Introductory Virology
POPH/MIBO/IDIS 4650/6650
Fall Semester 2021, Tuesday and Thursday 11-12:15
Room Vet Med H203
Course Coordinators: García & Brindley

COURSE OBJECTIVES OR EXPECTED LEARNING OUTCOMES The objective of this course is to have students understand the basic principles of virology as an integrative discipline. Students will learn fundamental concepts of the viral replication cycle, as well as learn about pioneering advances in the field of virology, how to control viral infections, and the dynamic evolution of viruses.

REVIEW PAPER AND RESEARCH PROPOSAL Undergraduate students will be required to write a review paper on a virology concept discussed in class for a particular viral family or specific virus. Graduate students will be required to write a Research proposal addressing a virology question. We will provide Guidelines with specifics on Papers and Proposal formats. Review papers and proposals are due December 7.

ADDITIONAL REQUIREMENTS FOR COURSE
Throughout the semester there will be 4 class periods in which we will discuss primary literature related to the topics we are covering. Groups of graduate students (4 to 5) will be responsible for leading the discussion of an assigned paper in a journal club format. Graduate student groups will be responsible to meet and organize the presentation, but all students need to attend and participate in the discussion. Each exam will include questions on the paper discussed, special attention will be given to the methods, so it is important for both undergraduate and graduate students to participate in the discussions of this primary literature.

eLC ACCESS
All course materials, quizzes, and tests will be through eLC. Please bring some electronic device that can access eLC for quizzes and tests. (We will have a few copies of paper tests if computers go down, but only for emergencies). In addition most assignments will be turned in through eLC.

GRADING SYSTEM
Grade Scale: A 100-93, A- 92-90, B+ 89-87, B 86-83, B- 82-80, C+ 79-77, C 76-73, C- 72-70, D+ 69-67, D 66-63, D- 62-60, F <60. Note: grades ending in >0.5 round up to the next whole number, e.g. 92.6 rounds to 93, but 92.5 counts as 92.

Undergraduates	4 exams = 75% Review PAPER = 15% *Class participation, quizzes, homework and attendance = 10%
Graduates	4 exams = 65% Research PROPOSAL = 15% Journal Club Presentation= 10% *Class participation, quizzes, homework and attendance= 10%

If you miss an exam (unexcused), it will be scored as a zero. Make-up exams for excused absences must

be arranged with the professor giving the exam (see syllabus) well in advance for University-approved absences or the day of return from an illness (Doctor's excuse is required for **full period of absence**). Exams may have a mix of short answer, short discussion, multiple choice, and fill-in the blanks. You must use a pen to answer the exams or you cannot request a re-grade. ***There will be no individual extra credit to improve grades.*** ***** Notice that there is material and exercises covered during lecture that is necessary to fully understand and participation in class is highly encouraged. Therefore, it is **essential that you attend lectures**, **turn-in homework and participate in class this would be 10% of your grade**.

FLIP THE CLASS

There will be four class periods where the lecture format will be flip. On these days, you will need to read assigned chapter, read the eLC lecture and watch Dr. Racaniello lecture on You Tube or his blog **before attending class**. In order to have high participation, a short five questions quiz will be given in the first few minutes of the flip the class periods. These quizzes are designed to determine if you watched the lecture and are not designed to be difficult or tricky. In addition, there are several *Virus Watch* videos assigned when videos are relevant to the lecture topic. These are short, less than 10 min, videos that will introduce a particular virology topic. Please watch them before class. Note* test questions may relate to the videos.

READING

Reading assignments from required text-book **FLINT PRINCIPLES OF VIROLOGY 4th or 5th edition**. Any assigned research article will be posted on the e-Learning Commons site for the course. For additional assigned material visit the Virology blogs by Vincent Racaniello (WWW.virology.ws) (WWW.twiv.tv). Power-point slides for each lecture will be posted to the e-Learning Commons (http://elc.uga.edu/).

NOTES ON HOW TO BE SUCCESSFUL STUDENTS

Virology is a complicated topic, especially because there are so many different types of viruses that replicate in different ways. Viruses "live" inside cells, so having a good understanding of basic cell biology will increase your success rate in the class. In previous years, the students that received A's in the class have noted that they read the chapters before lecture and frequently would watch Dr. Racaniello's lecture's for additional information or listen to TWIV (This week in Virology). Reading, listening, and watching the material in a variety of ways from different sources enabled them to understand the material and perform well on the tests.

Teaching assistant: Jiachen Huang jiachenh@uga.edu will be managing any questions students have regarding lecture schedules, absences, were to find grades, exams dates…….

There are no designated office hours for the Instructors; you may set up appointments with the Faculty by e-mail (Please do not just drop by our offices!)
Dr. Maricarmen García mcgarcia@uga.edu & Dr. Melinda Brindley mbrindle@uga.edu

All academic work must meet the standards contained in "A Culture of Honesty." Students are responsible for informing themselves about those standards before performing any academic work.
http://www.uga.edu/ovpi/academic_honesty/academic_honesty.htm

The course syllabus is a general plan for the course; deviations announced to the class by the instructor may be necessary.

Dates	Lectures and Exams	Material to prepare before class	Assignments	Text Book **	Instructor
8/19	What is a virus?	*Virus Watch*: Are viruses alive?		Chapter 1 (volume 1)	Rajao
8/24	Virus infectious Cycle	*Virus Watch*: Counting Viruses	Homework	Chp 2 (v1)	Rajao
8/26	Viral Genomes	Watch online lecture	Flip the class Quiz	Chp 3 (v1)	Rajao
8/31	Viral Structures	*Virus Watch* Building Zika	Flip the class Quiz	Chp 4 (v1)	Brindley
9/2	Viral Attachment and Entry			Chp 5 (v1)	Brindley
9/7	**Paper Discussion**	Read assigned Paper	Paper summary		Brindley
9/9	Vaccines		**Turn in** - Virus trading cards genome, structure, entry	Chp 7 (v2)	Brindley
9/14	**Exam I**				
9/16	RNA directed RNA synthesis			Chp 6 (v1)	Brindley
9/21	Viral DNA Replication, Synthesis of RNA from DNA and RNA processing			Chps 7 & 9 (v1)	García
9/23	Protein Translation and Assembly			Chps 11-13 (v1)	
9/28	Viral Transmission	*Virus Watch*: How mosquitoes spread viruses			Brindley
9/30	Antivirals	Watch online lecture	Flip the class Quiz	Chp 8 (v2)	Brindley
10/5	**Paper Discussion**	Read assigned Paper	Paper summary		Brindley
10/7	Viral gene Therapy		**Turn in** - Virus trading cards transcription, genome replication, budding	Chp 9 (v2)	Brindley
10/12	**Exam II**				Brindley
10/14	Intrinsic and Innate Responses	Turn-in Topic Review or Proposal		Chps 3 (v2)	Tompkins
10/19	Adaptive Responses			Chp 4 (v2)	Tompkins
10/21	Influenza				Rajao
10/26	Viral Evolution			Chp 10 (v2)	Brindley
10/28	Emerging viruses	Covid-19 (Coronavirus)		Invite Lecture	Hogan
11/2	**Paper Discussion**	Read assigned paper	Paper summary		Rajao
11/4	**Exam III**				Brindley
11/9	Acute Infections			Chp 5 (v2)	Brindley
11/11	Persistence infections			Chp 5 (v2)	García
11/16	Herpesviruses				García
11/18	Reverse transcriptase and Lentiviruses			Chp 10 (v1) & Chp 12 (V2)	García
11/23	Human immunodeficiency virus (HIV)			Chp 12 (V2)	Norris
11/30	Viral Oncogenesis			Chp 6 (v2)	García
12/2	**Paper Discussion**	Read assigned paper	Paper summary		García
12/7	Discuss Homework	**Turn In review or proposal**			García
12/9	**Exam IV**	12:00 to 3:00			Garcia

** Chapters from Principle of Virology 5th edition.