Course coordinator and lecturer: Dr. Francis Choy, Cunningham Building Room 062. Tel. 721-7107, Email: FCHOY@UVIC.CA.

Textbook: There will be no single assigned textbook since the lecture materials are from current journals and a number of reference textbooks. All lectures notes (PDF) can be downloaded from UVic CourseSpaces for BIOL 436. Reference textbooks are: Human Molecular Genetics by Strachan & Read, 5th edition, 2019; Taylor & Francis and Garland Science Publishers; Medical Genetics by Jorde 6th edition 2019, Mosby-Elsevier. Human Genetics by Lewis, 12th edition, 2018, McGraw-Hill Publisher.

Method of grade assignment: Midterm exams, 50%; final exam, 50%. The format of both exams will be essays, short answers, and multiple choice.

Grades: 
- ≥90% = A+, ≥85% = A, ≥80% = A-; 
- ≥77% = B+; ≥73% = B; 
- ≥65% = C+, ≥60% = C, ≥50% = D; below 50% = F. There will be no E grade nor supplementary examination.

Tentative Schedule

Jan 6, 9  Organization and expression of the human mitochondrial genome; biochemical & molecular genetics of mitochondria enzymopathies

Jan 13  Current Prevention of Mitochondria DNA Diseases; Mt genomics & anthropology

Jan 16  Organization and expression of the human nuclear genome

Jan 20, 23  Human multigene families: evolution and implications in genetic diseases

Jan 27, 30  Molecular genetics of the HLA (human leukocyte antigen) and Immunogenetics I

Feb 3, 6  Immunogenetics II and III

Feb 10 1st mid-term exam

Feb 13  Guest lecture, topic TBA

Feb 17-21  Reading break for all faculties

Feb 24, 27  Molecular genetics of hemoglobinopathies

March 2, 5  Biochemical and molecular genetics of diabetes I and II

March 9, 12  Genetic screening and population genetics I and II

March 16 2nd mid-term exam

March 19, 23  Treatment for genetic disease I and II

March 30  CRISPR-base editors and prime editing, and other technologies for potential treatment of genetic diseases

April 2  Pharmacogenetics and precision medicine

Final examination, date and place TBA