

UNIVERSITY OF CALGARY
DEPARTMENT OF BIOLOGICAL SCIENCES
COURSE OUTLINE

1. Course: **Biology 311 - Principles of Genetics**

Lecture Sections:	L01	MWF	10:30-12:20	ST 130	Spring 2014
Instructor(s):	Dr. Cynthia Yip Dr. Lars Petersen		BI 442 BI 442		cyip@ucalgary.ca lfpeters@ucalgary.ca
Lab Coordinator:	Dr. Isabelle Barrette-Ng		BI 430A	220-6240	mibarret@ucalgary.ca

D2L Course Site— BIOL 311 L01 - (Spring 2014) - Principles of Genetics (P2014BIOL311L01)

Biological Sciences Department BI 186; (403) 220-3140; biosci@ucalgary.ca

2. **PREREQUISITES:** Any two of Biology 231, 233, 241 and 243.

3. **GRADING:** The University policy on grading and related matters is described sections F.1 and F.2 of the online University Calendar. In determining the overall grade in the course the following weights will be used:

Assignments		7%
Midterm Exam	25%	
Final Exam		35%
Laboratory		33%

There will be a 3 hour final exam scheduled by the Registrar's office.

Each piece of work (assignment, laboratory report, midterm test or final examination) submitted by the student will be assigned a percentage score. The student's average percentage score for the various components listed above will be combined with the indicated weights to produce an overall percentage for the course, which will be used to determine the course letter grade.

4. **Missed Components of Term Work.** The regulations of the Faculty of Science pertaining to this matter are found in the Faculty of Science area of the Calendar in section 3.6: <http://www.ucalgary.ca/pubs/calendar/current/sc-3-6.html>. It is the student's responsibility to familiarize himself/herself with these regulations. See also <http://www.ucalgary.ca/pubs/calendar/current/e-3.html>.

5. Dates and times of class exercises held outside of class hours:

Midterm	Saturday, June 7, 2014	10:00AM-12:00PM	location: EEEL 161
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REGULARLY SCHEDULED CLASSES HAVE PRECEDENCE OVER ANY OUT-OF-CLASS-TIME-ACTIVITY. If you have a clash with this out-of-class-time-activity, please inform your instructor as soon as possible so that alternative arrangements may be made for you.

6. **EXAMINATION POLICY:** No electronic or written aids (eg. cell phones, tablets, computers, PDAs, notes, textbooks) will be allowed during writing of any exams. Non-programmable calculators will be permitted to answer quantitative questions on exams, if applicable, and permission to do this will be clearly indicated on the examination paper. Students should also read the Calendar, Section G, on Examinations: <http://www.ucalgary.ca/pubs/calendar/current/g.html>.

7. **WRITING ACROSS THE CURRICULUM:** In this course, the quality of the student's writing in laboratory reports will be a factor in the evaluation of those reports. See also <http://www.ucalgary.ca/pubs/calendar/current/e-2.html>.

8. **STUDIES IN THE BIOLOGICAL SCIENCES INVOLVE THE USE OF LIVING AND DEAD ORGANISMS.** See also <http://www.ucalgary.ca/pubs/calendar/current/e-5.html>.

Department Approval _____ Date _____

Associate Dean's Approval for
out of regular class-time activity: _____ Date: _____

9. OTHER IMPORTANT INFORMATION FOR STUDENTS:

- (a) **ACADEMIC MISCONDUCT (cheating, plagiarism, or any other form) is a very serious offence that will be dealt with rigorously in all cases. A single offence may lead to disciplinary probation or suspension or expulsion. The Faculty of Science follows a zero tolerance policy regarding dishonesty. Please read the sections of the University Calendar under K. Student Misconduct (<http://www.ucalgary.ca/pubs/calendar/current/k.html>) to inform yourself of definitions, processes and penalties**
- (b) **ASSEMBLY POINTS in case of emergency during class time. Be sure to FAMILIARIZE YOURSELF with the information at <http://www.ucalgary.ca/emergencyplan/assemblypoints>.**
- (c) **ACADEMIC ACCOMMODATION POLICY.** Students with documentable disabilities are referred to the following links:
Calendar entry on students with disabilities: <http://www.ucalgary.ca/pubs/calendar/current/b-1.html>
Student Accessibility Services: www.ucalgary.ca/access
- (d) **SAFEWALK:** Campus Security will escort individuals day or night (<http://www.ucalgary.ca/security/safewalk/>). Call 220-5333 for assistance. Use any campus phone, emergency phone or the yellow phones located at most parking lot pay booths.
- (e) **FREEDOM OF INFORMATION AND PRIVACY:** This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIPP). As one consequence, **students should identify themselves on all written work by placing their name on the front page and their ID number on each subsequent page.** For more information see also <http://www.ucalgary.ca/secretariat/privacy>.
- (f) **STUDENT UNION INFORMATION:** VP Academic **Phone:** 220-3911 **Email:** suvpaca@ucalgary.ca.
SU Faculty Rep. **Phone:** 220-3913 **Email:** sciencerep@su.ucalgary.ca Website <http://www.su.ucalgary.ca/home/contact.html>.
Student Ombudsman: <http://www.su.ucalgary.ca/services/student-services/student-rights.html>
- (g) **INTERNET and ELECTRONIC COMMUNICATION DEVICE Information.** You can assume that in all classes that you attend, **your cell phone should be turned off.** Also, communication with other individuals, via laptop computers, Blackberries or other devices connectable to the Internet is not allowed in class time unless specifically permitted by the instructor. If you violate this policy you may be asked to leave the classroom. Repeated abuse may result in a charge of misconduct.

UNIVERSITY OF CALGARY
DEPARTMENT OF BIOLOGICAL SCIENCES
COURSE OUTLINE
BIOLOGY 311
PRINCIPLES OF GENETICS

TERM:	Spring 2014	SECTION: L01		
PREREQUISITE(S):	Any two of Biology 231, 233, 241 and 243			
	A student may not register in a course unless he/she has a grade of at least C- in each prerequisite course.			
COURSE INSTRUCTORS:	Dr. Cynthia Yip	BI 422	cyip@ucalgary.ca	
	Dr. Lars Petersen	BI 422	lfpeters@ucalgary.ca	
LAB COORDINATOR:	Dr. Isabelle Barrette-Ng	BI 430A	220-6240	mibarret@ucalgary.ca
LECTURES:	L01	M W F	10:30-12:20	ST 130
LAB	B01	TR	09 :00-11 :50	EEEL 309
	B02	T R	13 :00-15 :50	EEEL 309

All scheduled laboratories will begin on Thursday May 15, 2014. Students need to read the introduction and Lab #1 prior to attending the first lab and be comfortable with all terms used.

TEXT: Required: An Introduction to Genetic Analysis. 10th Ed., Griffiths, et al. 2012. W.H. Freeman and Co.
Solutions for Introduction to Genetic Analysis, 10th Ed., Scott D., et al., 2012. W.H. Freeman and Co.
Carolina Drosophila Manual, Flagg, R.O., 5th Edition, Caroline Biological Supply Company
Biology 311 Laboratory Manual, Spring 2014 (To be downloaded from D2L)

MARK DISTRIBUTION: A. Composition of Final Grade

Assignments	7%
Midterm exam (2.5 hrs)*	25%
Final exam (3hrs)**	35%
Laboratory***	33%

B. Final Exam
There will be a cumulative final examination emphasizing material covered since the midterm. This 3 hour exam will be scheduled by the Registrar's Office between the 27 and 30 of June, 2013, inclusive.

EXPECTED STUDY TIME: At least two hours per one-hour lecture plus the required laboratory

*Dates: Midterm Saturday, June 7, 2014 10:00AM -12:00PM Location: EEEL 161

This is an out-of-scheduled-class time exam that has been approved by the appropriate Dean.

** This will be a comprehensive final exam covering the entire course, but with emphasis on the material covered after the midterm exam.

*** Various lab components have predetermined weighting to a total of 33% as specified in the Lab Manual.

TENTATIVE LECTURE SCHEDULE SPRING 2014

Date(s)	Topic(s)	Chapter(s)	Instructor
May 14	Intro to course, autosomal and sex-linked inheritance, cytoplasmic inheritance, pedigree analysis	2	LP
May 16	Independent assortment of genes	3	LP
May 19	No Lecture - Victoria Day	–	–
May 21	Linkage, recombination, genetic mapping, chi-square, multiple crossovers	4	LP
May 23			
May 26	Gene Interactions	6	LP
May 28	Bacterial and viral genetics	5	CY
May 30			
June 2	DNA structure and replication, genetic technologies	Parts of 1, 7, 10, 14	CY
June 4	Genetic variability and DNA polymorphisms	16, 18	CY
June 6	Detection of DNA polymorphisms, review for midterm	10, 14, 16, 18	CY/LP
June 7	MIDTERM - Saturday, June 7, 10:00AM, EEEL161	–	–
June 9	DNA polymorphisms and phenotypic change	10, 14, 16, 18	CY
June 11	Regulation of gene expression in prokaryotes	11	CY
June 13	Regulation of gene expression in eukaryotes	12	CY
June 16	Genetic engineering and DNA manipulation, transposons	10, 15	CY
June 18	Epigenetics and Developmental genetics	12, 13	LP
June 20			
June 23	Mutations and Genetics of Cancer	16, 17	LP
June 25	Genetics and ethics, final exam review	18	LP/CY
June 27-30	FINAL EXAM scheduled by the registrar	–	–

Conversion between course percentage and course letter grade for BIOL 311:

Letter Grade	Percentage Cut Off
A+	95%
A	90%
A-	85%
B+	80%
B	76%
B-	72%
C+	68%
C	64%
C-	60%
D+	55%
D	50%
F	<50%