Bio. 204-Cellular & Organismic Biology
MWF 9:00-9:50 or TR 9:30-10:50
3 semester credits, Rm H 17
Chaminade University of Honolulu
3140 Waialae Avenue
Honolulu, Hawaii 96816

Spring 2002
January 14, 2002 to
May 9, 2002
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 204 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 preceded by Biology 203 in the fall semester.

The following is from the 2000-2001 *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, **genetics, 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).**
4. To **study the organisms included in the botanical and zoological fields emphasizing Hawaiian flora and fauna.**

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

5. **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. **Identify biological structures,** such as organs, **and understand their anatomy and physiology.**

2. **Use anatomy and physiology terminology.**

3. **Identify representative flora and fauna, especially of Hawaii.**

4. **Understand** the **diversity** of **organisms including diversity, evolution, and phylogeny.**

5. **Understand how organismal systems are related to each other and cellular level processes.**

6. **Understand ecological relationships between organisms and environment.**

7. **Learn about genetic processes affecting the organism including gene regulation.**

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 and **exam dates, and holidays.**

3. **Supplemental readings may be assigned during the course of the semester.**

LECTURES 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, or announced university activities.

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%
		F = below 50%
	500 pts. total	

5. Lecture exams will include 10 extra credit points each, while the final exam will **not include extra credit points.** The final examination is a two hour comprehensive exam.

6. Any exam that the student fails to complete at the expected time can be made up only with a 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 and 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 an excused absence, the missed quiz will not count.**

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 April 8, 2002. 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.**

6. **The instructors' office is in Henry Hall, Rm 16, with Iwamoto's phone 735-4808, fax (808) 739-4618, e-mail= riwamoto@chaminade.edu and with Lee-Robinson's phone 735-4804, fax (808) 739-4618, e-mail=leerobin@hawaii.edu. Office hours are posted on the door of the office. If you can not see us during office hours, please make an appointment or see us after lecture.**

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

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 giving answers to another student will not be tolerated. Appropriate action will be taken.**

10. **Because electronic devices, such as cellular phones and pagers, can be disruptive to normal classroom activities, please turn off these devices during class.**

NEW TEXT SUPPLEMENTS:

1. **Several 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** Sth edition.

4. **On-line labs have also been included with the customized lab manual. These may be used during the instructors conference trip or as extra credit.**

5. **The publishers have also announced that tutoring will be available** in the **spring through their offices. The instructors will announce if this occurs.**

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

CELLULAR & ORGANISMIC BIOLOGY SUMMARIES

Cellular & Organismic Biology Summaries:

1. The 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 university efforts to strengthen writing in 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 or 2002 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.

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 specified by an instructor for a particular assignment.

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 typed on white 8½" by 11" 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) References and/or footnotes must be used in accordance with standards specified by the instructor. In the absence of such specification, the writer should use standards given in English 102.

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 typists available in the Learning Center.

CHAMINADE UNIVERSITY OF HONOLULU *SESSION: SPRING 2002*
Honolulu, Hawaii 96816 *On Campus*
COURSE OUTLINE-SUBJECT TO CHANGE

BIO 20401 3 Crs) Cellular & Organismic Biology Mr. R. Iwamoto
Dept. No. #Crs. Title Instructor

WEEK	DATE		ASSIGNMENTS	
	JAN 14	M	Introduction: Syllabus & Course Outline	
1	16	W	Mitosis and Meiosis	Chapt. 12 pp. pp. 206-223, Chapt. 13 pp. 224-238
	18	F	Mendelian Genetics	Chapt. 14 pp. 239-260, Chapt. 15 pp. 261-277
	JAN 21	M	Martin Luther King Jr. & Father Chaminade Holiday, no classes	
	22	T	Last Day to Drop/Add Classes	
	23	W	Mendelian Genetics & Gene Structure	Chapt. 16 pp. 278-293
2	25	F	How a Gene WorKD	Chapt. 17 pp-294-318 QUIZ
	JAN 28	M	How a Gene Works & Gene Regulation	Chapt. 19 pp. 344-363
3	30	W	Gene Regulation & Technology	Chapt. 20 pp. 364-387
	FEB 1	F	Taxonomy and Phylogenetic Systematics	**SUMMARY ONE DUE** Chapt. 25 pp. 464-487
	FEB 4	M	FIRST LECTURE EXAM, CHAPTS. 12-17, 19-20	
4	6	W	Diversity of Plants and Animals	Skim Chapts. 28, 29, 31, 33 & 34, Hand-outs
	8	F	Diversity of Plants and Animals	

	FEB	11	M	Animal Evolution/Phylogeny	Chapt. 32 pp. 589-598
5		13	W	Plant Evolution & Phylogeny	Chapt. 29 pp. 546-560, Chapt. 30 pp. 561-573
		15	F	Plant Structure	Chapt. 35 pp. 668-694
	FEB	18	M	President's Day Holiday, no classes	
	FEB	20	W	Plant Structure & Growth	
		22	F	Animal Structure	Chapt. 40 pp. 776-791 SUMMARY 2 DUE
	FEB	25	M	Plant Nutrition	Chapt. 37 pp. 714-729
7		27	W	Animal Nutrition	Chapt. 41 pp. 792-810
	MAR	1	F		Digestion
	MAR	4	M	Digestion	
8		6	W	SECOND LECTURE EXAM, CHAPTS. 25, 28-35, 40	
		8	F	Plant Circulation	Chapt. 36 pp. 695-713
	MAR	11	M	Plant Circulation	
9		13	W	Animal Respiration	Chapt. 42 pp. 811-839
		15	F	Respiration	
	MAR	18	M	Circulation	Chapt. 43 pp. 840-864 QUIZ
10		20	W	Circulation	SUMMARY 3 DUE
		22	F	Immunology	
11	MAR	25-29		Spring Recess, no classes	

	APR	1	M	Excretion	Chapt. 44 pp. pp. 865-892
12		3	W	Excretion & Plant Reproduction	Chapt. 38 pp. 730-750
		5	F	Plant Reproduction	
	APR	8	M	LAST DAY TO WITHDRAW WITHOUT GRADE PENALTY Animal Reproduction	Chapt. 46 pp. 913-935
		10	W	THIRD LECTURE EXAM, CHAPTS. *36,* 37, 41-44	
13		*12*	*F*	Animal Development	Chapt. 47 pp. 936-959
	APR	15	M	Nervous System	Chapt. 48 pp. 960-991 SUMMARY **4 DUE**
14		17	W	Nervous System	
		19	F	Nervous System	QUIZ
	APR	22	M	Nervous System: Senses	Chapt. 49 pp. 992-1023
15		24	W	Plant Hormones	Chapt. 39 pp. 751-77
		26	F	Animal Hormones	Chapt. 45 pp. 893-912
	APR	29	M	Animal Hormones	Chapt. 24 pp. 446-463 & Chapt. 25 pp. 464-472
16	MAY	1	W	Evolution	SUMMARY 5 DUE
		3	Th	Ecology	Chapt. 50 pp. 1026-1052
17				FINAL EXAMINATION: MAY ***6, 2001*** MONDAY, ***10:30-12:30*** AM, HENRY HALL RM 17, TWO-HOUR COMPREHENSIVE FINAL EXAMINATION	

Important Dates:

January 22, Tuesday, Last Day to Add/Drop
April 8, Monday, Last Day to Withdraw from Class, Last Day to Declare Credit/No Credit Option
May 6-9, Monday-Thursday, Final Examination Week

BI 204L - Cellular and Organismic Biology II Lab **Spring 2002**
Chaminade University of Honolulu **Lee-Robinson, Iwamoto**
TR - 2:00-4:50

COURSE SYLLABUS AND OUTLINE

Required Texts:
Wachtmeister and Scott. Encounters with Life. Morton Publishing Company. Sixth Edition. 2001.
Van De Graaf and Crawley. A Photographic Atlas for the Biology Laboratory. Morton Publishing Company. Fourth Edition. 2001.

Course Description:

This is the laboratory to accompany BI 204 - Cellular and Organismic Biology lecture. BI 204-204L are both second semester courses to the beginning biology major's BI 203-204 sequence. This laboratory course is for students desiring advanced studies in the sciences, e.g., biology, forensic science, medicine, dentistry, environmental health, and other areas. This semester is devoted to organismal level concerns stressing phylogenetic, ecological and genetic relations in plants and animals.

The following is from the 2000-2001 General Catalog:

One three-hour laboratory period per week to accompany BI 203 and BI 204. Laboratory work such as thing-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 observe, identify, and discuss plants and animals, both living and preserved, of Hawaiian and introduced species;**
5. **To learn structure and function of cells, tissues, and organs by microscopic viewing, preserved specimens, and dissections.**

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 endemic, indigenous, and exotic organisms,**
3. **properly use and explain the function of dichotomous keys,**
4. **take ecological measurements using specialized equipment,**
5. **identify dissection equipment and terminology,**

6. **identify different organs in dissection specimens like fetal pig,**
7. **identify similar functional organs systems in different animals**
8. **identify muscular, nervous, and skeletal structures,**
9. **identify plant and animal reproductive systems,**
10. identify animal behavior terminology **and patterns.**

Laboratory preparation, outline, and attendance:

1. **preparation of laboratory assignments listed on the lab outline by the student prior to the laboratory is essential for successful completion of the laboratory.**
2. **The laboratory outline is a tentative outline and adjustments may be made with topics omitted or added. Assignments in the laboratory manual are listed in the outline.**
3. **Handout sheets listed on the outline refer to assignments not in the lab manual. The handouts are given in class prior to laboratory and are procedures and instructions for the laboratory.**
4. **Attendance is mandatory for the laboratory. Laboratory absences, with a valid reason to be determined by the instructor, must be made up. Unexcused absences will result in the lowering of the final grade by one letter grade level for each unexcused lab absence.**

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, topics, and page numbers.
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 therefore 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 one minute to identify the organism under a microscope, relate a function of a structure, explain a graph, relate an objective to a specific laboratory, or demonstrate how an instrument functions. Each exam**

BI 204L - Cellular and Organismic Biology II Lab
Chaminade University of Honolulu
TR - 2:00-4:50

Spring 2002
Lee-Robinson, Iwamoto

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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 observe, identify, and discuss plants and animals, both living and preserved, of Hawaiian and introduced species;
5. To learn structure and function of cells, tissues, and organs by microscopic viewing, preserved specimens, and dissections.

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 endemic, indigenous, and exotic organisms,
3. properly use and explain the function of dichotomous keys,
4. take ecological measurements using specialized equipment,
5. identify dissection equipment and terminology,

will include material completed prior to the exam; the second exam will include material covered since the midterm exam.

4. **There will be both announced and unannounced quizzes. Makeup quizzes will not be given.**
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 lab exam	**100 points**
Two lab reports Q 25 points each	**50 points**
Quizzes and position paper	**50 points**
Lab notebook	**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 recommended that students receiving deficiency notices make an appointment to see the instructor.**
2. **Office hours are listed on our office doors. We are also available by appointment.**
3. **Tutoring services are available through the Chaminade University Learning Center. The Biology Department provides upper-class students majoring in biology as tutors. Please contact the instructor regarding availability of tutoring services.**

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"), at 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 a 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 e) page numbers in the lab book.

3. Number the pages in your notebook If unnumbered. Uneven numbered pages are used for field data, or original observations, rough calculations, and unorganized materials. Even numbered pages are used for organized 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 be 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) interpretations-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 an 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 material that is waterproof and streak proof.

4. Do not depend on "the other person" to take your notes, 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 afixed to your notebook. References used should definitely be included with name(s) of author(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.

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 1.5M sucrose placed in isotonic, hypertonic, 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 an 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 an the purposes or objectives of the experiment. It precedes the introduction with single spacing, and is indented. 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. Same 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 included 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 1.) a description of the control and why such a control was utilized and 2) explanations of deviations from the expected 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.

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 and 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 the experiment are included in this section, i.e., questions asked on hand-out sheets.

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

Literature Cited or Useds A part of the report comparable to a bibliography that cites works of others used in the report. You must cite works of others even if direct quotes were not used or you are guilty of plagarism. If direct quotes are used, follow standard English procedures. Be consister 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.

Bio. **203-204L:Cellular & Organismic** Biology Lab

FORMAT AND PROCEDURES FOR LABORATORY REPORTS CONT'D...

1. **Laboratory reports are separate papers** that **are not written into the laboratory notebook.**

2. **Word processed or typed reports are mandatory.**

3. **Reports are due on dates listed in the laboratory outline and those laboratories requiring reports are so indicated in the laboratory outline.**

4. **Two references, other than the laboratory manual, hand-out, or text, are required and are usually used in the introduction section.**

5. **It is expected that correct English grammar, spelling, and syntax be used in reports. Points will be deducted for incorrect usage of English.**

6. **Length of papers is not to exceed 6 pages double spaced with the exception of the abstract and does not include a reference and title page.**

7. **On occasions that require that data from the entire laboratory section be pooled or used, it is the student's responsibility to obtain the results. Obtain the results during the laboratory period and do not wait till the following day or next laboratory.**

8. **Written policies in the syllabus on lateness will be followed. Late papers within 24 hours will be reduced one grade level and papers later than 24 hours will receive F grades.**

CHAMINADE UNIVERSITY WRITING STANDARDS

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

(1) A paper must have a title page on which the writar gives the title, his or her name, the course title, and the data of submission. For short papers, it is usually adequate to provide this information on the first page of the paper.

A paper must adhere to accepted manuscript format.

a) It must be typed on white 8½" by 11' paper (except for in-class essays).

b) It must be double-spaced and typed on only ore side of the paper.

c) It crust have adequate margins on top, bottom, and sides.

d) References and/or footnotes must be used in accordance with standards specified by the instructor. In the absence of such specification, the writar should use standards given in English 102.

(3) A paper must adhere to conventional standards for writtean 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.

*Set 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 then are Also lists of student typists available to the !.earning Center.

BI 204L - Cellular and Organismic Biology II Lab **Spring 2002**
Chaminade University of Honolulu **Lee-Robinson, Iwamoto**
TR - 2:00-4:50 pm

TENTATIVE COURSE OUTLINE

WEEK	DATE	TOPICS	ASSIGNMENTS
	1/15-1/17	Introduction: **Syllabus, Outline, Procedures** **Microscopy**	**Handouts** **Manual: Topic** 2: pp. 11-17; 21 **Atlas:** p. **2**
		Classification & Dichotomous Keys on algae, fish, invertebrates	**Handouts**
	1/22-1/24	**Classification, diversity of plants and animals**	**Manual: p.18-20; Topic** 12: **pp. 97-102** **Atlas: Chs. 3, 7**
	1/29-1/31	**Kaloko Cove Estuary Field Trip: Estuarine & Tidepool Ecology, Adaptations of Endemic & Coastal Plants, Measurements of** pH (pH **meter), temperature, and salinity (refractometer)** **ONE PAGE POSITION PAPER DUE ON FEB. 12 & 14 ON DEVELOPMENT OF EAST OAHU COASTLINE (10 PTS.)**	**Handouts**
	2/5-2/7	**Soil Tests for** pH **and Plant Nutrients, Demonstration of the Bomb Calorimeter Computerized Diet Analysis of Students' Dietary Intake** QUIZ ON KALOKO COVE	**Handouts**
	2/12-2/14	**Digestive System: Begin Fetal Pig Dissection.** **Digestive structures: Dissection of** *Lumbricus* **(earthworm), demos of molluscan radula, echinoderm Aristotle's lantern, baleen from whales, and Squalus (dogfish shark) spiral valve** **DEVELOPMENT OF EAST OAHU COASTLINE PAPER DUE**	**Manual:** Topic 28, pp. **237-243** Atlas: pp. **118-119, 128,163-166;199-205** **Handouts**

2/19-2/21	Oxygen Consumption Experiment: Winkler Oxygen Titration Method of Determining Oxygen Consumption in Fish and Crayfish Respiratory system: Dissection of Fetal Pig Demonstrations of Respiratory structures: gills, trachea, spiracles and stoma LAB REPORT DRAFT DUE 2/26 & 2/28	Handouts Manual: Topic 28, pp. 240-241 Atlas: pp. 125, 199-205
2/26-2/28	Waikiki Aquarium and/or Honolulu Zoo OXYGEN CONSUMPTION DRAFT DUE FINAL OXYGEN CONSUMPTION REPORT DUE 3/19 & 3/21	Handouts
3/5-3/7	MIDTERM LABORATORY EXAM	
3/12-3/14	Plant Respiration and Circulation Circulatory System: Dissection of 'Fetal Pig, Blood Cells, blood Pressure Measurement (Sphygmomanometer), Chemical Effects on Hearts	Manual: Topic 28 pp. 243-247,251-257 Atlas: pp. 9-10, pp. 158-162,199-205
3/19-3/21	Volume Regulation with Sea Hares and Crabs Excretory and Reproductive Systems: Dissection of Fetal Pig Demonstrations of flame cells of Planaria and Dissection of Malpighian tubules of grasshopper OXYGEN CONSUMPTION LAB DUE VOLUME REGULATION LAB REPORT DUE 4/10 & 4/12	Handouts Manual: Topic 28, pp. 247-250; Topic 36, pp. 331-333; pp. 166-168 Atlas :pp. 125, 199-205
3/25-3/29	SPRING BREAK- NO CLASSES	
4/2-4/4	Plant Reproduction: Cone, Flowers, Fruits and Seeds Contraceptive Devices: IUD, Sponge, Condom, Other Types, Sea Urchin Fertilization & Embryology	Handouts Manual: Topic 34: pp. 303-316; Topic 35, pp. 317-330, Atlas: pp. 22, 96-98,169-171

13	4/8	LAST DAY TO WITHDRAW/ LAST DAY FOR CREDIT/NO CREDIT	
	4/9-4/11	Nervous System: Dissection of Sheep Brain, Model of Brain, Ear, Eye, and Skeletal-Muscular System, Rabbit Psoas Muscle Experiment	Manual: Topic 30, p.259-268: Topic 35: p. 269-280 Handouts
		VOLUME REGULATION LAB REPORT DUE	Atlas: pp. 10, 11, 13, 15, 141-157
14	4/16-4/18	Area State Park Hike: Tropical Forest and Freshwater Habitats Use of photometer, sling psychrometer, and transect methods	Handouts
15	4/23-4/25	Animal Behavior: Taxis and kinesis behavior, agonistic display, Mimosa and Hermit crab behavior Dissection of Crab, Clam and Starfish	Manual: Topic 24, pp. 193-194;197-205 Handouts Atlas: pp. 113-114; 126-127
16	4/30-5/1	FINAL LABORATORY EXAM LAB NOTEBOOKS ARE DUE	