb 12	Mitosis and Meiosis	9
Feb 17, Feb 19	Genetics and DNA	10, 11
Feb 24, Feb 26	Transcription, Translation, and Biotechnology	12, 13
Mar 3, Mar 5	**Complete/Review/Exam 2 (Mar 5)**	**9-13**
Mar 17, Mar 19	Evolution	14, 15, 16
Mar 24, Mar 26	Viruses, Prokaryotes, and Protists	18, 19, 20
Mar 31, Apr 2	Plants, Fungi, and Animals	21, 22, 23, 24
Apr 7, Apr 9	**Complete/Review/Exam 3 (Apr 9)**	**14-16, 18-24**
Apr 14, Apr 16	Animal Behavior and Ecology	25, 26, 27
Apr 21, Apr 23	Physiological Systems	selected from 32-41
Apr 28, Apr 30	**Complete/Review/Exam 4 (Apr 30)**	**25-27, selected from 32-41)**
May 7	***Final Exam (10:00 am - 12:00 pm)***	***Comprehensive***

Laboratory Schedule

DATE	TOPIC	POINTS
Jan 13	*- NO LAB -*	-
Jan 20	*- NO LAB – Holiday*	-
Jan 27	Lab Safety and Movie: *Estrogen Effect*	10
Feb 3	**Presentations Unit I. LIFE**	**20**
Feb 10	Isolating Microbes from the Environment	10
Feb 17	Movie: *Corals*	10
Feb 24	**Presentations Unit III. HUMAN SYSTEMS**	**20**
Mar 3	Oompa Loompa Genetics and Building a Bee-bop (Part I)	10
Mar 10	*- NO LAB – Spring Break*	-
Mar 17	Building a Bee-bop (Part II) and Natural Selection	10
Mar 24	**Presentations Unit IV. ENVIRONMENTAL SYSTEMS**	**20**
Mar 31	Movie: *Cane Toads*	10
Apr 7	Owl Pellet	10
Apr 14	Movie: *TBD*	10
Apr 21	**SEMESTER PRESENTATIONS**	**50**
Apr 28	Field Trip to *Perot Museum of Nature and Science* **Actual date and time to be announced at a later time**	10
May 5	*- NO LAB – Finals week*	**TOTAL: 200**

Course Evaluation Methods

This course will utilize the following instruments to determine student grades and proficiency of the learning outcomes for the course.

Exams (600 points) – You will be given four in-class examinations. Each exam is worth 100 points, and will consist of a combination of multiple choice, true-make true, short answer, and essay items. Attendance is required for all exams. Any student found cheating on any exam will receive a zero (0) for that exam and may face other disciplinary action(s). In addition, a final comprehensive exam is required and it is worth 200 points.

Laboratory (200 points) – You will perform experiments designed to give you hands-on real-world applications of the lecture material. In some cases, you will watch documentaries to complement the experiments. After each laboratory exercise, you will have an assignment worth 10 points. **Each assignment is due at the beginning of the next lab session.** In addition, you will work within a group of students to present 3 topics (20 points each) and one semester project (50 points). You do not receive a separate grade for lab, so the points received for the laboratory (out of 200) will be added into the lecture grade calculation.

Note: **The lab is worth 25% of your final overall grade for the course. However, you must receive a passing grade (60% or higher) in the laboratory to receive a passing grade in the class.**

Students must pass both the lecture and the lab independently to pass the course (i.e. if you fail the lab, you automatically fail the entire course and if you fail the lecture, you automatically fail the entire course).

Grading Matrix

Instrument	Value	Total points
Exam 1	12.5 %	100
Exam 2	12.5 %	100
Exam 3	12.5 %	100
Exam 4	12.5 %	100
Final Exam	**25.0 %**	**200**
Laboratory	**25.0 %**	**200**
Total	**100 %**	**800**

Grade Determination
A = 90% or better
B = 80 – 89 %
C = 70 – 79 %
D = 60 – 69 %
F = less than 60%

Course Policies and Procedures

Late work and make-up exams
No late assignments will be accepted without obtaining prior authorization or proving validity of absence. In such a case, the assignment should be turned in at the beginning of the following lab session (no later than one week after the due date). Exams will only be administered on the dates provided in the syllabus. If you will be observing a religious holy day that is coincidental with an exam, make your instructor aware before its observance. Make-up exams will be administered during the class period ***preceding*** *the regular exam date.*

Cell phone policy
Do not use your cell phone in class; this includes calling, texting, internet surfing, and gaming. If your cell phone must be on during class, apply its "silent" settings. If you keep your phone on during class time, do not keep it on top of the table you are sitting at, please keep it in your pocket, purse, or bag. If your phone rings during an exam, even if the silent setting has been applied, you must turn in your exam immediately.

Laptop policy
You may use your laptop in class to take notes, but only to take notes. If it becomes apparent that laptops are being used by the student for activities other than lecture note taking, all laptop use will be prohibited during class time. Laptops are not to be used during exams. If you bring a laptop to an exam, it must remain in a bag and under the table.

Cheating and plagiarism
Cheating will not be tolerated in this course. If you are found cheating on an assignment or exam, you will not receive credit for the assignment/exam, and student services will be notified. Cheating includes using unauthorized material or devices on an exam, the work of another individual without proper citations, using larger portions of another's work, even with proper citations, and copying the work of a classmate. There are no exceptions to this policy.

University Policies and Procedures

Students with Disabilities (ADA Compliance)
The University of North Texas Dallas faculty is committed to complying with the Americans with Disabilities Act (ADA). Any student requesting academic accommodations based on a disability is required to register with Disability Services each semester. A letter of verification for approved accommodations can be obtained from this office. Please be sure the letter is delivered to me as early in the semester as possible. Disability Services is located in the Student Life Office in DAL2, Suite 200 and is open 8:30 a.m. – 5:00 pm, Monday through Friday. The phone number is (972) 338-1775.

Student Evaluation of Teaching Effectiveness Policy
The Student Evaluation of Teaching Effectiveness (SETE) is a requirement for all organized classes at UNT. This short survey will be made available to you at the end of the semester, providing you a chance to comment on how this class is taught. I am very interested in the feedback I get from students, as I work to continually improve my teaching. I consider the SETE to be an important part of your participation in this class.

Assignment Policy
Assignments are intended to reinforce material covered in lecture, and prepare you for the exams. Collaborative efforts on completing the assignments are encouraged so long as all member of the collaboration contribute equally. As with all other graded assessments, cheating will not be tolerated. While collaborations are encouraged, each student must submit their own work, which cannot be identical to the work submitted by the other members of the collaboration. Assignments should be turned in on time. Late assignments will be graded, but with a penalty of 10% each day it is late.

Exam Policy
Exams should be taken as scheduled. No makeup examinations will be allowed except for documented emergencies (See Student Handbook). Any student caught cheating will automatically receive a 0 on the exam, and the instructor may pursue further disciplinary action. After the first exam is turned in, no more exams will be distributed to students that arrive late to the exam period.

Academic Integrity
Academic integrity is a hallmark of higher education. You are expected to abide by the University's code of Academic Integrity policy. Any person suspected of academic dishonesty (i.e., cheating or plagiarism) will be handled in accordance with the University's policies and procedures. Refer to the Student Code of Academic Integrity at http://www.unt.edu/unt-dallas/policies/Chapter%2007%20Student%20Affairs,%20Education,%20and%20Funding/7.002%20Code%20of%20Academic_Integrity.pdf for complete provisions of this code.
In addition, all academic work submitted for this class, including exams, papers, and written assignments should include the following statement:
On my honor, I have not given, nor received, nor witnessed any unauthorized assistance that violates the UNTD Academic Integrity Policy.

Bad Weather Policy
On those days that present severe weather and driving conditions, a decision may be made to close the campus. In case of inclement weather, call UNT Dallas Campus main voicemail number (972) 780-3600 or search postings on the campus website www.unt.edu/dallas. Students are encouraged to update their Eagle Alert contact information, so they will receive this information automatically.

Attendance and Participation Policy
The University attendance policy is in effect for this course. Class attendance and participation is expected because the class is designed as a shared learning experience and because essential information not in the textbook will be discussed in class. The dynamic and intensive nature of this course makes it impossible for students to make-up or to receive credit for missed classes. Attendance and participation in all class meetings is essential to the integration of course material and your ability to demonstrate proficiency. Students are responsible to notify the instructor if they are missing class and for what reason. Students are also responsible to make up any work covered in class. It is recommended that each student coordinate with a student colleague to obtain a copy of the class notes, if they are absent.

Diversity/Tolerance Policy
Students are encouraged to contribute their perspectives and insights to class discussions. However, offensive and inappropriate language (swearing) and remarks offensive to others of particular nationalities, ethnic groups, sexual preferences, religious groups, genders, or other ascribed statuses will not be tolerated. Disruptions that violate the Code of Student Conduct will be referred to the Office of Student Life as the instructor deems appropriate.

Use of Electronic Gadgets in the Classroom
You are allowed to take notes using laptops/iPads/other electronic devices. You are allowed to record the lectures. The instructor reserves the right to ask you to discontinue use of an electronic device if it becomes disruptive to others in the classroom.

Food/Drink Policy
No food or drinks are allowed in the classroom or the laboratory, except for water.