Virology MCB 4503

Course Syllabus

Instructor: Dr. Maria Cristina Terreros ***e-mail:*** **terrerom@fiu.edu**

Office: OE 201 (inside OE-200)

Office hours: ***Monday 1:00-3:00pm and Wednesday 1:00pm - 3:00pm.***
Students should contact Dr Terreros by e-mail (terrerom@fiu.edu) to make an appointment.

Credit hours: *3* hours

Course objectives: MCB 4503 is a course designed to facilitate an understanding of the molecular details governing viral replication, and the virus cell interactions that underlie specific disease processes. The course will encompass a discussion of viruses that infect organisms of all domains of life, but will primarily focus on the viruses that infect human beings and other metazoan animals. The course will specifically emphasize the molecular genetics underlying the replication cycles of the seven major classes of viruses. Additionally, the role of the virus: host interaction as it relates to immune modulation and pathogenesis will be explored.

Text Book Required: Virology: principles and applications by J. B. Carter and V. A. Saunders, 2007 or 2013. John Wiley and Sons, Ltd.

Text Book Recommended: Essential Human Virology by Jennifer Louten. Elsevier. Academic Press, 2016.

Course Requirements: This course comprises vast amounts of material. As such, success requires significant extracurricular reading and regular class attendance. Students are responsible for all assigned readings and all material presented in class.

Any and all communications from the instructor to students will be done utilizing the FIU e-mail system. (If you utilize a different e-mail service, it is your responsibility to link your e-mail account to the FIU system).

Course schedule:

Week 1 Introduction, course overview and syllabus.

Viruses and their importance. Methods used in virology. Virus structure.

Virus transmission.

Week 2 Virus Replication: Attachment and entry of viruses into cells.

Assembly and exit of virions from cells. Outcomes of infection for the host.

Classification and nomenclature of the virus.

Week 3 09/04/2018 OFF – To do HWA 1 & 2,

09/06/2018 EXAM 1 & HWA due.

Week 4 Herpesviruses. Parvoviruses.

Week 5 Reoviruses, Picornaviruses, Rhabdoviruses

Week 6 Retroviruses: human immunodeficiency viruses. Hepadnaviruses, Origin and evolution of viruses. Emerging viruses. Virus and cancer.

Week 7 10/02/2018 OFF – To do HWA 3 & 4,

10/04/2018 EXAM 2 & HWA due.

Week 8 Presentations

Week 9 Presentations

Week 10 Presentations

Week 11 Presentations

Week 12 Presentations

Week 13 Presentations

Week 14 Thanksgiving – No class.

Week 15 OFF – to do evaluations online

PROJECT PRESENTATIONS:

- The professor or instructor will make the division into groups, select one of the projects to be presented for each group and schedule talks. The presentation should be no less than 5 minutes long per each member of the group and the students shouldn't be reading from the computer, papers, cards or power point slides to avoid a "C". Below you will find the different topics for project presentations.

-The presentation should be in power point except for project #2.

Useful websites for up-to-date viral disease information are the U.S. Centers for Disease Control and Prevention (including its journal *Emerging Infectious Diseases*) and the World Health Organization. There are many journals publishing new virology research; the ones we will use the most in the course are *Science* , *Nature*, *Journal of Virology* , *Journal of General Virology* , *Virology* , and *Journal of Infectious Diseases*.

You will have different group projects that include articles presentations, viral disease display presentation and a research project.

1-JOURNAL ARTICLE PRESENTATIONS

-Students will select an article from the recently published in peer reviewed journals (from 2015- to date) and provide the copy of the abstract to the instructor. After reviewing the abstract based on the research design and results and significance of the paper, the instructor will approve the scientific original article to be presented by a student.

-No more than two (2) students has to present one of the articles choose for the group.

-The students shouldn't be reading from the computer, papers, cards or power point slides to avoid a "C".

2-Viral Disease Display Presentations.

Students will work in a group to generate an informational poster on a viral disease .and explain it to the audience. The objective is to create a display that could be set up in a local health department to provide information for patients and visitors. The posters should provide background information on the issue to be presented. Topics to consider include: transmission, prevention and treatment; vaccine development; global impact; history, etc. The poster format will be a tri-fold cardboard poster onto which you will paste/tape/staple pictures, charts, diagrams, text, etc. The amount of the tri-fold cardboard poster is up to you and according to the material that will be presented.

3-Pandemic Preparedness Research Project.

A group of students will investigate what is being done at various levels (local, state, national and international) to prepare for future pandemics. What measures are being taken, what diseases are being monitored, etc. The project should be presented in power point in order to explain it to the audience.

Performance Measures:

Students will be evaluated on the following:

- Exam 1 20%
- Exam 2 20%
- Homework Assignments (1st. part) 20%
- Homework assignments (2nd. Part) 20%
- Presentations 20%

Two multiple choice exams will be given. Each exam will cover all the lectures which have been assigned prior to each exam.

There is NO make up for exams, except for documented medical emergencies.
NO MAKE-UPS ARE GIVEN FOR MISSED PRESENTATIONS.

Exams are available for review from October 17 until November 19, 2018. In order to review your exams you have to make an appointment.

Assignments:

Students will be asked to make homework assignments during the course semester. These hard copy assignments will be collected in class during the specific dates and will not be accepted after that. Essay assignments will be no more than 3 pages in length (double spaced, 1 inch margins, times new roman).

Extra Points:

Two extra points will be given for each extra assignments. These extra points will be added to the final grade. These hard copies assignments will be collected in class during the week 13 of the semester and will not be accepted after that week.

You will be evaluated using the following scale:

A= 92.6-100%
A-= 89.6-92.5%
B+= 86.6-89.5%
B= 82.6-86.5%
B-= 79.6-82.5%
C+= 76.6-79.5%
C= 70.6-76.5%
D= 70.5- 59.6%
F= 59.5% or below

ACADEMIC MISCONDUCT

All students in this class are expected to abide by the university's Code of Academic Integrity, which states:

> Florida International University is a community dedicated to generating and imparting knowledge through excellent teaching and research, the rigorous and respectful exchange of ideas, and community service. All students should respect the right of others to have an equitable opportunity to learn and honestly to demonstrate the quality of their learning. Therefore, all students are expected to adhere to a standard of academic conduct, which demonstrates respect for themselves, their fellow students, and the educational mission of Florida International University.
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> As a student of this university:
>
> I will be honest in my academic endeavors.
>
> I will not represent someone else's work as my own.
>
> I will not cheat, nor will I aid in another's cheating.

All students are deemed by the University to understand that if they are found responsible for academic misconduct, they will be subject to the Academic Misconduct procedures and sanctions, as outlined in the Student Handbook.

NOTE: This syllabus is subject to change. Please check the on-line syllabus often for modifications. Also, changes or modifications will be announced during the lectures.