

Biology 230 Genetics, Winter Semester 2018

Place and time: Bob Wright Science Building Lecture Hall B-150, Tues, Wed & Fri 10.30-11.20 a.m.

Course coordinator and lecturer: Dr. Francis Choy, Cunningham Building Room 062;

tel. 250 721-7107; email: fchoy@uvic.ca

Lecturer: Dr. Barbara Ehltling, Petch Building Rm 005; tel. 250 472-4066; email: behlting@uvic.ca

Senior Laboratory Instructor: Ms. Kim Curry, Cunningham Rm. 110; tel. 250 721-7136; email: cellbiol@uvic.ca

Textbook: **Genetics Analysis and Principles** by Robert J. Brooker, 6th (2018) edition, McGraw- Hill Education. Since the pre-requisites for Biol. 230 are Biol. 225 & Chem 231, & Biochemistry 299 is strongly recommended, students are expected to have fundamental knowledge of DNA structure & function, transcription & translation, amino acids, proteins, carbohydrates, and lipids.

Method of grade assignment: Laboratory: 40%; lectures: 60%

Lecture component - 1st and 2nd midterm examination 15% each; final lecture examination, 30%. **Students must pass both the lecture & lab by scoring at least an overall 50% in both components in order to pass the course.**

Grades:

A+	A	A-	B+	B	B-	C+	C	D	F
90-100%	85-89.9%	80-84.9%	77-79.9%	73-76.9%	70-72.9%	65-69.9%	60-64.9%	50-59.9%	0-49.9%

There is NO E grade assigned and subsequently no supplementary exam.

Tentative lectures schedule

Dr. Choy will cover the eukaryotic cell cycle, mitosis, meiosis, cytogenetics, Mendelian genetics and extension, pedigree analysis, biochemical genetics, non-Mendelian inheritance, quantitative genetics, the Lyon's hypothesis, epigenetics, & molecular basis of mutations

Dr. Barbara Ehltling will lecture on transcription (about 3-4 lectures), translation (2 lectures), regulation of gene expression (3 lectures), recombinant DNA technologies including modern approaches in genomics and proteomics and applications in biotechnology (6 lectures), population genetics (2 lectures).

1. Introduction, the cell cycle, and genetic significance of mitosis and meiosis (FC)
2. Chromosome transmission and cytogenetics (FC)
3. Transcription (BE)
4. Translation (BE)
5. Gene expression (BE)
6. Biotechnology: cloning, sequencing...(BE)

7. Genomics and proteomics (BE)
8. Mendelian inheritance, Extension of Mendelian inheritance I and II (FC)
9. Biochemical genetics I and II and pedigree analysis (FC)
10. , The Lyon's hypothesis and molecular mechanism of X chromosome inactivation, Extra nuclear inheritance, epigenetics (FC)
11. DNA mutations and repair (FC)
12. Population genetics (BE)

Jan 30 First mid-term examination

Feb 12-16 Reading Break

March 13 Second midterm exam

Final examination in April, date and place TBA

Lecture notes will be posted on a CourseSpaces website for you. We recommend that you bring the lecture notes to classes to add comments on slides and answer questions. **Provided lecture slides are for personal use ONLY and are not allowed to be distributed without permission from the publisher.**

I know that students like to take notes on laptops. HOWEVER, I want you to know that **off – task activities** like checking email, surfing the internet, checking social network sites, is **negatively affecting students' grades by more than 10%**. This is true for the student involved in the off-task activities, but also affecting students sitting nearby (Sana *et al*, 2013). Because of that I please ask you to actively **TURN OFF your internet, email and cellphone during class time!!! We also recommend that you turn off your electronic devices during your study time at home to allow you to focus and not be distracted by social media and other non-course related sites.**

UVic and we as instructors are committed to promoting, providing and protecting a supportive and safe learning and working environment for you and us.