

Department Name and Number _____	
Current SCNS Course Identification Prefix ____ ____ ____    Level ____    Course Number ____ ____ ____    Lab Code ____ Course Title _____	
Effective Term and Year _____	Terminate Current Course <input type="checkbox"/> Other Changes (specify below) <input type="checkbox"/>

Change Course Identification to:

Prefix \_\_\_\_ \_\_\_\_ \_\_\_\_    Level \_\_\_\_    Course Number \_\_\_\_ \_\_\_\_ \_\_\_\_    Lab Code \_\_\_\_

Full Course Title \_\_\_\_\_

Transcript Title (please limit to 21 characters) \_\_\_\_\_

Credit Hours: From ____ To ____	Contact Hours: <input type="checkbox"/> Base or <input type="checkbox"/> Headcount From ____ To ____
Rotating Topic: From <input type="checkbox"/> yes <input type="checkbox"/> no To <input type="checkbox"/> yes <input type="checkbox"/> no	S/U Only: From <input type="checkbox"/> yes <input type="checkbox"/> no To <input type="checkbox"/> yes <input type="checkbox"/> no
Variable Credit: From <input type="checkbox"/> yes <input type="checkbox"/> no To <input type="checkbox"/> yes <input type="checkbox"/> no If yes, ____ minimum and ____ maximum credits/semester	Repeatable Credit: From <input type="checkbox"/> yes <input type="checkbox"/> no To <input type="checkbox"/> yes <input type="checkbox"/> no If yes, ____ total repeatable credit allowed

Prerequisites	Co-requisites
From _____ To _____	From _____ To _____

Course Description (50 words or less; if requesting a change, please attach a syllabus)

From _____	To _____
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Rationale /Place in Curriculum/Impact on Program

\_\_\_\_\_

Department Contact	Name _____	Phone _____	Email _____
College Contact	Name _____	Phone _____	Email _____

## University of Florida College of Veterinary Medicine Syllabus

### I. Course information

*Number:* VEM 5131

*Course title:* **Veterinary Molecular Biology**

*Semester:* Fall

*Year:* 2014

*Course credit:* 1

### II. General information

*Course director:* David R. Allred, Ph.D.

Dr. Allred office location and office hours: Bldg. 1017, room V2-157; anytime

Office phone number: 352-294-4126

email: [allredd@ufl.edu](mailto:allredd@ufl.edu)

*Course faculty:* Drs. David Allred, Anthony Barbet, Ayalew Mergia, and Rowan Milner

### III. Course description

*Course goals/ Educational goals of the course:*

This course is designed to aid the veterinary students in understanding principles of molecular biology, and their application to patient problems, diagnosis, and treatment, and to provide a groundwork for life-long learning.

*Course outline and schedule:*

<http://www.http://education.vetmed.ufl.edu/student-services/>

### IV. Course materials

*Protein synthesis and folding, antibiotics, and TSE diseases.* To help students understand how protein synthesis is regulated, how it can be targeted to treat infection, and how it can go wrong to cause disease.

*keywords:* antibiotics; chaperones; chaperone activities; post-translational modification; translation; translation inhibition; transmissible spongiform encephalopathies

*Gene regulation and epigenetics.* To help students understand how inheritance and phenotype interconnect in sometimes unobvious ways.

*keywords:* chromatin structure; chromatin modifications; enhancer; histones; insulators; promoters; RNA polymerases; terminators

*RNAs and regulation of gene expression.* To help students understand how RNA metabolism is integrated with gene regulation, and how that can lead to pathologic conditions.

*keywords:* dysregulation of RNA metabolism; microRNAs; non-coding RNAs; RNA interference; RNA turnover; siRNAs

*Genetic diseases.* To help students understand the basis for different classes of genetic diseases, their diagnosis, and potential for treatment.

*keywords:* copper toxicosis; dominance; genotype; inheritance; mutation; mutant; narcolepsy; penetrance; phenotype; trinucleotide repeat diseases

*Molecular mechanisms of immune evasion.* To make students aware and to help them understand phenomena underlying persistent infection despite drug treatment and the immune system.

*keywords:* antigen masking; antigenic drift; antigenic shift; antigenic variation; antigenicity; epitope structure; immunogenicity; protein conformation; protein families

*Molecular approaches to vaccine development.* To help students understand the basis for development of the next generation of vaccines, and the USDA regulations controlling them.

*keywords:* DNA vaccine; gene-deleted vaccine; killed vaccine; live-vectored vaccine; Rabies; recombinant protein; recombinant virus; USDA vaccine classification; Vaccinia

*Cancer and its causes.* To help students understand the basis for oncogenesis and its diagnosis and treatment.

*keywords:* activation; carcinogen; carcinogenesis; DNA lesion; DNA repair; genomic instability; oncogenesis; promotion; transformation; tumorigenesis

*Retroviruses and retroviral diseases.* To help students understand the basis of the retroviral lifestyle, retroviral diseases of animals, and the potential of retroviruses for use in gene therapy.

*keywords:* Central Dogma; DNA integration; gene therapy; oncogenic potential; retroviral life-cycle; retrovirus; reverse transcription

## **V. Evaluation/ Grading/ Testing**

*Grading:* Students are assigned letter grades, including plus and minus grades, based upon their performance on the course examination. Current UF policy regarding grade points can be found at <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx#grades>

## **VI. Administrative policies**

see Student Handbook at <http://http://education.vetmed.ufl.edu/student-services/student-handbook-pdf/>

UFCVM policies described in the Handbook for Students in the Professional Veterinary Curriculum that address class attendance, grading, academic integrity and classroom responsibilities will be followed.

## **Statement of University's Honesty Policy (cheating and use of copyrighted materials)**

**Academic Integrity** – Students are expected to act in accordance with the University of Florida policy on academic integrity (see Student Conduct Code, the Graduate Student Handbook or this web site for more details: [www.dso.ufl.edu/judicial/procedures/academicguide.php](http://www.dso.ufl.edu/judicial/procedures/academicguide.php)).

Cheating, lying, misrepresentation, or plagiarism in any form is unacceptable and inexcusable behavior.

*We, the members of the University of Florida community,  
pledge to hold ourselves and our peers to the  
highest standards of honesty and integrity.*

### **Policy Related to Class Attendance**

Attendance at all lectures is required. Excuses for absences will be considered on an individual basis.

### **Policy Related to Make-up Exams or Other Work**

Students are expected to attend and be prepared to participate in all class sessions. Personal issues with respect to class attendance or fulfillment of course requirements will be handled on an individual basis.

### **Statement Related to Accommodations for Students with Disabilities**

If classroom accommodation because of a disability is required, students must first register with the Dean of Students Office (<http://www.dso.ufl.edu/>). The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Associate Dean for Students and Instruction in the College of Veterinary Medicine as well as the course coordinator when requesting accommodation. The College is committed to providing reasonable accommodations to assist students in their coursework.

### **Counseling and Student Health**

Students may occasionally have personal issues that arise in the course of pursuing higher education or that may interfere with their academic performance. If you find yourself facing problems affecting your coursework, you are encouraged to talk with an instructor and to seek confidential assistance at the University of Florida Counseling Center, 352-392-1575, or Student Mental Health Services, 352-392-1171. Visit their web sites for more information: <http://www.counsel.ufl.edu/> or <http://www.health.ufl.edu/shcc/smhs/index.htm#urgent>

The Student Health Care Center at Shands is a satellite clinic of the main Student Health Care Center located on Fletcher Drive on campus. Student Health at Shands offers a variety of clinical services, including primary care, women's health care, immunizations, mental health care, and pharmacy services. The clinic is located on the second floor of the Dental Tower in the Health Science Center. For more information, contact the clinic at 392-0627 or check out the web site at: [www.health.ufl.edu/shcc](http://www.health.ufl.edu/shcc)

Crisis intervention is always available 24/7 from:  
Alachua County Crisis Center: (352) 264-6789.

*BUT – Do not wait until you reach a crisis to come in and talk with us. We have helped many students through stressful situations impacting their academic performance. You are not alone so do not be afraid to ask for assistance.*