Course Syllabus – TRBIO 460

Course Information

Course Number: TRBIO 460 SP20
Course Name: Molecular Medicine
Term: SP 2020
Start Date: 04/07/2020
End Date: 06/26/2020
Credits: 3.0

Meeting Days / Times

Tuesdays and Thursdays, 8:00-9:30am PT / 11:00am-12:30pm ET
(See Calendar in Canvas for the most up-to-date schedule.)

Locations

CA Campus: Zoom
FL Campus: Zoom

Course Managers

Role	Last Name	First Name	Email Address
Instructor	Muse	Evan	emuse@scripps.edu
TA	Beyer	Brittney	bbeyer@scripps.edu
TA	Lazar	Daniel	dlazar@scripps.edu

Course Description

This is an introduction to clinical disease coupled with basic and/or translational research. The seminars will be given by both practicing clinicians on the pathophysiology and clinical elements of a major human disease affecting society, including therapy and unmet needs and scientists doing research, both basic laboratory and translational, that is relevant to the disease. The overarching premise of this experience is that all basic laboratory research is ultimately translational if the nature of clinical disease and the challenges to health are understood in the correct context. Thus, essentially everything we do at the bench can contribute advances to the future of medicine, which can in turn further bench research in a reiterative cycle: bedside to bench and bench to bedside.

Program Learning Outcomes

By the end of the program, students will have accomplished these objectives:
PLO1: Critique peer-reviewed publications
PLO2: Understand approaches and methodologies needed for complex scientific questions
PLO3: Knowledgeable of a wide array of technical research skills used in drug discovery
PLO4: Possess strong communication skills

Course Learning Outcomes

Upon completion of this course students will be able to:
CLO1: Describe the basic aspects of the clinical diseases and therapies for cardiovascular disease, diabetes, chronic kidney disease and solid organ transplantation, cancer, HIV/AIDS, aging and neurodegenerative disease.
CLO2: Describe at least three major challenges to clinicians for each of these disease entities that constitute immediate objectives for new basic scientific research and/or translational work.
CLO3: Understand the basic requisites for choosing a translational research project and how these principles relate to the specific clinical disease and its impact on health.
CLO4: Critically read a clinical translational article and evaluate its contribution to the clinical challenges of the disease under study.

Background Preparation (Prerequisites)

This course has no special background requirements and can be taken by any graduate student or postdoctoral fellow. It is required to be taken by the NIH KL2 scholars and should be taken by the TL1 students.

Course Materials

Weekly readings will be assigned by the lecturer.

Expectations and Logistics

Attendance and active participation in the discussions during class is required and considered in the grading, as is the presentation of one clinical or basic science/translational paper for Journal Club.

Attendance Statement

Students are expected to attend all classes. Students who are unable to attend class must seek permission for an excused absence from the course director or teaching assistant. Unapproved absences or late attendance for three or more classes may result in a lower grade or an "incomplete" for the course. If a student has to miss a class, he or she should arrange to get notes from a fellow student and is strongly encouraged to meet with the teaching assistant to obtain the missed material.

Scientific and Professional Ethics

The work you do in this course must be your own. Feel free to build on, react to, criticize, and analyze the ideas of others but, when you do, make it known whose ideas you are working with. You must explicitly acknowledge when your work builds on someone else's ideas, including ideas of classmates, professors, and authors you read. If you ever have questions about drawing the line between others' work and your own, ask the course professor who will give you clear guidance. Exams must be completed independently. Any collaboration on answers to exams, unless expressly permitted, may result in an automatic failing grade and possible expulsion from the Graduate Program.

Technology Requirements and Support

For issues related to Canvas, please contact the Graduate Office by email at: gradprgm@scripps.edu or by phone at: 858-784-8469.

Course Grading

Grading is in accordance with the academic policies of the Skaggs Graduate School. The breakdown of grading is as follows:

- Attendance 20%
- Quizzes**:** 20%
- Participation/Journal Club Presentation 10%
- Final Exam**:** 50%

Letter Grade	Percent	GPA	Description
A	93-100	4.00	Outstanding achievement. Student performance demonstrates full command of the course subject matter and evinces a high level of originality and/or creativity that far surpasses course expectations.
A-	90-92	3.67	Excellent achievement. Student performance demonstrates thorough knowledge of the course subject matter and exceeds course expectations by completing all requirements in a superior manner.
B+	87-89	3.33	Very good work. Student performance demonstrates above-average comprehension of the course subject matter and exceeds course expectations on all tasks as defined in the course syllabus. There is notable insight and originality.

B	83-86	3.00	Satisfactory work. Student performance meets designated course expectations and demonstrates understanding of the course subject matter at an acceptable level.
B-	80-82	2.67	Marginal work. Student performance demonstrates incomplete understanding of course subject matter. There is limited perception and originality.
C+	77-79	2.33	Unsatisfactory work. Student performance demonstrates incomplete and inadequate understanding of course subject matter. There is severely limited or no perception or originality. Course will not count toward degree.
C	73-76	2.00	Unsatisfactory work. Student performance demonstrates incomplete and inadequate understanding of course subject matter. There is severely limited or no perception or originality. Course will not count toward degree.
P	73-100	0.00	Satisfactory work. Student performance demonstrated complete and adequate understanding of course subject matter. Course will count toward degree.
F	0-72	0.00	Unacceptable work/Failure. Student performance is unacceptably low level of knowledge and understanding of course subject matter. Course will not count toward degree. Student may continue in program only with permission of the Dean.
I		0.00	Incomplete is assigned when work is of passing quality but is incomplete for a pre-approved reason. Once an incomplete grade is assigned, it remains on student's permanent record until a grade is awarded.
W		0.00	Withdrew from the course with Dean's permission beyond the second week of the term.

- All courses will be recorded and maintained in the student's permanent academic record; only courses that apply towards the degree will appear on the academic transcript. Non-credit or audited courses will not appear on the transcript.
- 4 core courses taken for a letter grade (pass = B- or higher for a core course)
- 2 elective courses taken pass/fail (pass = A, B, C for an elective)

Because students are encouraged to take electives outside their area of expertise, a "C" letter grade is passing.

Course Schedule:

Date	Details
Tue Apr 7, 2020	The challenges to do translational research (Teyton)
Thu Apr 9, 2020	Tissue Engineering for Musculoskeletal Diseases (D'Lima)
Tue Apr 14, 2020	Kidney disease (Roshan)
Thu Apr 16, 2020	Journal Club
Tue Apr 21, 2020	The human virome (Telenti)
Thu Apr 23, 2020	Diagnostic Biomarkers of Kidney Transplant Rejection: Bringing Method to the Madness (Kurian)
Tue Apr 28, 2020	Cardiac disease and translational opportunities (Muse)
Thu Apr 30, 2020	Vascular disease/thrombosis (Mosnier)
Tue May 5, 2020	Gastrointestinal Disease (Nhu)
Thu May 7, 2020	Metabolism and aging in C. elegans model (Petrascheck)
Tue May 12, 2020	Journal Club
Thu May 14, 2020	Innovations in Clinical Oncology (Bollin)
Tue May 19, 2020	HIV: Is resistance futile? (Torbett)
Thu May 21, 2020	Clinical HIV and Therapies: An overview (Weibel)
Tue May 26, 2020	Environment and Hypersensitivity: New Diseases and New Pathways (White)
Thu May 28, 2020	Antibody-based therapeutics
Tue Jun 2, 2020	Journal Club
Thu Jun 4, 2020	Neurodegerative disease (Lipton)
Tue Jun 9, 2020	HCV: the journey from discovery to cure (Pockros)
Thu Jun 11, 2020	Genomics in Pediatric Disease (Carroll)

Tue Jun 16, 2020	Final thoughts, questions, and discussion of exam (Muse)
Thu Jun 18, 2020	Final Exam