



Title of course: Seminar: Current topics in omics-Fall, 2018

Number of credits: 2

MEES
6080
Fall Semester

Course Objectives / Overview

In each semester, the class discusses different topics and a few classical papers published in cell and molecular biology, developmental genetics, neuroscience, and reproductive biology. The articles published in genetics, endocrinology, and biochemistry will be also covered. The goal is to provide students to understand better the most current molecular tools and techniques used in the following research areas such as cell and molecular biology, development genetics, neuroscience, and reproductive biology. No prerequisites.

Students will present one or two main papers on each topic: For the first 30-40 min, they will cover the background in detail and all students participate in discussion on the topic for 10-15 min. The second hour, they will present the finding of the papers (40 min) and lead the open discussion.

Expected Learning Outcomes

- Gain the knowledge in the current status of emerging scientific areas
- Learn how to prepare and deliver oral presentation to the class
- Learn a critical thinking process on how to evaluate scientific methods and data
- Learn to be an active participant by asking questions on the topic discussed.

INSTRUCTOR DETAILS:

Faculty name 1

faculty email: chung@umces.edu

faculty phone number: 410-234-8841

Faculty name 2

faculty email

SDu@som.umaryland.edu

faculty phone number: 410-234-8854

Faculty name 3

faculty email

faculty phone number

Faculty name 4

faculty email

faculty phone number

CLASS MEETING DETAILS:

Dates: Fridays

Times: at noon

Originating Site:

IVN bridge number:

(803190)

Phone call in number:

(***)

Room phone number:

(IMET 2041)

CURRICULUM FULLFILMENT:

MEES : elective course

Prerequisites

N/A

Teaching Assistant

N/A

Course Assessment / Grading

Grading will be on oral presentations (70%: all participants grade each presentation-attached is the grading sheet) and participation in discussion (30%).



Tentative Weekly Course Schedule

Date	Topics
8/31-	Open discussion on topics, class organization & lecture assignment
9/7 -	History of CRISPR
9/14 -	New Development in CRISPR technology
9/21 -	Next Generation Sequencing technology
9/28-	Transcriptomes: data analysis, gene discovery and quantification
10/5 -	No class, MEES Colloquium
10/12 –	Proteomics: protein discovery, detection, and quantification
10/19 -	Transgenic technology and application
10/26-	Topic on this year Nobel Prize topics in Physiology, Medicine or Chemistry
11/2 -	Molecular mechanisms of Biorhythms
11/9 -	Classical paper discussion in molecular biology
11/16-	Synthetic biology and application
11/23 -	No class: Thanksgiving holidays
11/30-	Microbiota 1: human microbiomes
12/7/2017-	Brain science: Aging and Longevity
12/14/2017-	Muscle science: Molecular Aspects of the Benefits of Exercise

Required textbooks, reading and/or software or computer needs

Reading and discussion materials will be uploaded on google drive one or two weeks before when the topic is discussed.

Course Communication

[You should specify how you will send information to students (e.g. MOODLE announcement) and how you want students to contact you (e.g. MOODLE, email, Google Drive) to discuss questions or other information.]

Google drive and email

Resources

[Course website: www.moodle.com/xxxxx]

Google drive: Students are asked to upload the articles (main papers and back references) to Google drive one or two weeks before the presentation.

Campus Policies

The University of Maryland Center for Environmental Science has drafted and approved of various academic and research-related policies by which all students and faculty must abide.

Please visit <http://www.umces.edu/consolidated-usm-and-umces-policies-and-procedures> for a full list of campus-wide academic policies.

Course-Specific Policies and Expectations

[Separate from the campus-wide policies linked earlier, you may want to outline any additional course policies of which students need to be aware. Also include late work policy, etc.]