COURSE SYLLABUS
SCI 105: LIFE SCIENCE

INSTRUCTOR: **Dr. Zach Felix**

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COURSE SCHEDULE: **Spring Semester / Session II: March 11, 2019 – May 5, 2019.**

COURSE DESCRIPTION:
Life Science is designed for students with a limited background in biology and will survey the most important concepts, principles and processes of the biological sciences. Course topics include cell structure and function, cellular respiration, photosynthesis, genetics, evolution, ecology, microbiology and biochemistry.

REQUIRED TEXTBOOK:
Belk, C. & Maier, V.B. (2013). *Biology: Science for life* (4th ed.). San Francisco, CA: Pearson.

COURSE OBJECTIVES:

After completing this course, the student will be able to:

- Explain the importance of the basic concepts, processes, and principles of biology to everyday life
- Identify and analyze characteristics common to all living organisms
- Describe and explain the value of the scientific method in validating scientific discoveries
- Distinguish the parts of atoms, and interpret how atoms interact to form compounds and molecules
- Summarize the characteristics of the "molecules of life" and explain their functions within living organisms
- Identify the organelles of cells and differentiate between their different functions
- Describe the processes of respiration and photosynthesis

- Analyze the relationship between DNA, RNA, and proteins, and formulate how mutations in DNA can lead to a change in protein structure and function

- Illustrate the cell cycle and compare the events that occur during mitosis and meiosis

- Explain Mendel's principles of dominance, segregation and independent assortment, and solve genetic problems that involve monohybrid and dihybrid crosses

- Analyze the basis of the evolutionary theory, and how biological diversity evolves

- Categorize the structure and value of ecosystems and biodiversity.

COURSE POLICIES AND PROCEDURES

ACADEMIC INTEGRITY:

All assignments must be completed by the learner. Learners are expected to read and adhere to the Academic Integrity section of Reinhardt University's Academic Catalog. Cases of academic dishonesty may result in expulsion from the University, a failing grade for the course, or a failing grade for the assignment.

The following are recognized as unacceptable forms of academic behavior at Reinhardt University:

1. Plagiarizing, that is presenting words or ideas not your own as if they were your own. The words of others must be enclosed in quotation marks and documented. The source of the distinctive ideas must also be acknowledged through appropriate documentation. (NOTE: Strictly adhere to APA citation and referencing guidelines to avoid this).
2. Submitting a paper written by another student or another person as if it were your own.
3. Submitting a paper containing sentences, paragraphs, or sections lifted from another student's work or other publication; there must be written documentation.
4. Submitting a paper written by you for another course or occasion without the explicit knowledge and consent of the instructor.
5. Fabricating evidence or statistics that supposedly represent your original research.
6. Cheating of any sort on tests, papers, projects, reports, etc.
7. Using the internet inappropriately as a resource. See 3 above.

COURSE REQUIREMENTS/ASSIGNMENTS:

Knowledge of the material presented in this course will be evaluated based on the satisfactory completion of all coursework. Methods of instruction and learning include unit reading assignments, video lectures, discussion postings, individual research, and essay assignments. Learners are expected to complete all unit activities during the week they are assigned and in the manner prescribed.

Reading Assignments: Learner's are expected to complete the assigned textbook readings for each unit prior to participating in discussions.

Video Lectures: Learner's are expected to view all assigned video lectures for each unit prior to participating in discussions. Some answers to "Complete" assignments are found here and not in the textbook.

Unit Discussion Posts: Each unit discussion posting must contain a minimum of a 200 word initial response. The deadline for postings shall be published in Unit Academic Requirement Announcements. Learners will be penalized 10 points for each day he/she is late on an initial posting. Initial postings will not be accepted after 11:59 PM on Friday. Initial postings must cite material from the course textbook and *at least* one outside scholarly source in accordance with APA guidelines.

Learners must reply to a *minimum* of TWO DIFFERENT students in the class with a minimum of a 75 word response *in addition to* responding to instructor questions. Exceeding the minimum response requirement can result in additional discussion post scoring credit. The responses must be substantive in nature by adding additional knowledge to the conversation. Learners must support their responses with material cited from the course textbook or an outside scholarly source in accordance with APA guidelines. Responses are due no later than 11:59 PM (EST) on Saturday. Learners must also respond to any questions posed by the instructor.

All postings and replies must adhere to APA 6th Edition guidelines regarding citations and referencing. Learners must also employ proper grammar, punctuation, and correct spelling. Unit discussion posts will be averaged together and will account for 30% of the final course grade.

Unit Complete Assignments: Unit assignments often have more than one part. Be sure to answer **each part** of each question. Learners must adhere to the minimum word count specified for each assignment. Assignments must adhere to the citation and referencing guidelines contained in the 6th Edition APA Manual. Learners must also employ proper grammar, punctuation, and correct spelling in all submissions. Unit assignments will be averaged together and will account for 35% of the final course grade. The deadline for postings shall be published in Unit Academic Requirement Announcements, but are generally on Sundays by 11:59 pm.

Unit Quizzes: For each unit, students will take a timed (2.5 minutes per question) quiz on Eagleweb. You will sign into Eagleweb, click on the "coursework" tab and then the specific unit quiz. The deadline for quizzes shall be published

in Unit Academic Requirement Announcements, but are generally on Fridays by 11:59 pm. Quizzes are available Monday through Friday during the week during which they are due. Quiz scores will be averaged together and will account for 15% of the final course grade.

Genetic Disorder Presentation: This assignment directly addresses the following course objective: Analyze the relationship between DNA, RNA, and proteins, and formulate how mutations in DNA can lead to a change in protein structure and function. To complete the assignment students will pick one of the genetic disorders that all newborns are screened for here in Georgia and construct a Powerpoint presentation about the symptoms and prevalence of the disease, as well as information about the specific DNA mutation and protein(s) that are involved with the disorder. The Powerpoint file will be submitted via the dropbox function in V-camp by midnight on the Friday of the 6th week of class. This assignment will account for 20% of the final course grade.

EVALUATION & GRADING:

The following grading scale will be utilized in the determination of the student's course grade:

Percentage of Points Earned	Corresponding Letter Grade	
90 to 100%	A	
80 to 89%	B	
70 to 79%	C	** grade of C or higher required*
60 to 69%	D	
0 to 59%	F	

FINAL AVERAGE BREAKDOWN:

Unit Discussion Posts (Participation)	30%
Unit Complete Assignments	35%
Unit Quizzes	15%
Genetic Disorders Presentation	20%

PROJECTED LEARNING SCHEDULE:

UNIT #1 (Mar 11– Mar 24, 2019) 2 weeks

- *Chapter 1: Can Science Cure the Common Cold? Introduction to the Scientific Method*
- *Chapter 2: Are We Alone in the Universe? Water, Biochemistry and Cells*

UNIT #2 (Mar 25 – Mar 31, 2019) 1 week

- *Chapter 3: Is it Possible to Supplement Your Way to Better Health? Nutrients and Membrane Transport*

- *Chapter 4: Fat: How Much is Right for You?*

- *Chapter 5: Life in the Greenhouse: Photosynthesis and Global Warming*

UNIT # 3 (Apr 1 – Apr 14, 2019) 2 weeks

- *Chapter 6: Cancer: DNA Synthesis, Mitosis & Meiosis*

- *Chapter 7: Are You Only As Smart As Your Genes? Mendelin & Quantitative Genetics*

- *Chapter 9: Genetically Modified Organisms: Gene Expression, Mutation, and Cloning*

UNIT #4 (Apr 15 – Apr 28, 2019) 2 weeks

- *Chapter 10: Where Did We Come From? The Evidence of Evolution*

- *Chapter 11: An Evolving Enemy: Natural Selection*

- *Chapter 12: Who Am I? Species & Race*

UNIT #5 (Apr 29 – May 5, 2019) 1 week

- *Chapter 13: Prospecting for Biological Gold: Biodiversity and Classification*

- *Chapter 14: Is The Human Population Too Large? Population Ecology*

- *Chapter 15: Conserving Biodiversity: Community & Ecosystem Ecology*

ONLINE ATTENDANCE AND WITHDRAWAL POLICY:

Students are accountable for all required work in each of their courses. They must assume full responsibility for class attendance in a way satisfactory to the instructor and for work missed because of absence. Since class sessions function not merely for individual learning but also for group interaction, absences can become a serious problem both for the individual and for the group.

Online courses are generally delivered over a period of eight weeks with activities and assignments specified for each week. An online week is defined as being Monday 12:00 AM (EST) through Sunday at 11:59 PM (EST). Deadlines for attendance are based on Eastern Standard Time.

A student will be considered in attendance for a given week of online instruction if he or she participates in the course. Participation is defined as completing work towards one of the specific tasks outlined in the Academic Requirements for a given unit during the online week prior to Sunday at 11:59 PM (EST).

The last day to withdraw from the class with a grade of "W" falls on Monday April 15th, 2019.

Initial Course Participation
A student who fails to participate during the first 8 calendar days of a course shall be administratively dropped from the course.

Ongoing Course Participation
Ongoing course participation is satisfied through the continued completion of course room activities, such as written assignments, quizzes, or discussion question responses. Students who do not participate in a course for 7 or more consecutive days are not satisfying ongoing course participation.

Students who are not satisfying the ongoing course participation requirement shall be notified by a University representative via University email. The learner must resume participation in the course within 3 calendar days following the sending of the notification.

Students who do not resume participation in the course will be administratively withdrawn from the course and be issued a grade of "W" or "F". A grade of "W' will be issued if an administrative or voluntary withdrawal occurs before 11:59 PM on Monday of the fifth week of the course. A grade of "F" will be issued if an administrative or voluntary withdrawal occurs after 11:59 PM on Monday of the fifth week of the course.

Students may be impacted academically and financially in the case of voluntary and administrative withdrawals. It is the student's responsibility to understand these implications.

NON-DISCRIMINATION STATEMENT:

Reinhardt University does not discriminate in any of its policies, programs, or activities on the basis of race, color, age, culture, national origin, socioeconomic status, gender, religious belief, sexual orientation, physical (dis)ability or genetic information.

CREDIT HOUR STATEMENT

Courses offered in an 8-week session are twice as intensive as those held during a traditional full semester. Each week students should expect to spend 14 hours interacting with course content through a combination of direct instruction and out of class student work. Examples of direct instruction may include viewing or reading course lectures, engaging in class forum discussions with the course instructor and other students, viewing or reading supplementary online content required by the instructor, completing course quizzes and/or examinations, and reading instructor announcements related to course material and instructor feedback on assignments. Examples of out of class student work may include reading the assigned course textbook, doing independent library research, completing essay assignments, developing more extensive research papers, and studying in preparation for exams and quizzes.


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