

Instructor:	Dr. William H. Jackson	Office Hours:	By appointment
Office:	SBDG 201A	Email:	Billj@aiken.sc.edu
Telephone:	641-3601	Text:	The Cell, A Molecular Approach, 4th Ed. by Cooper and Hausman
Lecture:	TTh, 9:25AM – 10:40AM in SBDG 200	Supplement:	Writing Papers in the Biological Sciences., 4th Edition by McMillan
Credit:	Three semester hours		
Information:	http://www.usca.edu/biogeofaculty/Jackson/Jackson.asp		

Course Description: A study of the principles of eukaryotic cellular and molecular biology. Three lecture hours per week.

Course Objectives: This course is designed to provide students the concepts and underlying principles of eukaryotic cellular and molecular biology. Upon completion of this course students will be expected to

1. Describe the basic properties of eukaryotic cells;
2. List and describe the function of the major biological molecules;
3. Describe the basic function of cellular organelles and structures;
4. Describe DNA replication, repair, and expression;
5. Discuss the nature of gene regulation;
6. Describe the processes of protein synthesis, processing, and regulation;
7. Discuss the nature of cell signaling;

Attendance Policy: Students should refer to the USCA Student Handbook regarding the number of absences permitted. In this regard, the instructor may impose a penalty for absences in excess of 25% of regularly scheduled class meetings by assigning an “F” for the course. Absences, *neither excused nor unexcused*, absolve the student from meeting class assignments. Exam make-ups will only be allowed for a *documented, excusable* reason. Quizzes cannot be made up.

Disability Statement: If you have a physical, psychological, and/or learning disability, which might affect your performance in class, please contact the Office of Disability Services, 126A B&E (803) 641-3609, as soon as possible. The Disability Services Office will determine appropriate accommodations based on medical documentation.

Methods of Presentation and Evaluation: Information will be presented through lectures and class discussion using appropriate visual aids. There will be three 1-hour exams, a comprehensive final exam, and weekly quizzes that will generally cover the previous 1-2 week’s material. Students will be required to complete five critiques of the primary literature in cellular/molecular biology. The nature of the papers will be dependent on the review topic (see below). Each report should be one page long (double-spaced) and provide a summary of the work with appropriate referencing. **In all cases, extreme care should be taken to avoid plagiarism.**

Review and Poster. Format: Twenty percent of the final grade will be from a literature review of an assigned topic in cellular/molecular biology. The final paper must be double-spaced, at least 8 pages in length (excluding figures), and include in-text citations and a literature cited section. All figures must be referred to within the body of the text and must be placed on individual pages in an appendix following the Literature Cited section. Each figure should be numbered, titled, and referred to within the text in a consistent manner (e.g., Fig. 1, Fig. 2, etc.). A description of how to write a research paper can be found in chapters 4-8 in your text, “Writing Papers in the Biological Sciences.” References must be cited in the text using CSE format. Examples of CSE format as well as a link to Citation Builder can be found at the USCA library website: <http://library.usca.edu/index.php/Instruction/StyleGuides>. A minimum of 15 primary literature sources must be used for the paper. Although texts are not considered primary literature, relevant texts are acceptable (one text for every 10 sources). Encyclopedias, Wikipedia, and web sites are NOT considered primary literature and can not be included as references. Web site exceptions are the Centers for Disease Control (CDC) and the National Institutes of Health (NIH). However, if these sites are used, they can not be counted toward the 15 source minimum. Most of your sources can be found at journal databases such as Medline through the National Library of Medicine (<http://www.nlm.nih.gov>). Figures obtained from a web site and used in the paper are acceptable and should be credited in the figure legend (not in the literature cited). The final paper will be submitted electronically through the library’s TURNITIN database.

Research Assignments and Due Dates:

Completed bibliography: Friday, **Sep 26**
First draft: Friday, **Oct 26**
Final paper: Monday, **Nov 26**

Poster due date: Wednesday, **Nov 28**
Poster session: Thursday, **Dec 6**

Due dates for 1-page reports: Oct 3, Oct 17, Oct 24, Nov 7, and Nov 14

The basis of student evaluation is shown below:

Description	Percentage	Points	Comments
Three one-hour exams	45%	450	15% each
Review and poster	25%	250	Assigned topic
Final Exam	10%	100	Comprehensive
Written reports	10%	100	Assigned topic, 20 points each
Weekly quizzes	10%	100	Covering the previous 1-2 weeks material

Letter grades will be assigned as follows: A>90%; B>80%; C>65%; D>50%; F<50%.

You will be expected to endorse the USCA HONOR PLEDGE on every assignment: 'On my honor as a University of South Carolina Aiken student, I have neither given nor received any unauthorized aid on this assignment/examination. To the best of my knowledge, I am not in violation of academic honesty'.

TENTATIVE LECTURE SCHEDULE

DATE	WEEK	TOPIC	CHAPTERS
Aug 21	1	An Overview of Cells and Cell Research, The Composition of Cells	1, 2
Aug 26	2	The Composition of Cells	2
Aug 28		The Organization and Sequences of Cellular Genomes	5
Sep 2	3	The Organization and Sequences of Cellular Genomes	5
Sep 4		The Organization and Sequences of Cellular Genomes	
Sep 9	4	Exam I	1-5
Sep 11		Replication, Maintenance, and Rearrangement of Genomic DNA	6
Sep 16	5	Replication, Maintenance, and Rearrangement of Genomic DNA	6
Sep 18		Replication, Maintenance, and Rearrangement of Genomic DNA	6
Sep 23	6	Replication, Maintenance, and Rearrangement of Genomic DNA	6
Sep 25		RNA Synthesis and Processing	7
Sep 30	7	RNA Synthesis and Processing	7
Oct 2		RNA Synthesis and Processing	7
Oct 7	8	RNA Synthesis and Processing	7
Oct 9		Fall Break – No Classes	
Oct 14	9	Exam II	6 and 7
Oct 16		Protein Synthesis, Processing, and Regulation	8
Oct 21	10	Protein Synthesis, Processing, and Regulation	8
Oct 23		Protein Synthesis, Processing, and Regulation	8
Oct 28	11	Protein, Synthesis, Processing, and Regulation	8
Oct 30		Protein Synthesis, Processing, and Regulation	8
Nov 4	12	Exam III	8
Nov 6		Protein Sorting and Transport	10
Nov 11	13	Protein Sorting and Transport	10
Nov 13		Protein Sorting and Transport	10
Nov 18	14	Protein Sorting and Transport	10
Nov 20		Protein Sorting and Transport	10
Nov 25	15	Cell Signaling	15
Nov 27		Thanksgiving Holiday – No Classes	
Dec 2	16	Cell Signaling	15
Dec 4		Poster Session, Science Building Hallway	
Dec 9		FINAL EXAM; 8 AM	Comprehensive