BIOL 360, **Genetics** **Fall 2007**

Instructor: Dr. Cindy Malone **Email**: cmalone@csun.edu
Office: LO 1230
Office hours: MW 11am to 11:50am **Website:** www.csun.edu/~cmalone
Lecture- MW 2:00pm to 3:15pm, EH 2225

Course REQUIREMENTS

1) Textbook:

iGenetics: A Mendelian Approach
Author: Peter J. Russell

2) Supplements:

Textbook Study Guide and Solutions Manual w/CD-rom.
Coursecompass Access Code supplied by Dr. Malone

3) Powerpoint lectures from CourseCompass.com, course ID malone68734…

4) Other necessary materials:

Non-programmable Calculator (PDAs and cell phones may NOT be used) *no exceptions*
4 Scantron Form 886-E *no exceptions - other forms will not be allowed*
1 Scantron Form 882-E

Highly Recommended:

Supplemental Instruction (SI) for Biol 360 = UNIV 60T #18524, MW 3:30pm to 4:20pm, 1 Unit CR/NC
This "discussion" section is designed to aid students enrolled in Biology 360 with all aspects of the course including lecture review, study skills and strategies, test taking skills and strategies, homework and problem solving practice, research paper assistance, and sample exam questions. Students that enroll and complete the course for "Credit" (CR), will also have **5 points of extra credit** added into their lecture grades.

Course Objectives: *The overall course objective is to have a greater awareness and appreciation of classical and molecular genetics with emphasis on genetic material and its formation, transmission, function and organization.*
Specifically you will:

1. Understand a historical perspective of genetics, identifying breakthroughs of discovery, and prominent scientists who were involved in these breakthroughs.
2. Use problem-solving skills to predict genetic outcomes.
3. Describe basic inheritance patterns and the chromosomal basis of heredity.
4. Explain mutation as a source of genetic variability.
5. Understand the role of sex chromosomes in sex determination and sexual dimorphism.
6. Understand how cells reproduce through DNA and nucleic acids.
7. Describe how DNA transcribes into RNA that ultimately translates into protein.
8. Understand how prokaryotic and eukaryotic genes are regulated.
9. Understand the genetic basis of cancer and how it relates to the cell cycle.
10. Successfully complete either a service learning project on a genetic disorder or a term paper on either a genetic disorder or current issue in genetics using research and communication skills for both projects.

Course Requirements:
This course is designed for Biology Majors.
Students should plan to come to class regularly and *spend at least 6 hours outside of class each week* to earn an average grade in the course. More time will likely be necessary to excel in this course.

Prerequisites are:
BIOL101 or BIOL106 and 107.
Students are not allowed to take BIOL107 and BIOL360 in the same semester.

A. Take and submit 15 online quizzes.
B. Perform and submit 16 online iActivities.
C. Meet all the criteria for the service learning project or the research paper.
D. Satisfactorily perform in 4 midterm examinations with a combined average of at least 55%.
(If you do not have an average of at least 55%, you will not pass this course regardless of your other scores)
E. Satisfactorily **pass** (55%) the final exam.
(If you do not score at least 55%, you will not pass this course regardless of your other scores)

Criteria for course requirements:

A. ***Online Quizzes = 15 @ 2 pts each* = 30 pts total:**

Students must take and submit the end of chapter quizzes (as specified in the "lecture schedule and assignments" section of the syllabus) online at the Coursecompass.com website. The course ID you will need to join the class after registering and logging in is malone68734. **You must submit your quiz by the due date and time for full credit. You will earn 2 pts for submitting the quiz regardless of your point score. Therefore, it is not to your advantage to look up all the answers in the book or cheat and have a friend take the quizzes for you. These are designed to test yourself on the material to better prepare you for the exams. Your choices shape your chances at success in this course.** Please guess on the answers to quiz questions on any topics in the chapters that are not covered in your lecture notes – you must answer all questions to submit the quiz. Since your actual number of right answers on the quiz is only for your benefit to test yourself and does not affect your grade in any way, this is the best way to deal with those questions.

B. Online iActivities = 16 @ 2 pts each = 32 pts total:

Students must perform and submit all assigned iActivites (as specified in the "lecture schedule and assignments" section of the syllabus) online at the Coursecompass.com website. The course ID you will need to join the class after registering and logging in is malone68734. **You must print the summary questions page and turn it in to Dr. Malone in class to earn credit for the iActivity by the due date and time for full credit. Please print your name, the date and the chapter # before you turn it in. Improperly labeled Summary sheets will be discarded.**

C. *Service-learning (opt 1) or Research term paper (opt 2)* = 100 pts

Option 1: Genetics Service-Learning Project:
Community partner due: 9/19/07
Completed project due: 12/5/07
The service-learning component in this course will integrate working with an individual (Service-learning (SL) partner) who has a genetic syndrome. You will integrate what you learn from this experience with the foundational content you will learn in the lecture component of this course. You will spend a minimum of 20 hours with your SL partner. Community service performed can include, but is not limited to, participating in support groups, getting involved in volunteer sports activities, acting as tutors, and just spending time and having fun with the SL partners.
Several agencies have agreed to be partners in this project and are attached to the syllabus. Additional information regarding these agencies and how to set up a partnership will be discussed in class. You are not limited to using these partners for your project.

Each project will be worth **100 pts** and evaluated on the following:

(50 pts) **1**. A **reflective journal** logging your hours (20 hours are expected for full credit) and what you did each time you met with your SL partner. Reflect on anything insightful you learned or did with your partner. Have you changed how you interact with your SL partner as you get to know your partner? How about as you acquire more knowledge about the syndrome? This may be hand written or typed.

Point breakdown of journal:

(25 pts) **a.** Logged all 20 hours and each entry signed by the supervisor of the site.
(25 pts) **b.** Write a reflective paragraph or two about each day's events. This will include a brief description of what you did and anything you learned or had reinforced by things you already learned in class or through your literature search.

(45 pts) **2**. A 3-page double spaced **formal writing assignment** in your own words with appropriately cited references.
Your writing assignment must be uploaded to TURNITIN.COM by the due date.
Copying any sentence or phrase without quotations is plagiarism and will be prosecuted. (Changing or leaving out one word in a sentence is not OK. Rearranging phrases in a sentence is not ok). For information about what is plagiarism and what is not, see this extremely helpful website http://www.bio.davidson.edu/dept/plagiarism.html.

You are required to identify the genetic syndrome of your SL partner and use primary and secondary literature searches to describe the syndrome. (no webpages, e.g. "wikipedia"). This summary will include the discovery of the etiology of the syndrome (if known), traits and symptoms of the syndrome, variability of the symptoms if applicable, and any possible treatments or cures. Categorize your SL partner's syndrome as far as its genetic basis is concerned using terminology learned in class. For example, is the syndrome caused by a single gene and if so is that gene dominant or recessive? Is the syndrome multifactorial or pleiotropic? Does this syndrome result from a point mutation, a meiotic or mitotic nondisjunction event, or a chromosomal translocation?

The literature research should be structured to answer other questions as well: Has a gene or loci been mapped in the human genome? Has the Human Genome Project helped this syndrome in any way? What types of studies have been done? What types of studies can be done? How is this syndrome identified? When can this syndrome be identified?

(10 pts) **a**. Identify your genetic syndrome and state how it was discovered.
(15 pts) **b.** Answer as many of the above questions as possible (and/or others) using the appropriate references with in-text citations in paragraph form
(10 pts) **c.** Include a typed reference list with no webpages.
-please use PubMed internet search engine for finding articles. Do not cite any source that ends in .com, .org, .net etc. These are webpages, not references.
-for additional information or help, please use the CSUN Library or Library resources at http://library.csun.edu and the CSUN Learning Resource Center and Writing Lab at http://www.csun.edu/lrc/

(5 pts) **d**. At least 3 pages neatly typed with one inch margins, double-spaced, and 12 point font.
(5 pts) **e**. Typos and grammatical errors.

(5 pts) **3**. A half page **summary of what you learned** in doing this project. Is there anything you would have done better if you had the chance to do it again? What are you most proud of in doing this project?

HOW TO SUBMIT TO Turnitin.com:

1) Go to www.turnitin.com
2) Click on "new users"
3) Create a user profile, select "Student" in pull down menu – select user type. Click "next".
4) Enroll in my class:
Type in the Turnitin class ID# "1963820"
Type in the class enrollment password "12897"
5) You should have successfully enrolled in BIOL 360 Malone F07. Enter your email address:
6) Enter your password and write it down on this syllabus!
7) Select a secret question from the pulldown menu and type in your answer. Click "next".
8) Enter your first and last name. Click "next".
9) Read and click "I agree- create profile"
10) You should receive a "welcome! You have just enrolled in the Turnitin class: BIOL 360 Malone F07" message. Click "end wizard and log in" to upload your paper.
11) You will be sent to the page titled "CSU Northridge: Biology. Click on "BIOL 360 Malone F07" to upload your paper.
12) Click the icon below "submit" next to the Term Paper assignment.
13) Follow prompts to upload file. Click "choose file" to browse for the paper you want to upload. Make sure your file type is in the acceptable file types listed on this page. Click "submit". Click "submit" again on the new page that loads.
14) View your Originality report by clicking the "inbox" on the class page in the term paper assignment listing.
15) Then click the colored "report" icon box to view your report. (it may take up to an hour to have a report generated. A "ghost" icon indicates that your file has been successfully uploaded, but the report is pending.)
16) View your report. Make the necessary changes in your MS word file of your paper (not the one in turnitin) so that any highlighted sentences have been changed into your own words.
17) Print a hard copy of the final revised version and hand it in to me by the assignment deadline.

YOU MAY ONLY UPLOAD ONCE TO TURNITIN.COM, SO BE SURE IT IS THE FINAL VERSION.

BE SURE TO SUBMIT TO TURNITIN.COM A WEEK AHEAD OF THE DUE DATE SO THAT YOU WILL BE ABLE TO REVISE YOUR PAPER AND PRINT A HARD COPY BY THE DUE DATE. LATE ASSIGNMENTS WILL NOT BE ACCEPTED. ***No Exceptions.***

Option 2: Formal Term Paper:
Completed project due: 12/5/07

If you choose this option you will write a 10-page term paper on a current topic in genetics. (A "term paper" implies that you should spend the term or entire semester working on this project. If it was designed to be accomplished in a weekend, it would be called a "weekend paper") You can choose from a variety of topics including techniques, historical perspectives, population genetics, forensics, pharmaceuticals, genome projects, behavioral genetics, mitochondrial DNA, or a genetic disease in humans, other animals, or plants. (No Down Syndrome, Sickle cell disease, or Huntington disease please)

Each paper (stapled/no report covers) will be worth **100 pts. The final version** must be submitted to Turnitin,com (you cannot upload more than one time) and will be evaluated by the following:

(60 pts) 1. A 10-page double spaced summary of a literature search describing **IN YOUR OWN WORDS** what you discovered about your chosen genetic topic. You will need to include at least 2 primary sources (original data) and can use 8 secondary sources (review articles, books) for a total of at least 10 resources. **COPYING ANY SENTENCE OR PHRASE WITHOUT QUOTATIONS IS PLAGIARISM AND WILL BE PROSECUTED.** (Changing or leaving out one word in a sentence is not OK. Rearranging phrases in a sentence is not ok). For information about what is plagiarism and what is not, see this extremely helpful website http://www.bio.davidson.edu/dept/plagiarism.html
The paper should include in YOUR OWN WORDS:

(10 pts) a. A general introduction describing your topic.
(15 pts) b. Description of at least 2 experiments or studies that have been performed in the field or laboratory from a primary source. (NO CASE STUDIES). You should include the hypothesis, experimental design, the results, and conclusions IN YOUR OWN WORDS. (i.e. What was the question, what did the study do, how did they do it, and what did it mean?)
(10 pts) c. A discussion of where the studies may be going in the future, possibilities of future experiments or uses.
(10 pts) d. An organized summary and conclusion (the take home message) integrating all your references.
(10 pts) e. In-text citations of your references – every sentence or paragraph must be referenced.
(5 pts) f. Typed reference list at the end of the paper including author names, publication date, journal or book name, and title of article (in addition to the 10 pages) Must include at least 2 primary sources, no webpages, and at least 10 total.

-at least 2 must be primary sources (experimental data performed by authors) and the rest can be secondary sources (books, newspapers, review articles are appropriate secondary sources).
-please use PubMed internet search engine for finding articles. Do not cite any source that ends in .com, .org, .net etc. These are webpages, not references.
-for additional information or help, please use the CSUN Library or Library resources at http://library.csun.edu and the CSUN Learning Resource Center and Writing Lab at http://www.csun.edu/lrc/

(5 pts) 2. Neatly typed with **one inch** margins, double-spaced, 12 point font, and at least 10 pages.
-You may use figures if that makes your paper easier to follow - but they do not count for pages and must be referenced correctly.
(5 pts) 3. Sentence structure, grammatical errors, and typos.
(10 pts) 4. Paraphrasing
(5 pts) 5. Paragraph organization
(10 pts) 6. Paper organization and flow of ideas.

(5 pts) 7. A half page to a full page summary (in addition to the 10 pages above) of what you learned in doing this project. Is there anything you would have done better if you had the chance to do it again? What are you most proud of in doing this project?

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2) Click on "new users"
3) Create a user profile, select "Student" in pull down menu – select user type. Click "next".
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C. ***Mid-term Exams* = 400 pts**:
There will be 4 exams worth 100 points each (50% multiple choice and 50% problems).
You must earn at least 55% average on the 4 midterms in order to pass this course, regardless of your other assignment grades. NO exceptions.
Absolutely no make up exams.

D. ***Final Exam:***
The comprehensive final exam will be worth 100 points (100% multiple choice).
You must earn at least a 55% on the final exam to pass this course, regardless of your other assignment grades. NO exceptions.
Absolutely no make up final exam. **MONDAY DEC 17, 2007. 3:00 pm to 5:00 pm**

E. EXTRA CREDIT OPPORTUNITIES:

1) Submit the final version of your service learning project or term paper by 11/26/07and earn 5 points extra credit.
2) Enroll and earn CR grade for *Supplemental Instruction (SI) for Biol 360 = UNIV 60T #18524, MW 3:30pm to 4:20pm, 1 Unit CR/NC.* Students that enroll and complete the course for "Credit" (CR), will have **5 points of extra credit** added into their lecture grades.

F. Grading:

Quizzes	15 @ 2 pts each	30 pts
iActivities	16 @ 2 pts each	32 pts
Project		100 pts
Midterms	4 @ 100 pts each	400 pts
Final Examination		100 pts
Total semester points		**662 pts**

Final grades will be determined on a percentage basis according to the following scale:

A	90 -100 %
A-	88 - 89 %
B+	85 - 87 %
B	80 - 84 %
B-	78 - 79 %
C+	75 – 77 %
C	70 – 74 %
C-	67 – 69 %
D+	64 – 66 %
D	60 – 63%
D-	56 – 59%
F	< 55 %

BIOLOGY DEPARTMENT WITHDRAWAL POLICY: Unrestricted withdrawals are permitted only until the end of the third week. Thereafter, requests to drop a class will be honored only when a *verifiable* serious and compelling reason exists and when there is no viable alternative to withdrawal. *Poor performance is NOT an acceptable reason for withdrawal.* During the last three weeks of the semester withdrawals will not be approved except when a student is withdrawing from ALL classes for verifiable medical reasons. Incomplete grades will not be given for missing exams or assignments that cannot be accomplished by the student INDEPENDENTLY. Students will not be allowed to sit in a future class without being enrolled.

CHEATING AND PLAGIARISM: All forms of cheating and plagiarism (the claiming of ideas or words of others as your own) are expressly forbidden by University rules and will NOT be tolerated. Any student observed cheating will be subject to disciplinary action by the University and will receive a grade of "F" in the course.

LECTURE SCHEDULE AND ASSIGNMENTS

Lecture	Topics	Reading.	iActivity Due Before	Ch. Quiz Due Before
	Intro	Chapter 1		Ch 1 9/05/07
8/27/07	Mitosis Meiosis	Chapter 3		
8/29/07	Chromo Inheritance	Chapter 3		
9/5/07	Monohybrid	Chapter 2		
9/10/07	Dihybrid/Probability	Chapter 2	Tribble Traits 9/12/07	
9/12/07	Pedigrees	Chapter 2/3	Taste 9/17/07 & Ch1 Runs Family 9/17/07	Ch 2 & 3 9/17/07
9/17/07	Extensions	Chapter 4	Charlie Chaplin 2/20/07	
9/19/07	Extensions	Chapter 4	***Submit SL partner or term paper topic***	Ch 4 9/24/07
SEPT 24	**MON**	***Mid-term Exam 1***		***Ch. 2,3,4***
9/26/07	Two point cross/X^2	Chapter 6		
10/1/07	Three point cross	Chapter 6	Tomato 10/3/07	10/3/07
10/3/07	Chromosome Structure	Chapter 8		
10/8/07	Chromosome Number	Chapter 8	Karyotypes 10/10/07	10/10/07
10/10/07	Genetic Material	Chapter 10	Viral Code 10/15/07	10/15/07
10/15/07	DNA Replication	Chapter 11		
10/17/07	DNA Recombination	Chapter 11	Unraveling 10/22/07	10/22/07
OCT 22	**Mon**	***Mid-term Exam 2***		***Ch. 6,8,10,11***
10/24/07	One Gene One Enzyme	Chapter 12	Pathways 10/29/07	
10/29/07	Transcription	Chapter 13		
10/31/07	RNA Processing	Chapter 13	Transcription 11/5/07	11/5/07
11/5/07	Genetic Code	Chapter 14		
11/7/07	Translation	Chapter 14	Cause of CF 11/14/07	11/14/07
11/14/07	DNA Mutation	Chapter 15	Overview A 11/19/07	
11/19/07	DNA Repair	Chapter 15	Overview B 11/21/07	11/21/07
NOV 21	**WED**	***Mid-term Exam 3***		***Ch. 12,13,14***
11/26/07	Recombinant DNA	Chapter 16 &17		
Papers due (both service learning and term paper)----------5 pts extra credit -11/26/07				
11/28/07	Prok Gene Expression	Chapter 19	Mutations and Lac 5/8/07	5/8/07
12/3/07	Euk Gene Expression	Chapter 20	Gene reg 5/15/07	5/15/07
12/5/07	Genetic Basis of Cancer	Chapter 22	Causes of cancer 5/17/07	5/17/07
Papers due (both service learning and term paper) –---------- 12-5-07				
DEC 10	**MON**	***Mid-term Exam 4***		**Ch. 16,17,19,20,22**
DEC 17	**MONDAY**	**3:00 to 5:00 PM**	**Ch. 2,3,4,6,8,10,11,12,13,14,15, 16,17,19,20,22**	

Student Resources:

1) CSUN Learning Resource Center www.csun.edu/lrc/
Free drop in tutoring in the SAT lab for Bio 100 (and a variety of other courses as well).
Please check the website for Fall 2007 hours and room locations.

2) Science and Math EOP tutoring center
Free tutoring by appointment in Eucalyptus Hall 2126. Visit or call (818) 677-4558 for more information.