

Class will meet 2-5Pm, Friday afternoons in Room 104, McCord Hall and Room 11, Academic Computing, McCord Hall

Course Title: The logistics, rhetoric, and etiquette of conducting, analyzing, and communicating science

Course Focus: Hormones:

- as molecules,
- as effectors of function within an organism, and
- the impact of synthetic analogues on human physiology and the environment

Readings: Original research articles will be assigned throughout the term. In addition, students will be responsible for finding articles to support their own area of interest as related to class objectives and assignments. Students will not need to invest in a text, but should be prepared to pay for costs associated with xeroxing articles and ordering articles through interlibrary loan

Course Objectives

- To learn what it means to critically evaluate scientific data in written and oral presentations by participation in class exercises and assignments
 - Be able to read and comprehend scientific articles within a reasonable amount of time by applying techniques learned during this course
 - Be able to discuss and present ideas, procedures, and conclusions from scientific articles in a concise and knowledgeable manner by practice and through observation of class and seminar examples
 - Be able to present a written summary or review of scientific articles, manuscripts, and oral presentations by applying and practicing approaches presented in the course
 - Be able to prepare for and ask relevant questions regarding approaches, methodologies, and findings of invited speakers during their formal and informal research presentations
- To read and understand current NIH guidelines for submitting a fundable R01 application in order to learn current expectations of scientists in the United States
 - Scientists get funded through a peer review process
 - What is funded is what meets the expectations of peer reviewers with regard to standards for critically presenting and defending a research proposal
 - The grant submission and award process guides the process of publication
 - Publication in good journals is also a peer review process and similar expectations regarding critical presentation of a problem and evaluation of data must be met to get a paper accepted for publication.
 - Thus, understanding the grant process can help one understand the nuances of scientific publications, which in turn, can assist in the process of learning how to critically read and evaluate scientific articles.

Grading: Grades will be awarded based upon attendance, completion of assigned readings and participation in in-class and out-of class activities, as indicated below:

Grade of A:

1. participation in 90% or more of activities, including class attendance and arrival on time
2. submission of a review paper for evaluation by a faculty member and one student in the course, and
3. written evaluation of another student's review paper

Grade of B:

1. participation in 80% or more of activities, including class attendance and arrival on time

Grade of I (Incomplete)

1. participation in less than 80% of activities, including class attendance and arrival on time
2. submission of a review paper for evaluation by the course instructor and one other faculty member. I will be removed when paper receives a grade of B or better (rewrites will be required, if necessary to accomplish this goal). As for all I grades, students will have one term to remove the grade of I before it automatically reverts to an F.

Schedule

Jan 16	Introduction to Class – Chalk Talk Introduction to Schedule
Jan 23	Evolution of Estrogen Receptor Papers / What is Science
Jan 30	Papers by M Conn / Chalk Talk – Systematics
Feb 6	Papers by M Conn / Chalk Talk – M Conn
Feb 13	Video – Writing Grants – Hormone Signal Transduction Pathways
Feb 20	Signal Transduction Papers / Chalk Talk-Signal Transduction
Feb 27	Papers on Proteomics / Protein Processing – Discuss Review Papers
Mar 5	Papers on Protein Processing – Chalk Talk / Proteomics
March 12	Nora Terwilliger Papers / Effect of Hormones on Trout
Mar 19	Nora Terwilliger Papers / Chalk Talk – N Terwilliger
Mar 26	Karen Johnson Papers / Biochemistry of Hormones
Apr 2	Karen Johnson Papers / Chalk Talk – K Johnson
Apr 9	Eldred Taylor References / Saliva Testing Papers
Apr 16	Saliva Testing Papers / Chalk Talk – E Taylor

