

Syllabus for GS07 1092: Topics in Microbiology and Infectious Diseases, Fall 2020

Course meets: Tuesday/Thursday 9:00 – 10:00 AM by WebEx

Presence and participation in classes is mandatory.

Course Director: Danielle Garsin (Danielle.A.Garsin@uth.tmc.edu)

Instructors	E-mail	Students	E-mail
Danielle Garsin	Danielle.A.Garsin@uth.tmc.edu	Shane Christy	Shane.Cristy@uth.tmc.edu
Theresa Koehler	Theresa.M.Koehler@uth.tmc.edu	Lee-Ann Notice	Lee.Notice@uth.tmc.edu
Ambro van Hoof	Ambro.Van.Hoof@uth.tmc.edu	Melissa Martinez	Melissa.Martinez.1@uth.tmc.edu
Ziyin Li	Ziyin.Li@uth.tmc.edu	Jane Suhyeorn Park	suhyeorn.park@bcm.edu
Peter Christie	Peter.J.Christie@uth.tmc.edu	Jacob Rutherford	jtruther@exchange.tamu.edu
Anna Konovalova	Anna.Konovalova@uth.tmc.edu		

This course has two main objectives:

1. Critically evaluate recent primary literature pertaining to a range of topics reflecting the breadth of microbiology and infectious diseases and gain a general understanding of the subject leading to formulation and testing of a hypothesis (50% of the grade).

For this component of the course, students will be assigned research articles to critically read and analyze. One student will be assigned to lead the discussion of each paper in detail in class. The discussion leader will be expected to introduce the background of the paper that will open the discussion but **all students are expected to be capable of discussing all parts of the paper.**

*Note that no paper is assigned for the classes marked in **bold**. Students are expected to attend all of these classes including the aims presentation classes where they are not presenting.

2. Develop specific aims and propose relevant experimental designs to test the developed research hypothesis (50% of grade).

For this component of the course, students will first choose a research topic *distinct from their own thesis topic* along with a faculty mentor among the 6 faculty members involved in the course this year. During the semester, students will:

- **Pick a research topic and advisor (due Sept 10th 2020)**
- **Write a draft of specific aims (due Sept 24th 2020):** the draft should one page and include sub-aims. You must meet with your faculty mentor to discuss. Examples of specific aims pages will be made available to you.
- **Prepare a Powerpoint aims presentation (presented Oct 6th and 8th 2020):** The presentation should give a brief introduction to your topic and outline aims/subaims with details of methods/techniques to be used. Presentations will be informal discussions between students and faculty and should help you formulate an experimental plan.
- **Revise the specific aims and write a 6-page grant proposal** in the format of an NIH R21 or F31 grant proposal (**grants due Nov 10th 2020**). You must meet with your faculty mentor to discuss your experimental plan and revised aims following the group presentations. Examples of funded grant proposals will be made available to you.
- After “study section” review of the grants by the faculty members, students will receive written critiques of their grant. They will submit revised grants based on the critiques along with a one-page Introduction addressing the critiques directly (**revised grants due Dec 10th 2020**). The revised proposal will be discussed by faculty. You will receive another written critique that will form the basis for your final assessment.

Due dates for the writing assignments:

Pick a research topic and advisor: Sep 10 2020

Aims page draft due: Sep 24 2020

Aims presentations: Oct 1, Oct 6 2020

Grant proposal due: Nov 10 2020

Grant proposal revision due: Dec 10 2020

The detailed course schedule is as follows:

	DATE	Assignment due	BLOCK	TOPIC	Instructor	Discussion leader
TUES	9/1/20			How to write a grant - I	Koehler	No paper assigned
THUR	9/3/20			How to write a grant - II	Koehler	No paper assigned
TUES	9/8/20		Block #1	Metabolism and Pathogenesis	Garsin	Shane
THUR	9/10/20	Pick a research topic and an advisor	Block #1	Metabolism and Pathogenesis	Garsin	Lee-Ann
TUES	9/15/20		Block #1	Metabolism and Pathogenesis	Garsin	Melissa
THUR	9/17/20		Block #1	Metabolism and Pathogenesis	Garsin	Jane
TUES	9/22/20		Block #2	Host-Parasite Interactions	Li	Jacob
THUR	9/24/20	A draft of AIMS due	Block #2	Host-Parasite Interactions	Li	Shane
TUES	9/29/20		Block #2	Host-Parasite Interactions	Li	Lee-Ann
THUR	10/1/20		Block #2	Host-Parasite Interactions	Li	Melissa
TUES	10/6/20 9:00-11:00	Student aims presentations			Everyone	No paper assigned
THUR	10/8/20 9:00-10:00	Student aims presentations			Everyone	No paper assigned
TUES	10/13/20		Block #3	RNA Biology	van Hoof	Jane
THUR	10/15/20		Block #3	RNA Biology	van Hoof	Jacob
TUES	10/20/20		Block #3	RNA Biology	van Hoof	Shane
THUR	10/22/20		Block #3	RNA Biology	van Hoof	Lee-Ann

TUES	10/27/20		Block #4	Bacterial Cell Envelope	Konovalova	Melissa
THUR	10/29/20		Block #4	Bacterial Cell Envelope	Konovalova	Jane
TUES	11/3/20		Block #4	Bacterial Cell Envelope	Konovalova	Jacob
THUR	11/5/20		Block #4	Bacterial Cell Envelope	Konovalova	Shane
TUES	11/10/20	Grant Due	No class	No class	No class	No class
THUR	11/12/20		Block #5	Bacterial Injection Systems	Christie	Lee-Ann
TUES	11/17/20	Critiques Back		How to respond to critiques	Koehler	No paper assigned
THUR	11/19/20		Block #5	Bacterial Injection Systems	Christie	Melissa
TUES	11/24/20			THANKSGIVING week	No class	No class
THUR	11/26/20			THANKSGIVING week	No class	No class
TUES	12/1/20		Block #5	Bacterial Injection Systems	Christie	Jane
THUR	12/3/20		Block #5	Bacterial Injection Systems	Christie	Jacob
TUES	12/8/20		No class	No class	No class	No class
THUR	12/10/20	Revised Grant Due	No class	No class	No class	No class
THUR	12/17/20	Discussion of revised grants and final marks			Faculty	No class