UNIVERSITY OF CALGARY
DEPARTMENT OF BIOLOGICAL SCIENCES
COURSE OUTLINE

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

Lecture Sections:	L01	MWF	10:30-12:20	SA129	Spring 2015
Instructor(s):	Dr. Cynthia Yip		BI 442		cyip@ucalgary.ca
Lab Coordinator:	Dr. Isabelle Barrette-Ng		BI 430A	220-6240	mibarret@ucalgary.ca

D2L Course Site— BIOL 311 L01 - (Spring 2015) - Principles of Genetics (P2015BIOL311L01)

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 MT Exam(s):

Midterm **Friday, June 5, 2015** **IN CLASS 10:30AM-12:20PM** **location: SA129**

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____ORIGINAL SIGNED_____ 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: 403 220-3911 Email: suvpaca@ucalgary.ca
SU Faculty Rep. Phone: 403 220-3913 Email: science1@su.ucalgary.ca, science2@su.ucalgary.ca and science3@su.ucalgary.ca;
Student Ombuds Office: 403 220-6420 Email: ombuds@ucalgary.ca; http://ucalgary.ca/provost/students/ombuds

(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 2015 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 INSTRUCTOR:	Dr. Cynthia Yip		BI 422		cyip@ucalgary.ca
LAB COORDINATOR:	Dr. Isabelle Barrette-Ng		BI 430A	220-6240	mibarret@ucalgary.ca
LECTURES:	L01	M W F	10:30-12:20	SA 129	
LAB	B01	TR	09 :00-11 :50	EEEL 309	
	B02	TR	13 :00-15 :50	EEEL 309	

All scheduled laboratories will begin on Tuesday, May 19, 2015. Students need to read the introduction to the laboratory manual 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 2015 (To be downloaded from D2L)

MARK DISTRIBUTION:

A. Composition of Final Grade

Assignments	7%
Midterm exam (1.8hrs)*	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, 2015, inclusive.

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

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*Dates: Midterm Friday, June 5, 2015 IN CLASS 10:30AM -12:20PM Location: SA129

** 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 2015

Date(s)	**Topic(s)**	**Chapter(s)**
May 15	Intro to course, autosomal and sex-linked inheritance, cytoplasmic inheritance, pedigree analysis	2
May 18	**No Lecture - Victoria Day**	–
May 20	Independent assortment of genes	3
May 22	Linkage, recombination, genetic mapping, chi-square, multiple crossovers	4
May 25		
May 27	Gene Interactions	6
May 29	Bacterial and viral genetics	5
June 1		
June 3	DNA structure and replication, genetic technologies	Parts of 1, 7, 10, 14
June 5	**MIDTERM – In class**	–
June 8	Genetic variability and DNA polymorphisms	16, 18
June 10	Detection of DNA polymorphisms and phenotypic change	10, 14, 16, 18
June 12	Regulation of gene expression in prokaryotes	11
June 15	Regulation of gene expression in eukaryotes	12
June 17	Genetic engineering and DNA manipulation	10
June 19	Transposons	15
June 22	Epigenetics and Developmental genetics	12, 13
June 24		
June 26	Mutations and Genetics of Cancer	16, 17
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%