

Department.: Pathobiology and Veterinary Science

Course number: PVS248W

Title: Principles of Animal Virology

Credits: 3

Contact Person: Dr. Antonio E. Garmendia

Catalog Copy: -PVS248W Principles of Animal Virology. Fall semester. 3 credits. Recommended preparation: biochemistry, general microbiology

Instructor Antonio E. Garmendia

Course Information:

This is a 3-credit course offered to undergraduate students but also graduate students of Pathobiology and related fields can take the course. Graduate students are required to write a research proposal and to present a seminar as part of their evaluation and final grade. For both PVS248 or PVS248W the course itself covers fundamental aspects of virus structure, virus replication, assays and diagnosis, and an overview of viral diseases that affect both humans and animals, covering etiology, pathogenesis, clinical pathological aspects as well as methods of diagnosis and control. The course does not offer a formal laboratory however, a number of practical demonstrations are conducted throughout the semester utilizing material from my laboratory. A section on molecular methods applied to virology has been recently implemented in the course and a student guide is provided. The students receive additional material to complement the textbook and are encouraged to review current papers. The course provides a strong background in Virology for pre-Vet and pre-Med and students of other related fields and also for graduate students who are planning to take more advanced courses in virology. The course provides updates of state-of-the-art knowledge and technologies that apply directly to or are related to virology. An effort is made to keep the interest of my students in contemporary virological topics such as AIDS, hepatitis, dengue, Ebola, rabies, etc. and increase their awareness in terms of control and

prevention of such viral diseases, so that this course has a true sense of reality. A significant number of practical laboratory demonstrations are done throughout the semester in order to provide the students with

visual experiences. I encourage an active participation of my students in class, utilize visual aids to improve the level of communication with my students. I provide videos on disease like Lassa fever, Hantavirus, hepatitis B virus rabies etc. to be shown in class in addition to the corresponding lectures. Through a grant from the Teaching Institute the Encyclopedia of Virology in CD was purchased. This CD is a very useful adjunct for learning virology and is available in the computer laboratory.

The students taking the course as PVS248W are required to write a 15 page long scientific paper which is revised by the instructor at the draft and final stages. A series of suggested topics are distributed and selected by the students at the beginning of the semester. Students may choose a different topic with the consent of the instructor. The papers follow a format from a scientific journal and are evaluated on structure and content. Failure to pass either the course itself or the writing part will result in failure to pass the course.

W Criteria : The PVS248/PVS248W course covers basic and applied aspects of virology. The objectives of the course are to provide the students with a general and strong background and understanding on virus structure, virus classification, virus replication, immunity to viral infection, pathogenesis, diagnostic, control of viral diseases and to enhance the student's ability to interpret scientific literature and to write scientific papers for publication. The students taking PVS 248 as a W course, in addition to taking the course per se, will gain skills in writing scientific papers in topics of current interest while allowing them to put into perspective fundamental and applied concepts of virology. The students are required to select a topic from a suggested list or a topic of personal interest with the consent of the instructor. The next step is to present an outline of the paper with few scientific references on which the paper will be based. The outline and choice of references are reviewed and at this point suggestions and comments are made mostly on structure and choice of references. A first draft follows which is revised by the instructor and further comments and suggestions are made to improve the paper. At

this point the number of references cited is complete or nearly complete. Additional drafts may be required on a case by case basis. A 15 page paper that includes the author's own comments and references is due at the end of the semester. The final papers are evaluated both in structure and content. Failure to pass the writing part of the class will be grounds to fail the course.

Role of Grad Students: Graduate student assistants are expected to have taken PVS248 or an equivalent course and attended a training workshop at the W Learning Center. The GSA will help with preparation and administration of exams, help with revising papers for students taking the course as a W. The graduate student assistants are supervised by the instructor.