BIOL-UA 505 Viral Diversity and Evolution

Instructor:
TBD

Course Description:
Through a combination of lecture and discussion of the scientific literature, this course will survey the diversity that exists in the virosphere, including the latest virus discoveries. The course will cover principles of virus evolution, emergence of novel strains, adaptation to new hosts, and transmission dynamics. Students will read a significant amount of literature in the field of virus evolution and virus ecology; discuss review papers as well as current, peer-reviewed experimental methods in the field; and will gain skills in public speaking by presenting primary research papers in class presentations.

Pre-requisite:
Molecular and Cell Biology I (BIOL-UA 21)

Textbook and Required Materials:
Esteban Domingo: “Virus as Populations: Composition, Complexity, Dynamics, and Biological Implications”, published by Elsevier, 2016

Grading:
Class participation 10%
Written responses to weekly questions 40%
Student led paper discussions 25%
Final written project and presentation 25%

Topics:
Introduction to viral ecology
virus origins
the role of viruses in biological diversity
genetic and genomic variation of viruses
Packaging and transmission
Virus evolution and dynamics
bacteriophages
Virus-host interactions
Newly discovered viruses