MLSCI 480 – Molecular Genetic Approaches to the Study and Diagnosis of Disease

Overview / General Information

The emphasis of this course is on the application of techniques of molecular genetics to the practice of Medicine. General subject areas include: organization of the genome, techniques of molecular genetics and their application to medicine, molecular genetics and oncology, and ethical issues involving these techniques as applied to medicine.

Prerequisites: Genetics and BIOCH 200 and 330 or equivalents and consent of Division.

Policy about course outlines can be found in §23.4(2) of the University Calendar.

The University of Alberta is committed to the highest standards of academic integrity and honesty. Students are expected to be familiar with these standards regarding academic honesty and to uphold the policies of the University in this respect. Students are particularly urged to familiarize themselves with the provisions of the Code of Student Behaviour (online at www.governance.ualberta.ca) and avoid any behaviour which could potentially result in suspicions of cheating, plagiarism, misrepresentation of facts and/or participation in an offence. Academic dishonesty is a serious offence and can result in suspension or expulsion from the University.

Audio or video recording, digital or otherwise, of lectures, labs, seminars or any other teaching environment by students is allowed only with the prior written consent of the instructor or as a part of an approved accommodation plan. Student or instructor content, digital or otherwise, created and/or used within the context of the course is to be used solely for personal study, and is not to be used or distributed for any other purpose without prior written consent from the content author(s).

Course Coordinator / Instructor(s)

Karen Matejka  
(780) 492-2503  
kmatejka@ualberta.ca

Course / Learning Objectives

A. To understand molecular techniques and how they are used to aid in diagnosis of disease.

B. To gain an appreciation for the field of clinical genetics.

C. To learn about the relationship between analyses, diagnoses, clinical information and genotype for a selection of genetic diseases.

D. To demonstrate an ability for self-directed learning in solving analytical challenges by completing problem solving assignments.

E. To analyze and synthesize information through completion of a teaching assignment.

Methods of Instruction

MLSCI 480 is a lecture based course. The course is divided into three sections: principles molecular techniques, medical genetics, and clinical applications of technology. Students will be expected to pre-read articles and come prepared to discuss.
Distribution of Marks

- Midterm 75%
  - 1 25%
  - 2 25%
  - 3 25%
- Assignments 20%
- Professionalism 5%