

BIOL 1951H, Honors Biology: Cellular Processes
Spring Semester 2013, Section A (CRN# 20680, 4 Credit hours)
Department of Biology, College of Arts & Science, Valdosta State University

Lecture (BC 1025): T & R 2:00 p.m. 3:15 p.m.

Laboratory (BC 1046): W 2:00 p.m. - 3:50 p.m.

Instructor: Dr. Brian C. Ring
Office: BC 2084
Office hours: **M / W** 11:00 a.m. 12:00 p.m.
Phone: 249-4841 (Dept. office 333-5759)
Email: bcring@valdosta.edu (**please use WebCT first**)

Pre-Requisites: None but reserved for students admitted to the Honors Program.

Course Description: An introduction to the fundamental principles of cell and molecular biology. Prokaryotic and eukaryotic development will focus on the relationship of structure and function. Cellular solutions to fundamental problems such as cell recognition, energy acquisition and conversion (metabolism), genetic transmission, and cellular reproduction will be discussed. Taught in an enriched, discussion, and project-oriented classroom environment.

Course Outcomes: Upon completion of this course the student should be able to:

- 1) Communicate and describe life at the cellular level with a historical and contemporary perspective on humanity both in scientific curiosity and ethical concerns (**HP2, HP5, & GE4**);
- 2) Identify and discuss, among your peers, common methods and themes cells employ for motion, metabolism, gene regulation, reproduction and how multicellular life begins and maintains itself (**HP4 & GE4**);
- 3) Demonstrate scholarly research and presentation skills through primary literature searches, written summaries, and presentation of findings related to the field of cell biology (**HP1, HP2, HP5, GE4**);
- 4) Develop practical laboratory knowledge and skills by guided hands-on experimentation and independent scientific investigation using the scientific method, followed by quantitative analysis and written lab reports (**HP3, HP6, HP7, GE5 & GE7, CCD.1**).

These course outcomes support all of the VSU Honors Program Objectives and the University General Educational Outcomes # 4, 5 & 7 as listed in the VSU Undergraduate Catalogue (see below).

VSU Honors Program Objectives:

HP1. Effective written communication skills (including ability to use research).

HP2. Effective oral communication skills.

HP3. Effective quantitative skills.

HP4. The ability to analyze and synthesize a broad range of material.

HP5.

the laboratory as outlined below.

Lecture/Discussion Sessions: (70%) Students will be graded on their performance during lecture time based on the following criteria: **(1)** Chapter Summaries, **(2)** Quizzes, **(3)** Topic Lead, and **(4)** Participation.

Students are responsible for reading the assigned material and completing the chapter summaries before coming to lecture/discussions. The chapter summary questions are posted on the BlazeView Course Page. Chapter summaries may be collected at the beginning or end of a topic session. Quizzes are composed primarily of short answer questions broadly covering the chapter summaries and readings.

Each student will lead at least one lecture topic series (100 pts total) by **a)** serving as moderator(s) of the chapter summary topic (30 pts), **b)** completion of a written sub-topic search (40 pts), and **c)** presentation of the sub-topic (30 pts). More details of this assignment will be provided by the instructor.

Participation is key to the success of this course. We will use the chapter summaries as a guide to our readings and discussion of the course material, but this will not limit our discussion topics. Videos or other material related to the topic will also be presented during lecture time by you and your peers. Students are encouraged to critically think about cell biology as it relates to humanity and form their 1 0 0 1 327.29 59e14(m)-21(pi)7(4.29 591.46 Tm 0 Tc[(S)4()4(e)-90(8 8(t5(n~po)4)

TENTATIVE LECTURE & LABORATORY OUTLINE:

Week:	Date:	Topics:	Chapter:	Laboratory Topic:
1	Jan. 08 (T)	Course Introduction & Objectives	--	NO LAB
	Jan. 10 (R)	Bioethics Debate Discussion (TLs)	--	
2	Jan. 15 (T)	Life Itself: A Particle of Life	1	Introduction, Safety, & Lab Reports (Exercise 1)
	Jan. 17 (R)	Life Itself: Molecular Motors	2	

CS= Chapter Summary, Q=Quiz, TL= Topic Lead, Par= Participation, L= lab report, P1= lab proposal, P2=lab paper