Medical Genetics (MDGEN) 602

Special Topics in Medical Genetics (*3) (Full year Sept. -April)

Course Objectives and Expected Learning Outcomes: This course is designed to aid students in the acquisition of critical thinking and evaluation skills which are essential to interpret research articles. Through independent analysis of current literature and subsequent group discussions, students are expected to develop an understanding of basic research methodologies and the ability to critically analyze and interpret research data as well as the claims made by authors regarding that data.

Guidelines for Evaluation of Students

Instructors

Instructors of students taking MDGEN 602 are asked to consider the following guidelines for evaluating student performance. Your cooperation will help to establish reasonably uniform standards of evaluation among different instructors. It is also important that students clearly understand what is expected of them in this course, and again, your cooperation in communicating these expectations to them will help to eliminate any discrepancy between the students' perceived expectations and your own.

There are at least 26 classes scheduled for a year (Fall and Winter term). Classes are not held during Fall or Winter Reading Week. It is suggested that the instructor lead the first journal club to provide an example and explain expectations. A clear rubric of expectations/grading must be established such that it can be applied uniformly to all students. A full course syllabus must be provided to all students that includes the expectations, evaluation breakdown, description of plagiarism and consequences of plagiarism and the consequence of not handing in the assignment on time.

Objectives

Generally, the primary objective of MDGEN 602 is to train students to critically read and evaluate original research literature focused on topics of current relevance in Medical Genetics.

Format / Expectations

This course will be organized in the format of a weekly journal club focusing on recent publications in topics related to medical genetics including human genetic disorders, cancer genetics, epigenetics, and genetics of development, regulation of gene expression, genomic organization and evolution.

Each week a paper will be presented by a student and then discussed in a round-table informal setting. Depending on the number of students registered, each student will present the paper and lead the discussion of 4 papers. The first presentation paper will be assigned, and the remaining presentation papers will be selected by the presenting student with the approval of the instructor 2 weeks before the presentation. Papers will be made available to all students one week prior to the discussion date. The time limitation of the presentation is 30 minutes. A discussion of the journal article will then encompass all students who are expected to have read and be able to discuss specific points of the paper. The instructor will act as a moderator, and each student will be asked to discuss a figure of the paper during the class. Each student will have to opportunity to provide their thoughts/opinion and ask questions regarding the paper.

Students are expected to learn how to critically analyze a paper and how this work fits into the bigger picture. A critical analysis extends beyond critique of the western blot appearance but undertakes an in-depth analysis of the paper. This could include discussion of the novelty of the

paper, how it relates to the entire field, is the previous literature treated appropriately, identify and discuss key figures that support the claims of the authors and whether there is data that is missing (and what could be done) that would make the paper stronger.

The course also includes weekly assignments and term end assignments. For the weekly assignments, students are required to complete a summary of the presenting paper with their own words. At the end of each term, students will be assigned a paper for in-depth analysis. Details of the format and contents of the assignments will be determined by the instructor.

Evaluation: Details of the evaluation rubric will be given to the students by the instructor at the beginning of the class.

Oral presentations: 40%
Assignments: 30%
Participation: 30%

Final Grades (Graduate Students): On a 4-point scale, defined as follows:

Descriptor	Letter Grade	Grade Point Value	Percentage
Excellent	A+	4.0	94-100%
	A	4.0	85-93%
	A-	3.7	81-84%
Good	B+	3.3	77-80%
	B	3.0	73-76%
Satisfactory	B-	2.7	70-72%
	C+	2.3	64-69%
Failure	C	2.0	61-63%
	C-	1.7	57-60%
	D	1.0	54-57%
	F	0.0	1-53%

Link to Grading System: https://www.ualberta.ca/en/registrar/examinations/assessment-and-grading/grading-system-explained.html