



MOLECULAR GENETICS

Biology 304 –Spring 2016

Section 1001

Class Meetings: Mondays and Wednesdays

Meeting Time: 2:30–3:45 PM

Meeting Place: TBE A-107

COURSE DESCRIPTION

COURSE DESCRIPTION/LEARNING OUTCOMES:

BIOL 304 is primarily intended for biological-sciences majors interested in obtaining a broad background in the molecular mechanisms that govern genetic principles. The class can either satisfy the genetics core requirement for majors (Biol 300 or 304) OR it can be applied as an upper division biology class. It does not satisfy both requirements.

This course is designed to cover the basic principles of molecular genetics, and it is expected that upon conclusion, students will become proficient in the following areas:

- An understanding of the basic structure and function of genes in prokaryotes and eukaryotes
- An understanding of how genes are transmitted from generation to generation in prokaryotic and eukaryotic systems
- An understanding of how genetic mutations lead to genetic variation and allele interactions
- Knowledge of the basic genome organizations in all groups of organisms
- Knowledge of how transposable elements and viruses shape organismal genomes
- A mechanistic understanding of protein synthesis in all organisms
- A mechanistic understanding of how genes are expressed and regulated in eukaryotes
- A basic understanding of genome packaging and chromatin structure
- Understanding how genome packaging leads to epigenetic effects and epigenetic inheritance
- A basic understanding of how recombinant DNA technology is re-shaping modern society
- A basic understanding of how whole-genome genotyping is leading to a revolution of personalized medicine

Enrollment requires attendance of two 75-minute lectures AND one ~2-hour discussion section each week for this 4-credit course.

BIOL 304 is an intensive course in which students must acquire a firm conceptual understanding of several basic principles. The content has been standardized by the Faculty of the School of Life Sciences. Thus, it must provide the necessary foundation for the majority of the upper division courses in this major area, and it is on par with similar molecular genetic courses at major research universities in the US. The course material is very straight forward,

but because of the breadth of material covered, the pace is demanding. For that reason it is essential that the student be adequately prepared for this class and that he/she allot sufficient time for study. **It is strongly suggested that students complete the relevant text readings prior to attending class. When preparing for lectures/exams and allocating study time, consider the following:**

- Student-faculty contact in and out of class is an important factor in student motivation/involvement/success. In other words, students should not be afraid to ask questions in class and during office hours because they will learn more!
- According to education researchers, students learn only about 50% of what they read, hear, and see (equivalent to reading the textbook and attending lecture). The most effective learning strategy involves talking to the instructor and classmates about what students have learned from the lecture and the text, writing about it, relating it to past experiences, and applying it to their daily lives.
- A full-time course-load is a full-time job that requires 40 or more hours per week. This class represents about **1/4 of a full course load**, and thus requires that **students set aside about 10-15 hours per week** to attend lectures, read the text, meet with study groups, transcribe class notes, and STUDY those notes. In order to do well in this class, students must develop good habits for concentrated periods of uninterrupted study.

This class will emphasize a conceptual understanding of several genetics phenomena. Successful completion of this course will require the ability to think logically and to apply basic chemical, physical, and mathematical principles to an understanding of how genes function at the molecular level.

PREREQUISITES:

A grade of C or better in each of the following: BIOL 196, BIOL 197, CHEM 121, CHEM 122, ENG 101, ENG 102, and MATH 127 or higher OR permission of instructor.

REQUIRED CLASS MATERIALS:

- 1) "Lewin's *Genes XI*" (2014), by Krebs, Goldstein, Kilpatrick. Available at the UNLV bookstore and through several online booksellers. Students who use earlier editions of the text (*Genes VIII, IX, X*, etc) do so at their own risk because these editions are not endorsed by the instructor.
- 2) "*Molecular Genetics*" discussion manual, 2nd edition (2014), by Parafianowicz *et al.* Available at the UNLV bookstore. This is a required text for the Discussions so make sure to purchase the second edition.
- 3) **i-Clicker™** remote for rapid classroom responses. Any of these **THREE** remotes will work: Traditional i-Clicker, i-Clicker +, or i-Clicker-2 (currently sold at the UNLV Bookstore). Note that the i-Clicker-Go system for smartphones or laptops will **NOT** be available for this class (too easy to vote from home).

CLASS POSTINGS ON WEBCAMPUS:

WebCampus will be used in this course to list the syllabus, announcements, class outlines, lecture notes, and study guides. It will also be used to report grades and for e-mail correspondence between students and the instructor. Class outlines will be posted 24 hours prior to lecture and complete lecture notes will be posted AFTER each lecture (usually within 24 hours). A WebCampus page has been created for this course. Login instructions are available at (<http://webcampus.nevada.edu>). In addition to providing notes, WebCampus provides a confidential means of communicating with your instructor and for viewing grades. **Please note that the instructor will only accept e-mails from students using the WebCampus system.** Using WebCampus ensures that a student's e-mail is not blocked by spam or lost in other mailboxes or servers. Students who are having problems using WebCampus should call the Student Computing Support Center (895-0761).

REBELMAIL:

If Webcampus is unavailable, students should use their Rebelmail accounts to e-mail the Instructor or TAs. Because of UNLV policy, faculty and staff can only e-mail students or respond to student e-mail inquiries if they are received from **Rebelmail accounts**. Rebelmail is UNLV's Official e-mail system for students. It is one of the primary ways students receive official University communication such as information about deadlines, major campus events, and announcements. All UNLV students receive a Rebelmail account after they have been admitted to the University. Students' e-mail prefixes are listed on class rosters. The suffix is always @unlv.nevada.edu.

I-CLICKERS AND IN-LECTURE QUIZZES:

All students must purchase and keep maintained (have extra batteries on hand) an i-clicker remote (see above for acceptable remote models). It is important to note that the i-clicker system is not intended to penalize students or force them to come to class. If used properly it will test student comprehension of the material, provide them with sample questions, and allow them to anticipate the level of study that is necessary to do well in the class. The clicker remote system is highly sensitive and accurate.

In order to use the clicker for class questions, the student must register the i-clicker remote by following the instructions from the system's website (<http://www1.iclicker.com/register-an-iclicker>). The student will be asked to fill in five blanks: First name, last name, student (NSHE) ID, remote ID, and image code. If the remote number has been rubbed out and is no longer legible, the instructor will be able to retrieve that information (at an office hour, not during class) to help the student complete the registration. Note that the system will continue to record the use of the clicker even if the remote is not registered so no points will be lost as long as the remote is eventually registered. Clickers are not interchangeable and the same registered remote is needed for each class. ***If a student must purchase or replace a defective remote, he/she must notify the instructor so that the attendance record can be transferred.***

To get credit for the i-clicker for that particular day, students MUST BE PRESENT on ALL i-clicker polls, otherwise the student will be marked ABSENT for that day. I-clicker credits would be reported as a percentage of the days that the student is present in the lecture over the total days that the polls were administered. To get any credit, students must have attended at least 50% of the entire class meetings. Below 50%, students will get a ZERO for i-clicker attendance.

THE INSTRUCTOR WILL NOT be responsible for polls that did not go through. It is the student's responsibility to make sure that his/her i-clicker is operational during the class.

Students are reminded that lending or accepting another student's remote for the purpose of receiving fraudulent in-class credit are committing academic misconduct (cheating), as such they will be turned over to the Office of Academic Integrity for disciplinary actions (see below). To ensure compliance with the policy, the instructor will record a digital image of the class for each question. If attendance becomes an issue, the student will have to be identified on the seating image in order to avoid being charged with academic misconduct.

LECTURE EXAMS:

Three lecture exams will consist of 50 multiple-choice questions. These exams will be based upon lecture material reinforced from readings in the text. In addition, a **comprehensive final** will be given during finals week. For the final, 50 multiple-choice questions will be derived from the last quarter of the class, and 10 two-point short answer questions will be derived from earlier material. Study guides will be provided and posted on WebCampus to aid students in preparing for lecture exams.

EXAM POLICIES

All Biol 304 students must comply with the following policies to provide a reasonable and unbiased testing environment.

- All students must present a valid photo ID when handing in their exam.
- Electronic dictionaries, translators and calculators are prohibited during all exams.
- Cell phones and all other electronic devices must be turned off and put away during all examinations.
- All course materials (notes, books, etc.) must be placed underneath the desk seat during the exam.
- Hats, dark glasses, and anything else that obscures a student's face must be removed during the exam.
- Students may not hum, speak, sing or eat during the exam.
- **Students may not leave and return to the room during the exam without consent of the instructor.**

- EXAMS WILL NOT BE DISTRIBUTED 20 MINUTES AFTER EXAM HAS STARTED.

- The instructor and proctors **will not answer questions** or have discussions during the exam. If students are concerned about a particular question, they may submit a type written statement to the instructor after the exam.
- Discussion Instructors (TAs) will proctor the exams. Proctors will inform the instructor if they suspect students are attempting to cheat. The UNLV Office of Student Conduct regards observations and statements from proctors as valid evidence.
- Students must notify either the instructor or a proctor **during the exam period** if an exam is missing questions or pages. No compensation will be given if the instructor is notified after the exam has ended.

- After the exams are graded, students will receive a copy of the graded scantron form. The instructor keeps all exam books and original scantron forms; exam books and original scantrons are not returned to students.
- If a mathematical grading error occurred, please bring it to my attention immediately. Points will **not** be awarded any other reason. Please do not email or call with requests for grades as I will not reply.

STUDENTS MUST COMPLY WITH THE FOLLOWING GUIDELINES IN ORDER FOR AN EXAM TO BE GRADED:

- The student must fill out and sign the exam and academic misconduct policy certification form.
- The student's NSHE ID number must be correctly entered on the scantron form.
- The student's lab section must be clearly indicated on the scantron form.

USING A SCANTRON FORM

The following guidelines must be followed **to ensure the correct grading of a scantron** answer sheet. (1) No. 2 Pencil must be used to record answers. (2) No stray marks may appear on the scantron form. (3) All erasures must be complete and clean. (4) The correct KEY ID “bubble” for a particular version of the exam must be filled in. Failure to adhere to these guidelines will result in an inaccurate grade.

Under all circumstances, the following situations will **result in an incorrect** answer. (1) Filling in more than one answer “bubble” for a particular question. (2) Erasure marks that obscure or make it difficult to determine the intended answer. (3) Folding, tearing, or otherwise damaging the scantron form in a manner that makes it difficult to determine the intended answer. (4) Not answering a question.

REVIEWING EXAMS and DISCUSSION QUIZZES:

Students are given two (2) weeks to review the exam or quiz after it has been graded. After two weeks and no questions were raised, the instructor can assume that the student is satisfied with his/her score. The instructor has the right to refuse re-grading of any exam or quiz after two weeks.

MAKE UP EXAMS:

Make up exams are provided **ONLY** for those students presenting proper documentation for the missed exam. Make up exams may be provided to a student if he/she has to miss an exam for any of the following reasons:

- 1). The exam falls on a University sanctioned religious holiday and if the student can provide written documentation from a religious authority such as a priest, rabbi, or minister **PRIOR** to the exam.
- 2). A student must miss an exam to attend a University sponsored activity such as a sporting meet or academic competition. In this case the student must provide written documentation from the athletic director or coach before the exam.

3). A student misses an exam due to a medical or legal emergency in which a student had to see medical help or attend a court-mandated hearing. In this case the student must provide the written documentation within **ONE WEEK** of the missed exam and the excuse from a physician or court clerk must list the date and time of the emergency visit, office visit, or court hearing.

4). A student must miss an exam because of interview for professional school or to attend a scientific conference in which he/she is presenting. In this case the student must provide written documentation one week before the scheduled exam.

No other excuses will be accepted and if a student misses an exam without an accepted excuse, he/she will receive a **ZERO** for that exam.

The format of the make up exam may be different from the regular exam. It may consist of 25 short answer questions that are each worth 2 points. The student must make arrangements to make up the missed work within one week of the absence.

Make up exams are **NOT** permitted for a missed **FINAL** exam. If a student must miss the final for any of the four reasons outlined above, he/she will receive an incomplete 'I' grade for the course. The student must then make arrangements with the instructor to take the final exam after the course has ended, and he/she must complete the missed exam before the end of the next semester. After taking the final, the student's grade will be tabulated and the 'I' grade will be replaced with the grade earned. **Note that an "incomplete" can only be granted to students who miss the final due to a DOCUMENTED emergency. In addition, to be eligible for an incomplete grade, a student must be receiving a passing grade in the class at the time of the final.**

If course requirements are not completed within the time indicated, a grade of F will be recorded and the GPA will be adjusted accordingly. Students who are fulfilling an Incomplete do not register for the course but make individual arrangements with the instructor who assigned the I grade.

Lastly, remember it is the student's responsibility to physically drop the class. A failure to attend lectures and exams does not result in an administrative drop. Failure to drop a class usually results in an 'F' on the student transcript.

DISCUSSION SECTIONS:

To enroll in Biology 304, students are required to register for a separate Discussion section. The purpose of these sessions is to supplement the material and to use a small-group, student-participation-oriented format to reinforce difficult concepts that are presented in lecture. Topics covered in these Discussions will correspond to lecture topics, but the material may be presented one week earlier or one week later to accommodate multiple Discussion schedules. Students must participate in the Discussions because weekly quizzes will be administered and more than 30% of the course grade will be derived from student performance in them. Each Discussion section will be on its own schedule. As such students may only attend the section for which they have registered. **During the semester, Discussion instructors will not allow students to move from one section to another even if it is taught by the same instructor. Unexcused absences will not be tolerated in Discussions. Students are allowed to miss a maximum of FOUR (4) discussion sessions (excused or unexcused). Students who have missed MORE than FOUR sessions will automatically receive a ZERO for the Discussion portion of the class.**

GRADING:

Final grades are based on the combined numerical scores from the three midterm exams, the final exam, and the grade from the Discussion section. **Grades are REPORTED as STRAIGHT LETTER GRADES (no plusses or minuses).**

Letter grades will not be assigned to individual examinations. To evaluate a performance as the semester progresses, the following cutoffs can be used:

90%- ABOVE for A

80-89 % for B

70-79 % for C

60-69 % for D

59 % or below for F

Note that these cutoffs are based on past performances of the class and are subject to change at the discretion of the instructor. In the past, final grades have not differed from these cutoffs. Students should NOT expect “curves” to the grade distributions. Grade scores for each exam will be posted on Webcampus, usually within one week of the exam date. Only students presenting the proper login information will have access to this information from this secure website.

GRADE DISTRIBUTION:

3 lecture exams = 150 points
Discussion Quizzes = 100 points
1 final exam = 70 points
= 320 points (=100%)

i-clicker Attendance: EXTRA credit= 1%

CLASS ATTENDANCE OF LECTURES:

Attendance of the lecture classes is strongly advised. Past experiences have demonstrated that there is a very high degree of correlation between students who do well (receive As or Bs) in the course and those who attend the lecture classes. Lecture exams will be based almost entirely on the material presented in class. The required reading of the textbook is designed to clarify concepts in class and provide more background. Most lectures will follow the book closely, but often newer and more relevant material will be provided in class that is not available in the book. **Students should download the outlines and lectures, come to class, and take good notes!** A class roll call will be conducted each day through the i-clickerTM system. Students must have access to Acrobat Reader and a valid UNLV e-mail account to receive outlines, notes, and study guides through WebCampus.

CLASSROOM CONDUCT:

The University requires that all students behave in class and in libraries in ways that do not interfere with the right of other students to learn or of instructors to teach. Behaviors such as talking or reading newspapers or magazines during lecture, late and/or disruptive arrival, early and/or disruptive departure, having a cell phone ring, texting, surfing the web, or any other actions that compromise the classroom learning environment is extremely rude. **The instructor maintains a zero-tolerance policy on these activities and will single the student out if they**

occur! First-time offenders may be embarrassed, but serial offenders face stiffer consequences, which may include administrative ejection from the course. Students should be aware that they are not anonymous in this class and that bad behavior will be dealt with as such.

It is important to remember that the instructor wants the students to do well in this class, thus many extra benefits are provided (online outlines, posted lecture notes, extra credit points). Students should visit office hours or make office appointments if they are having trouble comprehending the course material or studying for exams. These problems, if corrected early, can often help the student avoid receiving a grade that does not reflect his/her efforts and expectations for the class.

Because this class encompasses so much material, it is important that it starts promptly at 2:30 PM. Please make every effort to come to class on time. If you MUST be late, please be considerate of your classmates when entering the room after instruction has begun.

LIBRARY RESOURCES:

Students may consult with a librarian on research needs. For this class, the subject librarian is https://www.library.unlv.edu/contact/librarians_by_subject. UNLV Libraries provides resources to support students' access to information. Discovery, access, and use of information are vital skills for academic work and for successful post-college life. Access library resources and ask questions at <https://www.library.unlv.edu/>.

TUTORING AND COACHING:

The Academic Success Center (ASC) provides tutoring, academic success coaching and other academic assistance for all UNLV undergraduate students. For information regarding tutoring subjects, tutoring times, and other ASC programs and services, visit <http://www.unlv.edu/asc> or call 702-895-3177. The ASC building is located across from the Student Services Complex (SSC). Academic success coaching is located on the second floor of the SSC (ASC Coaching Spot). Drop-in tutoring is located on the second floor of the Lied Library and College of Engineering TEB second floor.

UNLV WRITING CENTER:

One-on-one or small group assistance with writing is available free of charge to UNLV students at the Writing Center, located in CDC-3-301. Although walk-in consultations are sometimes available, students with appointments will receive priority assistance. Appointments may be made in person or by calling 702-895-3908. The student's Rebel ID Card, a copy of the assignment (if possible), and two copies of any writing to be reviewed are requested for the consultation. More information can be found at: <http://writingcenter.unlv.edu/>

DISABILITY ASSISTANCE (DRC):

The UNLV Disability Resource Center (SSC-A 143, <http://drc.unlv.edu/>, 702-895-0866) provides resources for students with disabilities. If you feel that you have a disability, please make an appointment with a Disabilities Specialist at the DRC to discuss what options may be available to you. If you are registered with the UNLV Disability Resource Center, bring your Academic Accommodation Plan from the DRC to the instructor during office hours so that you may work together to develop strategies for implementing the accommodations to meet both your needs and the requirements of the course. Any information you provide is private and will be

treated as such. To maintain the confidentiality of your request, please do not approach the instructor in front of others to discuss your accommodation needs.

ACADEMIC MISCONDUCT:

Academic integrity is a legitimate concern for every member of the campus community; all share in upholding the fundamental values of honesty, trust, respect, fairness, responsibility and professionalism. By choosing to join the UNLV community, students accept the expectations of the Student Academic Misconduct Policy and are encouraged when faced with choices to always take the ethical path. Students enrolling in UNLV assume the obligation to conduct themselves in a manner compatible with UNLV's function as an educational institution. An example of academic misconduct is plagiarism. Plagiarism is using the words or ideas of another, from the Internet or any source, without proper citation of the sources. See the Student Academic Misconduct Policy (approved December 9, 2005) located at: <https://www.unlv.edu/studentconduct/student-conduct>.

All exams and written assignments are to be done individually. Evidence to the contrary will be deemed as academic misconduct. The instructor maintains a zero-tolerance policy on academic dishonesty, which is a very serious offense that can result in expulsion from the course, a grade of "F" for the entire course, and other possible disciplinary action. Additional information regarding UNLV's policies on academic misconduct can be found at (<http://studentlife.unlv.edu/judicial/misconductPolicy.html>). The following actions are examples of academic dishonesty:

- Copying graded homework.
- Working together on a take-home test or homework when specifically prohibited by the professor.
- Looking at another student's paper during a quiz or exam.
- Lending an i-clicker to another student so you can receive fraudulent in-class credit.
- Using another student's i-clicker to help them receive fraudulent in-class credit.
- Looking at your notes when prohibited.
- Taking an exam out of the classroom (either in person or by using electronic means) when prohibited.
- Giving your work to another person to be copied.
- Giving someone answers to exam questions during the exam.
- After taking an exam, informing a person of questions that appeared on the exam.
- Giving or selling a term paper or class work to another student.
- Copying homework answers from a textbook and handing them in for a grade.
- Quoting text or other works on an exam, term paper or homework without citing the original source.
- Handing in a paper purchased from a term paper service or from the Internet.
- Handing in another person's paper as your own.
- Taking a paper from an organization's files and handing it in as your own.
- Passing information from an earlier class to a later class.
- Having someone take your test for you.
- Changing a graded paper and requesting that the paper be regraded.
- Transferring a computer file from one person's account to another.

Plagiarism can take several forms. The most obvious form of plagiarism is the purchase of prepared papers from another student or from commercial term paper companies and the submission of such papers as one's own work. Another example is using the words or ideas of another, from the Internet or any source, without proper citation of the sources.

COPYRIGHT:

The University requires all members of the University Community to familiarize themselves **with** and to follow copyright and fair use requirements. **You are individually and solely responsible for violations of copyright and fair use laws. The university will neither protect nor defend you nor assume any responsibility for employee or student violations of fair use laws.** Violations of copyright laws could subject you to federal and state civil penalties and criminal liability, as well as disciplinary action under University policies. Additional information can be found at: <http://www.unlv.edu/provost/copyright>.

TRANSPARENCY IN LEARNING AND TEACHING:

The University encourages application of the transparency method of constructing assignments for student success. Please see these two links for further information:

<https://www.unlv.edu/provost/teachingandlearning>

<https://www.unlv.edu/provost/transparency>

RELIGIOUS HOLIDAYS POLICY:

Any student missing class quizzes, examinations, or any other class or lab work because of observance of religious holidays shall be given an opportunity during that semester to make up missed work. The make-up will apply to the religious holiday absence only. It shall be the responsibility of the student to notify the instructor within the first 14 calendar days of the course for fall and spring courses (excepting modular courses), or within the first 7 calendar days of the course for summer and modular courses, of his or her intention to participate in religious holidays which do not fall on state holidays or periods of class recess. For additional information, please visit: <http://catalog.unlv.edu/content.php?catoid=6&navoid=531>.

INCOMPLETE GRADES:

The grade of I—Incomplete—can be granted when a student has satisfactorily completed three-fourths of course work for that semester/session but for reason(s) beyond the student's control, and acceptable to the instructor, cannot complete the last part of the course, and the instructor believes that the student can finish the course without repeating it. The incomplete work must be made up before the end of the following regular semester for undergraduate courses. Graduate students receiving 'I' grades in 500-, 600-, or 700-level courses have up to one calendar year to complete the work, at the discretion of the instructor. If course requirements are not completed within the time indicated, a grade of F will be recorded and the GPA will be adjusted accordingly. Students who are fulfilling an Incomplete do not register for the course but make individual arrangements with the instructor who assigned the I grade.

REBELMAIL:

By policy, faculty and staff should e-mail students' Rebelmail accounts only. Rebelmail is UNLV's official e-mail system for students. It is one of the primary ways students receive official university communication such as information about deadlines, major campus events,

and announcements. All UNLV students receive a Rebelmail account after they have been admitted to the university. Students' e-mail prefixes are listed on class rosters. The suffix is always @unlv.nevada.edu. **Emailing within WebCampus is acceptable.**

FINAL EXAMINATIONS:

The University requires that final exams given at the end of a course occur at the time and on the day specified in the final exam schedule. See the schedule at:

<http://www.unlv.edu/registrar/calendars>.

SEXUAL HARASSMENT:

It is the policy of UNLV to maintain the University Community as a place of work and study for staff, faculty, and students free of sexual harassment and all forms of sexual intimidation and exploitation. The determination of what constitutes sexual harassment will vary with the particular circumstances, but it may be described generally as repeated and unwanted sexual behavior, such as physical contact and verbal comments or suggestions that adversely affect the working or learning environment. Anyone who is subjected to offensive sexual behavior is encouraged to pursue the matter through the Office of Diversity Initiatives (Tel. 895-3891). Contacts are confidential.

WEAPONS AND FACSIMILES:

Dangerous weapons are not permitted on campus without the express written approval of the Director of the Office of Public Safety. This policy applies to all persons on the UNLV campus, except law enforcement officers in pursuit of their duties. Facsimile weapons are also banned.

SAMPLE

BIOL 304 (SECTION 1001)
COURSE CONTENT AND MEETING TIMES – SPRING 2016

Instructor: Dr. Nora Caberoy

Class Meetings: Mondays and Wednesdays, 2:30-3:45 PM, TBE A-107

Text: Lewin's Genes XI (2014) by Krebs, Goldstein, Kilpatrick

Discussion Manual: Molecular Genetics Discussion Manual (2014), **Second Ed.** by Parafianowicz et al.

| Meeting Date | | Class and Topic | Text Readings Chapter(s):Pages |
|-------------------|------------------------------|---|-------------------------------------|
| Mon | Jan 18 | Martin Luther King Day-No Class | |
| Wed | Jan 20 | 1.1: Syllabus Intro/LANGUAGE OF GENETICS | Class Notes |
| Mon | Jan 25 | 1.2: GENES and DNA | 1:2-25 |
| Wed | Jan 27 | 1.3: GENES and ALLELES | 2:26-41; 4:81-99 |
| Mon | Feb 01 | 1.4: GENOMES and PERSONALIZED MEDICINE | Nova Video Transcript |
| Wed | Feb 03 | 1.5: GENOMES and GENE DISTRIBUTION | 5:100-119; 6:120-125 |
| Mon | Feb 08 | 1.6: GENOMES and REPETITIVE DNA | 6:125-140; 7:141-160 |
| Wed | Feb 10 | 1.7: GENOME EVOLUTION and GENOME PACKAGING | 8:161-191; 9:192-222 |
| Mon | Feb 15 | Washington's Birthday- No Class | |
| Wed | Feb 17 | 2.1: CHROMATIN STRUCTURE | 10:223-264 |
| Mon | Feb 22 | EXAM 1 (covers 1.1 through 1.7) | ----- |
| Wed | Feb 24 | 2.2: DNA REPLICONS | 12:286-303; 14:328-353 |
| Mon | Feb 29 | 2.3: DNA REPLICATION | 13:304-327 |
| Wed | Mar 02 | 2.4: GENERAL RECOMBINATION | 15:354-394 |
| Mon | Mar 07 | 2.5: DNA REPAIR SYSTEMS | 16:395-423 |
| Wed | Mar 09 | 2.6: MOBILE GENETIC ELEMENTS | 17:424-458 |
| Mon | Mar 14 | EXAM II (covers 2.1 through 2.6) | ----- |
| Wed | Mar 16 | 3.1: PROKARYOTIC TRANSCRIPTION | 19:509-548 |
| Mon | Mar 21 | Spring Break- No Class | |
| Wed | Mar 23 | Spring Break- No Class | |
| Mon | Mar 28 | 3.2: EUKARYOTIC TRANSCRIPTION | 20:549-577 |
| Wed | Mar 30 | 3.3: RNA SPLICING and PROCESSING | 21:578-621 |
| Mon | Apr 04 | RNA STABILITY/LOCALIZATION REGULATORY RNA | 22:622-646; 30:872-893 |
| Wed | Apr 06 | 3.5: TRANSLATION | 24:671-713 |
| Mon | Apr 11 | 3.5: TRANSLATION | 24:671-713 |
| Wed | Apr 13 | 3.6: GENETIC CODE | 25:714-743 |
| Mon | Apr 18 | EXAM III (covers 3.1 through 3.6) | |
| Wed | Apr 20 | 4.1: BACTERIAL OPERONS | 26:745-776 |
| Mon | Apr 25 | 4.2: PROKARYOTIC GENE REGULATORY STRATEGIES | 27:777-803 |
| Wed | Apr 27 | 4.3: EUKARYOTIC GENE REG STRATEGIES | 28:804-837 |
| Mon | May 02 | 4.4: EPIGENETIC EFFECTS/ 4.5: EPIGENOME: NATURE vs. NURTURE | 29:838-871 Nova Video Transcript |
| Wed | May 04 | 4.6: RECOMBINANT DNA/GENETIC REVOLUTION | 3:42-80 |
| FINAL EXAM | May 11 3:10-5:10M | FINAL EXAM, (covers 4.1 through 4.6 plus comprehensive material) | |

NOTE: Schedule may change at the discretion of the instructor.

No Discussion in the following weeks: January 18- MLK Day; February 15- Washington's Birthday