


BIOL 300
Syllabus



LECTURE

Section 1: WHI AUD MW 10:00 – 11:15 de Belle

TUTORIAL

Section 1: WHI 304 T 08:30 – 11:20 Bond

Section 2: WHI 304 T 02:30 – 05:20 Aguila

Section 3: WHI 304 T 05:30 – 08:20 Aguila

Section 4: WHI 304 R 08:30 – 11:20 Bond

Section 5: WHI 304 R 02:30 – 05:20 Wang

Section 6: WHI 304 R 05:30 – 08:20 Wang

INSTRUCTOR

Dr. J. S. de Belle 895-3271 steven.debelle@unlv.edu
Office Hours: WHI 231A T 11:30 – 12:30 or by appointment

TEACHING ASSISTANTS (TAs)

Jerell Aguila 895-2678 aguilaj@unlv.nevada.edu
Office Hours: WHI 205 W 11:30 – 12:30 or by appointment

Nichole Bond 895-2678 nbond@unlv.nevada.edu
Office Hours: WHI 205 R 11:30 – 12:30 or by appointment

Xia Wang 895-4657 wangx3@unlv.nevada.edu
Office Hours: WHI 258 T 10:00 – 11:00 or by appointment

RESOURCES

Required: *An Introduction to Genetic Analysis, 8th Edition*
Griffiths, Wessler, Lewontin, Gelbart, Suzuki and Miller

*Solutions MegaManual for
Introduction to Genetic Analysis, 8th Edition*
Fixsen, Johnson, Merriam and Young

Suggested: *Schaum's Outlines: Genetics, 4th Edition*,
Elrod and Stansfield

Web Page: <http://www.unlv.edu/faculty/debelle/biol300/>

COURSE DESCRIPTION

Genetics is an introductory 4-credit course intended for Biology majors, dealing with the transmission, structure and function of genetic material. Why study *Genetics*? *Genetics* and Evolution are the two pivotal and defining subjects in Biological Science. *Genetics* plays a central role in the affairs of people and society, and no thinking person – especially students of Biology – can afford to be ignorant of its principles and implications. Finally, the study of *Genetics* requires logic and thought, rather than rote memorization and reiteration. It is therefore challenging, but engaging and rewarding when students invest sufficient effort in learning the material. These are also the reasons why *Genetics* is viewed as a performance assessment tool by Life Sciences professional schools in their consideration of applicants for admission to their programs.

Lecture material and tutorials are the two main components of *Genetics* in Fall 2006. It will be a paperless course whenever possible, with all materials (excluding books and exams) available on the *Genetics* web page. There you will find the calendar of events, lecture notes, tutorial assignments, exam solutions, grades and other relevant material. Students are responsible for acquiring all course information from this source, as we will not provide printed copies of any documents (including this one).

LECTURE

Attendance to lectures is compulsory. Randomly administered **quizzes** at the beginning or end of lecture periods will reinforce this habit. Assigned readings are listed for each lecture in the course calendar, and should be completed **before** class. **Quizzes** will encourage this habit as well. They will be based on a rudimentary understanding of this literature, reflecting material to be covered in detail that day in class. Homework, in the form of problems that correspond with lecture material, will be assigned in class and will provide the main focus of your efforts during tutorial sessions (see below). We strongly suggest that students also attempt the practice problems found in *Schaum's Outlines: Genetics*. We also recommend that students form study groups to assist in comprehension of course material. Students wishing assistance in establishing or joining a study group, or in locating a suitable venue for group meetings should contact the instructor. Lectures 03 – 05 on 09.06 – 09.13 will be provided by Dr. C. Vanier.

TUTORIAL

Lecture material and assigned homework will be reviewed in tutorials that are designed to help students prepare for exams. Attendance in tutorials is compulsory, since grades will be derived exclusively from participation. To ensure adequate understanding of the course material, students will be selected to explain basic principles and solutions to assigned problems at the board in front of their tutorial sections. On the Wednesday preceding each tutorial, six problems will be posted on the *Tutorial* section of the *Genetics* web page. These questions may be taken from (1) the text book, (2) *Schaum's Outline – Genetics*, or (3) previous exams. Students should work through these problems, either on their own or with their assigned tutorial group, prior to attending their tutorial session the following week. In the first part of each tutorial (about 60 min), students will work in groups of 3-4, with the aid of their TA, preparing solutions to

assigned problems for presentation. In the second part (about 90 min), individuals will be selected by the TA to explain solutions to assigned problems in front of the tutorial section. Presentations will be not longer than 10 min in length, and should include a brief introduction outlining basic principles being addressed. A 5 min question and answer period will follow each presentation, during which time the audience (also being evaluated) is encouraged to participate. No audiovisual aids other than a chalkboard can be used. Each student will present twice during the semester. Performance of the speaker, the presenting group and audience will be evaluated separately. The Audience will participate in the evaluation process. Additional assignments may be given at the discretion of the TA.

EXAMS

Two midterm exams will be given during regular lecture periods (see above). A midterm exam may be taken as makeup exam only if approved by the instructor **at least 1 week prior to the exam date**. The format of makeup exams is at the discretion of the instructor. The final exam will be held in WHI AUD from 10:10 to 12:00 on Monday, December 11th during final exam week. There will be no makeup final exam.

COURSE OBJECTIVES

Students completing this course successfully will be trained to a proficiency expected of Biology majors entering their senior year of study, providing an academic base for upper-level courses in Genetics, Cell Biology, Molecular Biology and Evolutionary Biology. This will include knowledge of the following subjects and skills:

- scientific method and formulating a hypothesis
- logic and problem solving
- classical genetics and the laws of heredity
- probability theory and statistical analyses in genetics
- sources and induction of genetic variation
- the physical basis of heredity
- linkage, recombination and gene mapping
- cytogenetics and chromosome mechanics
- genetic complementation and the nature of genes
- structure and function of nucleic acids, genes, chromosomes and genomes
- molecular genetics of variation
- presenting and defending ideas, logic, and solved problems in front of a group

INSTRUCTOR'S RESPONSIBILITIES

1. to be prepared for each lecture;
2. to present the most important information in a clear and concise fashion;
3. to be available outside of the class to answer questions;
4. to reply to electronic mail promptly; and
5. to return assigned homework and exams in a timely fashion.

STUDENT'S RESPONSIBILITIES

1. to attend classes and tutorials;
2. to read assigned literature before lectures;
3. to prepare solutions to assigned problems before tutorials;
4. to study regularly and thoroughly for exams;
5. to seek assistance from the instructor or TA when appropriate;
6. to check the web page regularly; and
7. to bring a black pencil, pen, calculator and photo ID to all exams.

GRADES

Final grades will be based on a standard percentage scale, but may be curved or otherwise adjusted at the discretion of the instructor.

				%	Grade
				90 – 100	A
				86 – 89	A ⁻
				82 – 85	B ⁺
				78 – 81	B
				74 – 77	B ⁻
				70 – 73	C ⁺
				66 – 69	C
				62 – 65	C ⁻
				58 – 61	D ⁺
				54 – 57	D
				50 – 53	D ⁻
				0 – 49	F
Final Grade:				Σ	100

DISABILITY

If you have a documented disability that requires assistance for this course, please contact the Disability Resource Center (Reynolds Student Services Complex 137, telephone 895-0866 or TDD 895-0652) to coordinate your assistance.

RELIGIOUS HOLIDAYS

Students who expect to miss any aspect of this course because of a religious holiday must notify the instructor **in writing** by **Monday, September 1st**. In cases of such schedule conflicts, students will be permitted to write a makeup exam or hand in course material on the following day.

CHEATING, PLAGIARISM & ACADEMIC DISHONESTY

“No form of academic dishonesty is acceptable. While maintenance of an atmosphere of academic integrity is the responsibility of all, the faculty is principally responsible for enforcement of these standards. Academic dishonesty includes any act that violates the academic processes of the university. These acts include, but are not

limited to, cheating on an examination, stealing examination questions, substituting one person for another at an examination, violating the procedures of a national or state examination, falsifying data, destroying or tampering with or stealing a computer program or file, and plagiarizing (using as one's own the ideas or writings of another) (UNLV Undergraduate Catalogue, Fall 2004 – Spring 2006, pp. 58-9). Students who cheat will be expelled from the course, receive a grade of "F", and receive additional disciplinary action as outlined in the University and Community College System of Nevada document, *Rules and Disciplinary Procedures for Members of the University Community*.

IMPORTANT DATES

- first class: M.08.28
- final registration: F.09.01
- Labor Day recess: M.09.04
- first tutorial: T.09.19 (sections 1-3) or R.09.21 (sections 4-6)
- first midterm exam: M.10.09
- drop (no penalty): F.11.03
- second midterm exam: M.11.13
- Thanksgiving Day recess: R.11.23
- third & final exam: M.12.11