

Cover Sheet: Request 9385

VEM 5131, Veterinary Molecular Biology

Info

Process	Professional Curriculum Changes
Status	Pending
Submitter	Mccolskey, Dorothy mccolskeyd@ufl.edu
Created	5/20/2014 2:08:54 PM
Updated	2/20/2015 12:10:44 PM
Description	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.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	VM - Infectious Diseases and Pathology	Dame, John B		5/20/2014
College	Approved	VM - College of Veterinary Medicine	Thomas Vickroy		8/29/2014
UCC	Recycled	PV - University Curriculum Committee (UCC)	Gebhardt, Susan	Request: Reduce credit hours from 2 to 1. UCC2: Department number is only 4 digits; effective term must be changed from Fall 2014. If change in course description is requested (whether this is true isn't clear), the UCC2 form must fully completed. No rationale for request. Syllabus: Provides a link to a course schedule but link does not provide indicated information (and in any case these may not be provided in the syllabus as a link); no clear course objectives; no textbook or reading materials; list of course materials is unclear (are these titles of readings?),	9/18/2014

Step	Status	Group	User	Comment	Updated
College	Approved	VM - College of Veterinary Medicine	GINN, PAMELA EVE	The department number was corrected and the reading list, schedule and objectives added as attached documents. The course was reduced to one credit due to the fact that much of the material is covered in undergraduate prerequisite courses and the time in the curriculum is now better used in courses applicable to making practice ready veterinarians and in developing a molecular biologic diagnostics elective course with material directly applicable to practicing veterinary medicine. Thank you for your consideration Dr. Pamela E. Ginn ginnp@ufl.edu	9/22/2014
UCC	Comment	PV - University Curriculum Committee (UCC)	Morrison, Lee Shaw	Added to the October agenda.	10/3/2014
UCC	Recycled	PV - University Curriculum Committee (UCC)	Gebhardt, Susan	Request: Reduce credit hours from 2 to 1 UCC: Form must be complete, including rationale and both the current and proposed course descriptions (based on listings at Veterinary Medicine website, the description is changing). Syllabus: Indicates readings will substitute for a textbook, but none are listed; no indication of how grades are determined (e.g., how the quizzes and exam are weighted, whether participation/attendance is scored); no course evaluations statement.	10/23/2014

Step	Status	Group	User	Comment	Updated
College	Approved	VM - College of Veterinary Medicine	Thomas Vickroy	A revised document has been uploaded (VEM5171,Molecular biology_2.pdf) that addresses all points raised by the committee. Specifically (1) reference is provided to the course learning site on Sakai where reading materials are provided free-of-charge to all students, (2) specifies that grades are based on a single written exam, (3) specifies that classroom attendance is required but does not contribute into the assignment of grades and (4) includes a statement regarding student evaluations of instructors. THanks you, Tom Vickroy	10/23/2014
UCC	Comment	PV - University Curriculum Committee (UCC)	Gebhardt, Susan	The UCC 2 form was updated with the credit change but the below changes are still standing. Request: UCC: Form must be complete, including rationale and both the current and proposed course descriptions (based on listings at Veterinary Medicine website, the description is changing).	10/27/2014
UCC	Comment	PV - University Curriculum Committee (UCC)	Gebhardt, Susan	added to the November agenda	11/3/2014

Step	Status	Group	User	Comment	Updated
UCC	Recycled	PV - University Curriculum Committee (UCC)	Gebhardt, Susan	Request: Adjust credit hour from 2 to 1 and update course description UCC: Course description and rationale are blank. This is the third time this request has been submitted without clarifying whether the college requesting a change in the course description. If no change is requested, the course description field should be blank. If a change is requested, the current and proposed text must be entered into the appropriate fields on the UCC2 form (the text cannot refer to attached document).	11/19/2014
College	Approved	VM - College of Veterinary Medicine	GINN, PAMELA EVE		2/20/2015
UCC	Pending	PV - University Curriculum Committee (UCC)			2/20/2015
Registrar					

UCC2: Course Change Transmittal Form

Department Name and Number _____	
Current SCNS Course Identification	
Prefix ____ ____ ____ Level ____ Course Number ____ ____ ____ Lab Code ____	
Course Title _____	
Effective Term and Year _____	Terminate Current Course ☐ Other Changes (specify below) ☐

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: ☐ Base or ☐ Headcount From ____ To ____
Rotating Topic: From ☐ yes ☐ no To ☐ yes ☐ no	S/U Only: From ☐ yes ☐ no To ☐ yes ☐ no
Variable Credit: From ☐ yes ☐ no To ☐ yes ☐ no	Repeatable Credit: From ☐ yes ☐ no To ☐ yes ☐ no
If yes, ____ minimum and ____ maximum credits/semester	If yes, ____ total repeatable credit allowed

Prerequisites	Co-requisites
From	From
To	To
Course Description (50 words or less; if requesting a change, please attach a syllabus)	
From	To

Rationale /Place in Curriculum/Impact on Program
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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

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

There is no textbook required for this course. Students are provided appropriate reading materials on the course website in Sakai. Topics that are addressed include the following:

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 final course examination. There are no quizzes or other evaluative materials used to determine student grades. 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).

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.*

Student Evaluation of Instruction - Evaluations are performed electronically at the end of the course. To evaluate the instructor, visit the UF Evaluation site at:
<https://evaluations.ufl.edu/evals/>

Policy Related to Class Attendance

Attendance at all lectures is required. Excuses for absences will be considered on an individual basis. Attendance is not part of the final course grade.

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

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.

Schedule for VEM5131- Veterinary Molecular Biology

Fall 2014, 1 credit

Dr. David R. Allred, Course Coordinator

<u>Date, Location</u>	<u>Time</u>	<u>Instructor</u>	<u>Subject</u>	<u>Study materials</u>
Prior to class	--	<i>self</i>	<i>Refresh general background in biochemistry and molecular biology concepts</i>	<i>Book(s), SCAVMA Refresher chapter</i>
08/21/14 HSC 2-200	10:30 am - 12:20 pm	Allred	Protein synthesis and folding, antibiotics, and TSE diseases	quiz sheet #1, SCAVMA reading
08/25/14 HSC C1-9	10:30 am - 12:20 pm	Allred	Gene regulation and epigenetics: why inheritance makes more sense than it used to	quiz sheet #2, SCAVMA reading
08/26/14 HSC C1-9	10:30 am - 12:20 pm	Allred	RNAs and regulation of gene expression	quiz sheet #3, SCAVMA reading
08/28/14 HSC 2-200	10:30 am - 12:20 pm	Allred	Genetic diseases, or “why you shouldn’t marry your cousin”	quiz sheet #4, SCAVMA reading
09/02/14 HSC C1-17	10:30 am - 12:20 pm	Allred	Molecular mechanisms of immune diversity and immune evasion	quiz sheet #5, SCAVMA reading
09/05/14 HSC C1-17	10:30 am - 12:20 pm	Barbet	Molecular approaches to the development of new vaccines	quiz sheet #6, SCAVMA reading
09/08/14 HSC C1-17	10:30 am - 12:20 pm	Milner	Cancer and its causes: treatment and its ramifications	quiz sheet #7, SCAVMA reading
09/09/14 HSC C1-17	10:30 am - 12:20 pm	Mergia	Retroviruses and retroviral diseases	quiz sheet #8, SCAVMA reading
09/15/14 HSC CG28	9:30 am - 11:20 pm	Allred	Final Examination	everything

07/23/14 draft

VEM5131 Molecular Biology Learner Objectives

Understand gene characterization

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Understand the process of gene identification

—

Understand Comparative gene structure

—

Gene profiling: What it is; why and how it's done

—

Understand the molecular basis of genetic disease

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VEM 5131- Veterinary Molecular Biology

NOTES: We are again not using a published textbook. None I have found is up-to-date, suitable in length, and covers the broad range of topics found in this course. Therefore, reading assignments will be from the SCAVMA notes, any handouts that are provided, and any additional assignments given by individual instructors. In addition, there is a course Sakai (i.e., eLearning) site which will be populated with the instructors' Powerpoint slides, quizzes, and other relevant information.

Recommended References

Essentially any good textbook in molecular biology, biochemistry, or cell biology will have useful information on many of the basic topics of this course. Specialized topics may not lend themselves to the use of textbooks, but instructors generally provide SCAVMA notes and often Powerpoint figures, and may direct you to relevant review articles. Please make use of any such information recommended by instructors.