BI 203L - Cellular and Organismic Biology Laboratory
Chaminade University of Honolulu
T & Th: **2:00-4:50**

Fall, 2001
R. Iwamoto &
P. Lee-Robinson

COURSE SYLLABUS AND OUTLINE

Text:

1. **Wachtmeister, Hans F.E. & Larry J. Scott 2001 (6**th ed.) *Encounters with Life: General Biology Laboratory Manual.* **Morton Publishing, Englewood,** *CO.*

2. **Van De Graaff, Kent M. and John L. Crawley 2001 (4**th ed.) *A Photographic Atlas for Biology Laboratory.* **Morton Publishing, Engelwood, CO.**

3. **A packet of Online labs from Benjamin Cummings for Campbell textbook may be used in the lab.**

Course Description:

BI 203L is a 1 semester credit introductory biological science laboratory for those students enrolled in BI 203 - Cellular and Organismic Biology. This laboratory course is for students desiring advanced studies in the sciences, e.g., biology, forensic science, medicine, dentistry, environmental health, and other areas. It is followed by BI 204L in the second semester.

The following is from the 2001-2002 General Catalog:

> One **three-hour laboratory period per week to accompany BI 203 and BI** Laboratory work such as thin-layer chromatography **and enzyme kinetics experiments.**

Goals of the Course: This course is designed to fulfill the following goals:

1. **To present principal methods and techniques coupled with appropriate instruments utilized in the study of cells and organisms;**
2. **To allow investigation and** problem solving by manipulative and **experimental methodology including preparation of written laboratory reports;**
3. **To examine applications of principles and concepts in lecture, such as the relationship between osmosis and kidney dialysis machines;**
4. **To work collaboratively in order to accomplish a common goal, i.e., lab experiment; and**
5. **To learn structure and function of cells, tissues, and organs by microscopic viewing, preserved specimens, and dissection.**

Objectives for **Students: At the completion of the course, the student will be able to do the following:**

1. **apply the Scientific Method to observable phenomenon;**
2. **identify specific biological equipment;**
3. **distinguish between quantitative and qualitative chemical tests;**
4. **identify biological specimens;**
5. **identify cellular and tissue types and structures;**
6. **identify different techniques;**
7. **identify parts of a scientific laboratory report;**
8. **understand and set-up a Chi-square genetics problem; and**
9. **develop an appreciation of working collaboratively in groups;**

Laboratory preparation, outline, and attendance:

1. **Preparation of laboratory assignments listed on the lab outline and presented in lab handouts are essential in successful completion of the laboratory and safety of your fellow students.**
2. **Handouts in the laboratory outline refer to assignments not in the lab manual. Lab handouts will be given to students prior to the laboratory exercise and include procedures and instructions for the laboratory.**
3. **Attendance for the laboratory** is mandatory. Laboratory absences **must be documented by valid excuses, such as a physician's excuse. Grade penalties will be imposed for unexcused absences by the instructor.**

Laboratory notebook:

1. **All students will be required to maintain a bound laboratory notebook into which ALL laboratory information and data is to be entered. Lab notebooks will be checked from time to time and graded.**
2. **The notebooks must be bound with non-tear out pages. Spiral notebooks are unacceptable, as are three-hole folder paper.**
3. **The format and grading of lab notebooks are given on a separate handout.**
   Please follow the format including a table of contents with dates, exercise title, and page numbers.

Laboratory notebook cont'd...

4. **Notebooks are due at the time of the lab exams. Notebooks that are one day late will be penalized by one grade level and no credit will be given for lateness beyond one day. This is the Biology Department policy on late notebooks and papers.**

Laboratory Reports:

1. **The format and grading of laboratory reports are included in a separate handout.**
2. **The procedures for the late lab reports is the same as in #4 above.**

Grade Determination:

1. **Separate grades will be given for lecture and laboratory. It is possible to receive different grades for lecture and laboratory.**
2. **The instructor does not curve grades or grade scores. Grades will be determined according to the scale used in lecture.**
3. **There will be two lab practical examinations with each consisting of station questions. Station questions are those questions in which the student has a specified period of time to identify the organism under a microscope, relate a function of a structure, explain a graph, or relate an objective to a exam and will include material completed prior to the exam; the second exam will include material covered since the midterm exam, it is not cumulative.**
4. **There will be both announced and unannounced quizzes. Makeup quizzes will not be given. Quizes will not be used to replace low exam grades.**
5. **Incomplete grades, early exams, and late exams are not given.**
6. **The laboratory grade will be determined in the following manner:**

1st lab exam	100 **points**
2nd exam	**100 points**
Two lab reports @ 25 points each	**50 points**
Quizzes and Unknowns	50 **points**
Lab notebook @ 25 points each	50 **points**
Total	**350 points**

Class standing, office hours, and extra help:

1. **Students may obtain their grades at any time by consulting with the instructor. Students with D or F grades will receive deficiency notices. It is mandatory that students receiving deficiency notices make an appointment to see the instructor.**
2. **Office hours are listed on the instructor's office door, Henry Hall Rm 16. The instructors are also available by appointment.**
3. **Tutoring services are available through the Chaminade University** Learning Center. The Biology Department p**rovides upper class students majoring in biology as tutors. Please contact the instructor regarding availability of tutoring services.**

POLICIES, CLASS STANDING, OFFICE HOURS, AND EXTRA HELP:

1. **Please consult the lecture syllabus as the same policies will be followed.**

CHAMINADE UNIVERSITY WRITING STANDARDS

All work submitted by Chaminade University students must meet the following Writing Standards. Written assignments which fail to meet these standards will not be accepted by Chaminade University faculty unless alternative criteria have been specific by an instructor for a particular assignment.

1. **A paper must have a title page on which the writer gives the title, his or her name, the course title, and the date of submission. For short papers, it is usually adequate to provide this information on the first page of the paper.**
2. **A paper must adhere to accepted manuscript format.***
   - a. **It must be types on white 8.5" by 11.5" paper (except for in-class essays).**
   - b. **It must be double-spaced and typed on only one side of the paper.**
   - c. **It must have adequate margins on top, bottom, and sides.**
   - d. **Reference and/or footnotes must be used in accordance with standard specified by the instructor. In the absence of such specification, the writer should use standards given in English 102.**
3. **A paper must adhere to conventional standards for written expression.**
   - a. **It should be free of errors in spelling, punctuation, capitalization and grammar.**
   - b. **The vocabulary and syntax should be appropriate to the assignment.**
   - c. **The writer should use proper sentence construction and coherent paragraphing.**

***See the handbook of English recommended by the English Department for a complete list of manuscript requirements.**

WRITING ASSISTANCE

The Chaminade Learning Center provides assistance for students in proofreading and correcting their written assignments. A writing clinic and tutorials are available to students at no cost to assist them in the mastery of basic writing skills. Typing instruction is available at several locations near Chaminade University and there are also lists of student types available in the Learning Center.

BI 203- Cellular and Organismic Biology Lab **Fall, 2001**

Chaminade University of Honolulu Iwamoto & Lee-Robinson

LABORATORY NOTEBOOK

Previous experiences have demonstrated that compilation of observations, data collection, calculations, and reporting of results is a problem for many scientists and students. To avoid repetition of previous difficulties, i.e., lost, uninterpretable, unrecorded ("he took it I didn't"), or dissolved by water or chemicals data, purchase a bound (non-spiral, non-tear out page) type of laboratory notebook. The following procedures are to be followed in your notebook.

1. **All observations, data, calculations, laboratory notes, and lab related materials must be entered directly into the notebook. Neatness is not prerequisite, but it is a necessity that notes be legible to you.**
2. **An index or table of contents is required and includes the following: a) date of exercise, b) topic, and c) page numbers in the lab book.**
3. **Number the pages in your textbook if unnumbered. Uneven pages are used for field data or original observations, rough calculations, and unorganized summaries, answers to questions, and conclusions.**
4. **Drawings are mandatory with identification of structures and organism. Specific characteristics differentiating the specimen from others should be noted for later use, i.e., studying for identification questions** on exams.
5. **Since recopying of notes is discouraged, notebooks should be presentable with information completed to the current lab period. Notebooks will he examined without previous notice to determine** progress.
6. **Grading of notebooks is based on 1) organization-inclusion of all assigned works, table of contents, labeling and identification of structures and specimens in drawings, and completeness of data collected and 2) interpretation observations in exercises, completeness/correct answers to questions asked, conclusions drawn, and error analysis.**

Hints:

1. **Record everything and anything in the beginning. With time and experience you will learn what, how, and why to record information with your own shorthand that will allow greater freedom in recording and interpreting.**
2. **Immediately after obtaining data and completing observations, review and organize them. Remember that time is the ally of forgetfulness.**
3. **Use writing materials that is waterproof and streak proof.**

Hints Cont'd…:

4. Do not depend on "the other person" to take your note, especially when working in group type experiments and exercises or field trips.
5. Lab hand-outs, review articles, supplemental information, and completed lab reports can be affixed to your notebook. References used should definitely be included with name(s) of authors(s), title, year, and volume/page numbers.
6. When the instructor presents information, especially at the beginning of the lab period, write copious notes. Often lab exam questions and significant information for successful completion of lab exercises are contained in the beginning briefing.

BI 203- Cellular and Organismic Biology Lab
Chaminade University of Honolulu

Fall, 2001
Iwamoto
Lee-Robinson

FORMAT AND PROCEDURES FOR LABORATORY REPORTS

FORMAT:

1. **Title: A title explains to the reader what the report contains.** A **title should not be so general that it does not specify what the experiment** is, i.e., **"osmosis." Neither should the title be so long that it tells everything, i.e., "Osmosis using dialysis bags containing 0.5M sucrose placed in isotonic, hyportonic, and hypotonic solutions with iodine added to determine porosity of the membrane." Be creative and imaginative to attract the interest of the reader. Do not use the title on the laboratory hand-out or from the laboratory text.**

2. **Abstract:** An **abstract is a brief, one-paragraph summary of the results of the experiment. Some investigators include short sentences on the purpose or objectives of the experiment. It precedes the introduction with single spacing, and is intended. Identify your abstract by placing the word, abstract, before the paragraph.**

3. **Introduction: This portion includes a full discussion of the objectives of the experiment. It also includes the biological concepts or principles on which the experiment is based and what is expected in the experiment. Some writers include a** brief review of evidence from **previous experiments or known information derived from previous testing.**

4. **Methods and Materials: Methods, techniques, equipment/supplies used are include in this portion. You may be brief by stating: "Please refer to the methods and materials as given in the lab hand-out or lab manual." You must include 10 a description of the control and why such a control was utilized and 2) explanations of deviations from original procedures.**

5. **Experimental Data: Consolidate your data into tables and graphs. Use the following format: 1) Table 1. "Title of Table." and 2) Fig. 1 "Title of Figure (graph). Units must be included. Calculations may be included in this section which precedes the discussion section.**

FORMAT CONT'D...

6. Discussion: This portion discusses and explains the results of the research. It includes a comparison of the results to the theoretical principles and what was expected. Error analysis or plausible reasons for deviations must be included. Concentrate on errors of experimental design and instrumentation do not rely solely on technique errors, i.e., "the investigator titrated the wrong volume or did not obtain the correct weight.„ Answers to questions asked by experiment are included in this section, i.e., questions asked on hand-out sheets.

7. Conclusions: **An optional portion in which the investigator assesses the experiment by listing in short sentences the results.**

8. Literature Cited or Used: A part of the report comparable to a bibliography that cites the work of others used in the report. You must cute works of other even if direct quotes were not used or you are guilty of plagiarism. If direct quotes are used, follow standard English procedures. 96 consistent with references, e.g. author's last name first, initials, year, title in quotes if journal or underlined if text, volume, page numbers, and publisher if text.

PROCEDURES:

1. **Laboratory reports are separate reports that are not written into the laboratory notebook.**
2. **Typed or word processed reports are mandatory and hand written reports unacceptable.**

   Papers are due on **dates listed in the laboratory outline. Laboratories requiring lab reports are listed in the laboratory outline.**
4. **Late papers will be reduced by one grade for one day late and papers later than one day will be unacceptable with an F grade given.**
5. **It is expected that correct English grammar and spelling are used in reports. Points may be deducted for incorrect usage of English grammar and spelling.**
6. **Two references, other than the laboratory hand-out, text, and lab manual is required and is usually used in the introduction section.**
7. **Length of typed papers are not to exceed 6 pages and are** double-spaced use a font larger than 12pt. **for the** body **of the report.**
8. **Grading of papers is based on use of proper format and procedures, organization, and interpretation.**
9. **On occasion that require that data from the entire laboratory section be pooled or used, it is the student's responsibility to obtain the results from other students or groups. It is useful to obtain this information during the lab period and not wait till the following day.**

BIOLOGY 203L–CELLULAR & ORGANISMIC BIOLOGY LABORATORY *FALL 2001*
T & Th 2-4:50 pm, 1 semester credit
CHAMINADE UNIVERSITY OF HONOLULU
HONOLULU, HAWAII 96816 *ON CAMPUS*

COURSE OUTLINE–SUBJECT TO CHANGE

Bio.203L01 & 203L02 (1 Crs) Cellular & Organismic Biology Laboratory R. Iwamoto/P.Lee-Robinson

Dept. No. (# Crs) Title Instructors

WEEK	DATE	ASSIGNMENTS	
1	AUG 28 T AUG 30 Th	Introduction: Syllabus & Course Outline; Lab Notebook & Lab Reports, Microscopy	Exercise 2 pp. 11-22 Handouts
2	SEPT 4 T 4 T 6 Th	Continue Microscopy & Scientific Method LAST *DAY* TO ADD/DROP CLASSES	Exercise 1 pp. 1-9 Exercise 2 pp. 11-22
1	SEPT 11T 13 Th	Paiko Fringing Reef Ecosystem Field Trip: Identification of Fringing Reef Components & Measurement of Physical Factors- pH, temperature, and salinity	**MICROSCOPE** QUIZ Handouts
4	SEPT 18 T 20 Th	Qualitative Chemical Tests: Carbohydrates, Fats, & Proteins Identification of Unknown	Handouts Exercise 3 pp. 23-28
5	SEPT 25 T 27 Th	Quantitative Chemical Tests: Thin Layer Chromatography of Amino Acids; Standard Curve & Determination of Unknown Protein Concentration by Spectrophotometry & Serum Cholesterol Determination by Spectrophotometry	Handouts
6	OCT 2 T 4 Th	Factors Affecting Enzyme Kinetics: pH, temperature, [E] & [S] Lab Report Draft Due on 10/23 & 10/25, Final Report Due 11/6	Handouts LAB REPORT #1
7	OCT 9 T 11 Th	FIRST LAB EXAM AND LAB NOTEBOOKS DUE	

8	OCT	16 T 18 Th	Histology: Plant & Animal Tissues Microtome Demonstration, Histology Exercise 4 laser disc pp. 29-34, Exercise 27 pp. 229-236, Exercise 20 pp. 155-165	Handouts	
9	OCT	23 T 25 Th	Osmosis and Diffusion DRAFT OF ENZYME KINETICS REPORT DUE Osmosis Report Due 11/20	Handouts LAB REPORT #2 Exercise 5 pp. 35-40 Exercise 21 p. 165	
10	OCT NOV	30 T 1 Th	Mitosis and Meiosis ABRCMS Conference	Handouts Exercise 9 pp. 61-70 QUIZ ON OSMOSIS	
11	NOV	6 T 8 Th 9 F	Photosynthesis: Leaf Structure, Chromatography & Absorption Spectra ENZYME KINETICS REPORT DUE LAST DAY TO WITHDRAW WITHOUT GRADE PENALTY	Exercise 8 pp. 53-60	
12	NOV	13 T 15 Th	Genetics: Chi-Square Tests of Monohybrid & Dihybrid Crosses	Exercise 10 pp. 71-82	
13	NOV NOV	20 T 25 Th	Open Lab and OSMOSIS LAB REPORT DUE Nov 25 & 26 Thanksgiving Recess		
14	NOV NOV	27 T 29 Th	Human Inheritance: Human Karyotypes and slides, DNA extraction & Electrophoresis, Dr. Shimakawa	Exercise 11 pp. 183-187 Handouts	
15	DEC	4 T 6 Th	SECOND LAB EXAM AND LAB NOTEBOOKS DUE		

IMPORTANT DATES: *SEPT 4 LAST DAY TO ADD/DROP*
NOV 9 LAST DAY TO WITHDRAW WITHOUT GRADE PENALTY

Bio. 203-Cellular & Organismic Biology
MWF 9:00-9:50, TR 9:30-10:50
3 Semester Credits
Chaminade University of Honolulu
3140 Waialae Avenue
Honolulu, HI 96816

Fall 2001
August 27, 2001 to
December 13, 2001
Instructors:
Ronald M. Iwamoto
Patricia Lee-Robinson

COURSE OUTLINE AND SYLLABUS

TEXT:

Campbell, Neil A., Jane B. Reece, and Lawrence G. Mitchell 1999 (5th ed.). *Biology.* Benjamin Cummings, Menlo Park, CA.

COURSE DESCRIPTION:

Biology 203 is a 3-credit introductory biological science course for those students desiring advanced studies in the sciences, e.g. biology, forensic science, medicine, dentistry, environmental health, and other areas. It is followed by Biology 204 in the second semester.

The following is from the 2001-2002 General Catalog:

> Concepts of cellular and molecular biology stressed in first semester; second semester devoted to organisms stressing phylogenetic, ecological, and genetic relationships in plants and animals. Recommended for science majors. Offered annually. Recommended: one year each of high school biology and chemistry. *Concurrent registration in BI 203L-BI 204L required.*

AIMS/GOALS OF THE COURSE: This course is designed to fulfill the following goals:

1. To present the basic concepts and principles of biology for use in the present and for future courses.

2. To prepare the student to continue into advanced biology or related fields, such as biochemistry.

3. to examine and analyze specific content areas, such as molecular or cellular biology, evolution, physiology, and related areas of biochemistry and biophysics. Cellular biology will be stressed during the first semester (Bi 203) while organismal biology, based on organ systems, will be emphasized in the second semester (Bi 204).

AIMS/GOALS OF THE COURSE CONT'D...

4. **To impart an understanding of the accomplishments, failures, ambiguities, and the future of the biological sciences drawing on examples and applications of principles in the area of marine sciences, biomedical sciences and other disciplines.**

OBJECTIVES FOR STUDENTS: **At the completion of the course, the** student will be able to do the following:

1. **Understand the scientific method;**
2. **Use cellular biology terminology;**
3. **Understand chemical components of the cell;**
4. **Identify** cellular **structures and understand** their **functions;**
5. **Understand cellular respiration;**
6. **Understand photosynthesis;**
7. **Understand cellular reproduction, mitosis and meiosis;**
8. **Understand major principles of evolution**

LECTURES:

1. **Lectures are either 50 minutes duration, three times per week or one hour and** twenty **minutes duration, twice per week for approximately 15 weeks. Lectures are accompanied by a single laboratory period of 3 hours duration per week.**
2. **Text assignments and lecture topics are listed** in the **course outline. Consult the outline for assignments, announced quizes, exam dates, and holidays.**
3. **Supplemental readings may be assigned during the course of the semester.**

LECTURE CONT'D...

4. **Supplemental reference texts are on reserve in the library at the front desk and will include study guides with sample exam questions. These may be used for additional readings, references for lab reports, or for an alternative approach to your text. Please complete required assignments before using supplemental references.**

5. **Adjustments may be made to the lecture Outline, such AS changes in exam dates, or assignments due to conference trips.**

GRADE DETERMINATION:

1. **Separate grades will be given for lecture and laboratory. It is therefore possible to receive different grades for lecture and laboratory.**

2. **Quizes, both announced and unannounced, will be given during the semester. At the end of the semester, the student may substitute the total quiz score average, based on 100%, for one of the lower scored lecture exams, not including the final exam.**

3. **Each student will submit 5 summaries of current events in biology. Each summary will be worth 10 points and instructions and requirements for the written summaries are given on a separate page. Summaries will be included as a portion of the lecture grade.**

4. **The lecture grade will be determined in the following manner.**

1st lecture exam	100 pts.	**Scale**
2nd lecture exam	100 pts.	A = 90%
3rd lecture exam	100 pts.	B = 80%
5 summaries @ 10 pts.	50 pts.	C = **70%**
Two Hour Comprehensive Final Exam	**150** pts.	D = 50%
		below 50%
	500 pts.	=F

5. **Lecture exams will include 10 extra credit points each, while the final exam will <u>not include extra credit</u> points. The final examination is a two hour cumulative exam with 50% of the exam including questions repeated from the previous 3 lecture exams.**

GRADE DETERMINATION CONT'D...

6. **Any exam that the student fails to complete at the expected time can be made up only with a written physician's excuse or valid reason to be determined by the instructor.**

POLICIES, CLASS STANDING, OFFICE HOURS, AND EXTRA HELP:

1. **Attendance is mandatory for each lecture and laboratory. Attendance will be monitored as required for federal guidelines. Attendance for laboratory is especially important. Unexcused absences for both lecture and laboratory will result in grade penalties to be determined by the instructor.**

2. Quizes missed can not be made up. In cases of **excused absences,** quizes will not be **counted.**

3. **Incompletes and early exams are not given. Extra credit work is not normally permitted.**

4. **Students may obtain their grades any time by consulting the instructor. Those with deficient grades will be notified prior to the withdrawal deadline of November 9, 2001. Students receiving deficiencies must consult with the instructor.**

5. **Peer tutoring is available. Please consult the instructor for tutoring from the Learning Center or upperdivision biology students. There is also tutoring available from the publishers of the lecture text that was to start in fall 2001.**

6. **The instructors.** office is in Henry **Hall, Rm 16, phone with Iwamoto.s phone 735-4808, e-mail =** riwamoto@chaminade.edu; **and with Lee-Robinson. phone 735-4804, e-mail =** leerobin@ hawaii.edu. **Office hours are posted on the door of the office. If you can not see us at office hours, please make an appointment or** see us **after lecture.**

7. **Please note that it is biology department policy to reduce grades by one grade level for late assignments within 24 hours of the deadline.** An F **grade is recorded for assignments later than 24 hours. This is for summaries, lab reports, and other assignments.**

POLICIES, CLASS STANDING, OFFICE HOURS, AND EXTRA **HELP CONT'D...**

8. **Those students with special needs, e.g., learning disabilities, should consult with the instructor during the first or second week of classes.**

9. **Academic dishonesty including cheating, plagiarism, and other serious offenses, such as allowing another student to copy a paper, will not be tolerated. Appropriate action will be taken.**

NEW TEXT SUPPLEMENTS:

l. **Several student study guides will be placed in the library on closed reserve exclusively for student use.**

2. **Each purchased text includes an interactive study partner CD-ROM with interactive exercises, animations, lab, and simulations keyed to the** text. **Included are a glossary and 20 test questions per chapter, feedback for answers, and page references for studying.**

3. **A text-related web resource,** *The Biology Place, is* **available to students with web links, interactive learning activities, current research news, and customized practice exams keyed to the** 5th edition.

4. **On-line labs have also been ordered. These may be used during the instructors conference trip or as extra credit.**

Bio. 203/204-Cellular & Organismic Biology Mr. R. **Iwamoto**
Chaminade University of Honolulu

CELLULAR & ORGANISMIC BIOLOGY SUMMARIES

Cellular & Organismic Biology Summaries:

1s Tho objectives of the summaries are threefold:

a. **To read and report on current topics in biology;**
b. **To offer an alternative to quizes and examinations; and**
c. **To participate in "writing throughout the curriculum", compositions in each area of the university curricula. This should help you develop the ability to research and write about selected topics.**

2. **There will be five, one to two paged summaries. Each summary will be worth 10 points and the total will be 50 points that are counted in the lecture grade.**

3. **The summaries must be from a 2001 publication of a newspaper, magazine, journal, or internet/web pages which must be pertinent to the biology field, e.g., not geology or chemistry.**

4. **Summaries are to be word processed or typed following university writing standards. The summary must include: author, title of article; title of journal, magazine, or newspaper with titles of sources, e.g., newspapers italicized or underlined; date of publication; page number(s). Please use the following for web site publications from the APA format:**

Author, I. (Date). **Title of Article. Name of Periodical (Online), XX. Available: Specify path (<URL>date accessed).**

Example:Mestel, **R. (March 1999). Drugs from the Sea. Discover, Vol. 20 No. 3. Available: http://www.discover.com-99/drugs.html, Date accessed 3/8/99.**

5. **Please submit a xerox copy or internet/web page print out of the article with your summary. If you utilize National Geographic or Time articles, you need not xerox the article as the instructors have subscriptions to the above.**

6. **Due dates for summaries are listed on the course outline. Please submit summaries on time as there are penalties for lateness, reduction in one grade level for submission within 24 hours of the deadline and F for those after 24 hours of the deadline.**

7. **Examples of summaries are available for examination during the first weeks of classes.**

CHECKLIST FOR GRADING ESSAYS AND RESEARCH PAPERS
Biology 203/204
2000-2001

Student: **Points / Grade:**

GOOD POINTS	NEEDS IMPROVEMENT
Theme/ focus is clearly stated	Needs clearer theme/focus
Theme is well-developed	Needs deeper analysis
Specific examples are given	Give more evidence
Attempted interpretation	Missing interpretation
Well-structured/ organized	Rethink organization
Has a conclusion	Lacks a conclusion
Clearly written	Needs more synthesis
Well-documented	Needs more sources
Good command of topic	Factual/concept errors
Good synthesis skills	Poor grammar
Good use of references	Multiple spelling errors
Good presentation of data	Poor subject/verb agreement
	Report Format not followed
	Poor presentation of data
	Poor documentation
	No data analysis
	Recommend rewrite

Additional comments:

CHAMINADE UNIVERSITY OF HONOLULU
Honolulu, Hawaii 96816

SESSION: FALL 2001
On Campus

COURSE OUTLINE-SUBJECT TO CHANGE

BIO 20302 (3 Crs) Cellular & Organismic Biology — Mr. R. Iwamoto
Dept. No. #Crs. Title — Instructor

WEEK	DATE			ASSIGNMENTS	
	AUG	*27*	M	Introduction: Syllabus & Course Outline	Chapt. 1 *pp. 1-99*
1	AUG	*29*	*W*	Scientific Method, Characteristics of Life & Evolution	Chapt. *22* pp. *412-427*
	AUG	*31*	F	Continue Scientific Method	
	SEPT	*3*	M	LABOR DAY HOLIDAY, NO CLASSES	
		4	T	LAST DAY TO ADD/DROP CLASSES	QUIZ ON WED
2		*5*	*W*	Continue Evolution	Chapt. *2* *pp. 20-36*
		7	F	Chemical Structure/Function: Atoms, Chemical Bonds, Water	Chapt. *3* *pp. 37-47*
	SEPT	10	M	Chemical Structure/Function: Organic Compounds & Carbohydrates	Chapt. *4* *pp. 48-57*
3		*12*	*W*	Chemical Structure/Function: Lipids and Proteins	**SUMMARY** 1 DUE
		14	F	Chemical Structure/Function: Nucleic Acids	Chapt. *5* *pp. 58-82*
	SEPT	*17*	M	Chemical Reactions & Enzymes-structure & Kinetics	Chapt. 6 *pp. 83-99*
4		*19*	*W*	Microscopy	
		21	*F*	Cell Theory & Structure	Chapt. *7* *pp. 100-129*

	SEPT	24	M	**FIRST LECTURE** EXAM INCLUDING 9/21/01	
5		26	W	Cell Structure: Organelles, Cytoskeleton, & Junctions	Chapt. 8 pp.130-146
		28	F	Cell Structure: Cell Membranes	
	OCT	1	M	Cell Processes: Osmosis & Transport	**SUMMARY** 2 DUE
	OCT	3	W	Histology	Chapt. 35 pp. 678-692 Chapt. 40 pp. 778-783
6		5	F	Cell Respiration: Anaerobic Pathways	Chapt. 9 pp. 147-167
	OCT	8	M	DISCOVERER'S DAY HOLIDAY, NO CLASSES	
7		10	W	Cell Respiration: Aerobic Pathways	QUIZ
		12	F	Cell Respiration: Fats & Proteins	
	OCT	15	M	Photosynthesis	Chapt. 10 pp. 168-187
8		17	W	Photosynthesis: C-3 Pathway	SUMMARY 3 DUE
		19	F	Photosynthesis: C-4 & CAM	
	OCT	22	M	SECOND LECTURE **EXAM** including 10/19/01	
9		24	W	Cell Communication	Chapt. 11 pp. 188-205
		26	F	Cell Division; Mitosis	Chapt. 12 pp. 206-223

	OCT	29	M	Cell Division: Meiosis	Chapt. 13 pp. 226-238 QUIZ
10	OCT	31	W	Assigned Work Due to Instructors Attendance with with students at the Annual Biomedical Research Conference for Minority Students (ABRCMS), Orlando, FL	
	NOV	2	F	ABRCMS Conference	
	NOV	5	M	Genetics: Mendel	Chapt. 14 pp. 239-260
11		7	W	Genetics: Mendelian Crosses	**SUMMARY** 4 DUE
		9	F	Genetics: Mendelian Crosses LAST DAY TO **WITHDRAW** FROM CLASSES	Chapt. 15 pp. 261-277
	NOV	12	M	VETERAN'S DAY HOLIDAY, NO CLASSES	
12		14	W	Genetics: Chromosomes Begin pre-registration for Spring `02	
		16	F	THIRD LECTURE EXAM including 11/14/01	
	NOV	19	M	Molecular Genetics	Chapt. 16 pp. 278-293
13		21	W	Molecular Genetics: Transcription	Chapt. 17 pp. 294-318
		22-23		THANKSGIVING RECESS, NO CLASSES	
	NOV	26	M	Molecular Genetics: Translation	Chapt. 19 pp. 344-363
14		28	W	Genetic Control	QUIZ Chapt. 20
	NOV	30	F	Genetic Control	pp, 364 - 387 SUMMARY 5 DUE

	DEC	3 M	Genetic Technology	
15		5 W	Genetic Basis of Development	Chapt. 21 pp. 388-411
		7 F	Review	

16 DECEMBER 10, 2000, Monday, 10:30 AM-12:30 PM, TWO-HOUR CUMULATIVE FINAL EXAMINATION IN HENRY HALL RM 17

IMPORTANT DATES: *SEPT 4* *LAST DAY Td REGISTER, ADD/DROP CLASSES*

NOV 9 LAST DAY TO WITHDRAW FROM CLASSES

DEC 10 BEGIN FINAL EXAM WEEK