

UNIVERSITY OF KENTUCKY

INDEPENDENT STUDY PROGRAM

LEXINGTON, KY. 40506

Biology 304

4 Semester Hours

Genetics

19 Assignments

PREFACE

This course is designed to introduce the science student to the study of genetics and to impart an understanding of its background and current topics. You should have already had a college-level chemistry course and a biology major's level introductory biology course in order to do well here.

The explosion of knowledge in this area over the last 20 years is unprecedented, and due mainly to advances in molecular biology and biochemistry. Practical applications for genetics range from the fields of medicine and agriculture, to anthropology and law enforcement, and a basic grasp of its concepts is necessary in this day for anyone majoring in these disciplines, not just biology.

The required text is *Concepts of Genetics* – William Klug & Michael Cummings; Macmillan Publishing, 2000. It should be available from the University Bookstore, Kennedy's Bookstore, or any reputable bookstore dealing in college textbooks.

The total points for the course = 1000; the assignments are worth a variable number of points each, with matching, multiple choice, discussion questions and problems in each. The assignments all together are worth 600 points; the final exam is worth 400 points. Successful completion of the final is mandatory; no grade will be assigned without a final exam. A total grade below 600 points is considered an E, and no credit will be given.

Grading Scale:

A - 900 - 1000 points

B - 800 - 899 points

C - 700 - 799 points

D - 600 - 699 points

SUGGESTIONS FOR STUDY

The course work is designed to relate to the text, *Concepts*. At the close of each chapter are sample problems and discussions of the various concepts covered. Review these thoroughly. They will aid in working out the problems in the assignments. Also, many times a concept will be covered in more than one chapter, or there will be referrals back to previous chapters, in order to further develop an idea. Sometimes a note in the assignment will refer you to the appropriate page; sometimes mention will be made in the text. You would be well-advised to refer back, for your question answers might be located there. At the end of several of the assignments are supplementary notes on some topics or problem-solving techniques or equations not covered in the text. Be sure to check the Supplement each time. There is also a Student Handbook that you may find useful, published by the same company as the text. It contains solutions to the chapter problems, and also study hints.

When you first receive the Assignment manual, and have the textbook, turn in Assignment 1; then wait until I send you a set of handouts before turning in the next Assignments.

Assignments should be completed and returned as soon as possible after reading the appropriate text chapter(s). Usually the assignments will be graded and returned to the Independent Study Office within 10 days. It would be a wise precaution to keep copies of your work. Sometimes lessons may be lost in the mail, and a copy can be submitted. Be sure to attach a fully-filled out blue cover sheet to each assignment

BIOGRAPHICAL SKETCHES OF THE AUTHORS

DR. JIM CLARK

Dr. Clark received his Ph.D. at Berkeley in 1972, and has taught mycology and genetics at the University for many years. His current research interests are in myxomycete (slime mold) genetics. Among his recent publications are "Myxomycete reproductive systems: Additional information." *Mycologia* 87:779-786 (1995), and "Myxomycete reproductive systems: *Stemonitis* species." *Mycologia* 89: 241-43 (1997). In the fall of 1993 Dr. Clark chaired an international symposium of mycologists in England.

JANE HAY

Mrs. Hay has a B.S. with honors in Zoology and an M.S. in Zoology from the University of Kentucky. She has taught at the secondary and college levels, and was instructor/lab coordinator for Animal Biology labs at U.K. for 20 years. Mrs. Hay is a member of the AAAS and an enthusiastic amateur herpetologist and naturalist.

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