Biology 230 Genetics, Winter Semester 2017
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. 721-7107; email: fchoy@uvic.ca
Lecturer: Dr. Barbara Ehlting, Petch Building Rm 007; tel. 472-4066; email: behlting@uvic.ca
Senior Laboratory Instructor: Ms. Kim Curry, Cunningham Rm. 110; tel. 721-7136; email: cellbiol@uvic.ca

Textbook: **Concepts of Genetics** by Klug, Cummings et al, 11th **(2014) edition**, Pearson Publisher. 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: 35%; lectures: 65%
Lecture component - 1st and 2nd midterm examination 17.5% 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 Ehlting 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 (JC)
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 31 First mid-term examination
Feb 13-17 Reading Break
March 7 Second midterm exam
Final examination in April, date and place TBA