Course Description: Whether you become an academic principal investigator, a scientific director in industry, or a regulatory reviewer, an essential skill for scientific leaders is to be able to critically review research plans and data and be able to effectively communicate these to others. This course will develop scientific reviewing, reasoning, and writing skills essential for students to become scientific leaders.

In the first module of the class the students will have hands-on experience with real research manuscripts and the students will critique in a real peer-review situation. This module of the course enables students to develop skills in peer review, identifying strengths and weaknesses of prepared manuscripts, identification of key components of written scientific contributions, and broadening of their technical skills.

In the second module of the class the students will utilize these observations and learnings obtained during peer review of other’s work and use their own data in a stepwise course in manuscript writing. Manuscript writing will preferably be based on the students’ own data obtained through lab research. If the student does not have their own experimental data (minimum of 1-2 graphs, 1-2 data tables), then they will consult with their advisor and select at least four data sets (figures and tables) for which they will use to write their manuscript.

Learning Objectives.
Upon completion of this course the student will be able to:
1. Demonstrate critical interpretation of scientific literature
2. Develop critical scientific reviewing skills
3. Demonstrate ability to suggest improved research designs
4. Demonstrate ability to draft scientific manuscript in a logical stepwise approach
5. Provide critical contributions to other projects

Expectations and Prerequisites
1. Virtual participation by Zoom is expected
2. Turn in assignments on time

Faculty
Dr. Hugh Smyth, Ph.D.
Dr Robert O. (Bill) Williams III, Ph.D.

Other Resources:
1. Virtual office hours are by appointment.
2. Googledocs - this will be used to provide course materials and background readings
Assessment:

Assessment is comprised of the following:

a. Critical reviewing assignments 40%
b. Manuscript writing assignment 40%
c. Contributions in class 20%

Preliminary Schedule/ Topics Covered

This course is designed to expose the student to a broad range of key skills required in academic and professional development.

Module 1: Reviewing

The students will first be assigned several manuscripts that have been submitted to *Drug Development and Industrial Pharmacy* or *AAPS PharmSciTech*. The students will be responsible for critically reviewing these manuscripts according to guidance provided by the course instructors. The students will present the findings to the class.

Module 2: Writing

The students will use their own data sets and will develop a draft manuscript for submission. The students will break the manuscript writing into several tasks as outlined in our accompanying “Guide to Writing in the Pharmaceutical Sciences” handout.

Class Dates:

**Introductory Class: June 8 - 10:30am - 12:00pm**

Dr. Smyth will go over Module 1 background and expectations
Dr. Williams will go over Module 2 background and expectations
Students should also have completed the pre-class reading assignment for Module 1 (see below).

Module 1: Reviewing papers in the pharmaceutical sciences

Pre-class Reading Assignment. Review the following materials:

3. Peer review tutorial (complete tutorial and take the quiz) [https://www.springer.com/gp/authors-editors/authorandreviewertutorials/howtopeerreview](https://www.springer.com/gp/authors-editors/authorandreviewertutorials/howtopeerreview)
Introduction class (June 8): The pre-class reading assignments will be reviewed and the format of Module 1 will be explained. The class will meet regularly (6 classes total) for Module 1 and each class will be approximately two hours. The schedule will be arranged on the first day of class.

**Module 2: Writing papers in the pharmaceutical sciences**

**JULY 20 - FIRST CLASS DAY FOR MODULE 2**

**NOTE: THIS PART WILL BE DUE ON FIRST CLASS DAY FOR MODULE 2**

Pre-class Reading Assignment: Smyth and Williams “Guide to Writing” (accessed through Canvas)

Preclass Reading Assignment: “Instructions for Authors” from AAPS PharmSciTech (http://www.springer.com/biomed/pharmacology+%26+toxicology/journal/12249)

Introduction: The pre-class reading assignment will be reviewed and the format of Module 2 will be explained. Guide to writing in the pharmaceutical sciences (Williams)

a. Review the critical aspects of writing technical and review papers in the pharmaceutical sciences; each student will select a topic to write

b. Writing assignment - each student is assigned to write a paper using their own data. The goal will be to construct a first draft of the paper, focusing on structure and organization (your plan for the paper)

c. After class: Each student will take the Springer Nature course on manuscript writing (see, https://www.springernature.com/gp/authors/campaigns/writing-a-manuscript)

The class will meet regularly (6 classes total) for Module 1 and each class will be approximately two hours. The schedule will be arranged on the first class day.
Other Course Policies

Academic Integrity:

The "Statement on Scholastic Integrity of the College of Pharmacy" reads as follows: "Pharmacy practitioners enjoy a special trust and authority based upon the profession's commitment to a code of ethical behavior in its management of client affairs. The inculcation of a sense of responsible professional behavior is a critical component of professional education, and high standards of ethical conduct are expected of pharmacy students. Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including failure of the course involved and dismissal from the college and/or the University. Since dishonesty harms the individual, fellow students, and the integrity of the University and the College of pharmacy, policies of scholastic dishonesty will be strictly enforced in this class".

Students are expected to work independently on all examinations. Any student caught cheating will be given an "zero" on the exam (minimum). Any student suspected of dishonesty will be reported to the Dean of the College of Pharmacy and to the Dean of Students, as per University regulations. Students are expected to have read and understood the current issue of the General Information Catalog published by the Registrar's Office for information about procedures and about what constitutes scholastic dishonesty.

Religious Holy Days
If you will miss a class, an examination, a work assignment or a project in order to observe a religious holy day, you must notify the course coordinator the first week of class so that arrangements for all such students can be made for the full semester.

Services for Students with Disabilities:
Students with disabilities may request appropriate academic accommodations from the Division of Diversity and Community Engagement, Services for Students with Disabilities at 471-6259 (voice) or 232-2937 (video phone) or https://diversity.utexas.edu/disability/. All University rules concerning accommodations must be followed, including the student arranging for special accommodations prior to each examination. In the absence of such prearrangement, it will be assumed that the student is not requesting special accommodations for that exam, and will be expected to take the exam with the rest of the class at the regularly scheduled exam time.

Please provide a copy of the letter to the course coordinator and the office of the Associate Dean for Academic Affairs as soon as possible after receipt.

Course Website:
This course uses Canvas, a Web-based course management system in which a password-protected site is created for each course. You are strongly encouraged to visit this site for additional resources associated with this course (your grades, Powerpoint presentations,
etc). The website will also be used for official, course-related announcements. Canvas is available at http://canvas.utexas.edu. Support is provided by the ITS Help Desk at 475-9400 Monday through Friday 8 am to 6 pm.

**Course Communications:**
Official course communications will take place in class, through e-mail and on the course Canvas website. Students are advised to configure their Canvas settings to forward course announcements to their official e-mail address. Canvas uses only the e-mail address listed on the official University of Texas directory, so please check the University’s online directory to ensure your email address is listed correctly.

**Course Video Recordings:** Taped and video-streamed recordings will not be available for this class.