Cover Sheet: Request 10745

ANS3XXX Canine and Feline Genetics

Info

Process	Course|New|Ugrad/Pro
Status	Pending
Submitter	Imler,Amie M amie.taylor@ufl.edu
Created	2/4/2016 3:17:12 PM
Updated	9/26/2016 6:08:36 AM
Description of request	The course covers basic Mendelian genetics with direct application to dogs and cats. Lectures and lab exercises on basic genetic principles and inheritance of particular canine and feline characteristics will provide a more in depth understanding of how simple traits, including coat color and some common genetic disorders, are inherited.

Actions

Step	Status	Group	User	Comment	Updated
Department	Approved	CALS - Animal Sciences 514909000	Tenbroeck, Saundra Hodge		2/4/2016
Deleted CanineFelineGenetics Syllabus Fall 2016.pdf Deleted CanineFelineGenetics Syllabus Fall 2016.pdf					2/4/2016 2/4/2016
College	Recycled	CALS - College of Agricultural and Life Sciences	Brendemuhl, Joel H	See notes from CALS CC 2-12-16.	2/22/2016
No document changes					
Department	Approved	CALS - Animal Sciences 514909000	Tenbroeck, Saundra Hodge		9/6/2016
Deleted ANS3XXX CanineFeline Syllabus Fall 2016.pdf					4/19/2016
College	Approved	CALS - College of Agricultural and Life Sciences	Brendemuhl, Joel H	After consultation with Agronomy and Biology it was determined that this course should be offered at the 4XXX level and that it needed prerequisites. Those changes have been made and the new syllabus and UCC 1 form reflect that. It was approved by the CALS CC in this new format on 9/16/16.	9/26/2016
Added Canine & Feline Genetics - UCC consult Agronomy.pdf Added Canine & Feline Genetics - UCC consult Biology.pdf Added CanineFelineGenetics Syllabus Fall 2016New.pdf					9/9/2016 9/9/2016 9/9/2016
University Curriculum Committee	Pending	PV - University Curriculum Committee (UCC)			9/26/2016
No document changes					
Statewide Course Numbering System					

Step	Status	Group	User	Comment	Updated
No document changes					
Office of the Registrar					
No document changes					
Student Academic Support System					
No document changes					
Catalog					
No document changes					
College Notified					
No document changes					

Course|New for request 10745

Info

Request: ANS3XXX Canine and Feline Genetics
Description of request: The course covers basic Mendelian genetics with direct application to dogs and cats. Lectures and lab exercises on basic genetic principles and inheritance of particular canine and feline characteristics will provide a more in depth understanding of how simple traits, including coat color and some common genetic disorders, are inherited.
Submitter: Brendemuhl,Joel H brendj@ufl.edu
Created: 9/9/2016 7:17:20 AM
Form version: 5

Responses

Recommended PrefixANS
Course Level 4
Number XXX
Lab Code None
Course Title Canine and Feline Genetics
Transcript Title Canine Feline Genet
Effective Term Earliest Available
Effective Year Earliest Available
Rotating Topic?No
Amount of Credit3

Repeatable Credit?No

S/U Only?No
Contact Type Regularly Scheduled
Degree Type Baccalaureate

Weekly Contact Hours 3
Category of Instruction Advanced
Delivery Method(s) Online
Course Description Application of genetic principles to canine and feline characteristics to provide an in depth understanding of how these traits are inherited. Information on new genomic technologies and their impact on studying inheritance of specific traits, including coat color and genetic disorders, are discussed.
Prerequisites ANS 3384 or AGR 3303 or PCB 3063 or equivalent.
Co-requisites none
Rationale and Placement in Curriculum Many undergraduate students have a special interest in pet animals, particularly dogs and cats. This course provides a more in depth understanding of how simple and complex traits are inherited and how new genomics technologies are used to study these traits.
Course Objectives 1. Understand the genetic inheritance of simple and complex traits in cats and dogs.
2. Describe the principles of recombination, gender and inheritance, epistasis as they apply to the inheritance of canine and feline traits.
3. Apply genetic principles to predict inheritance of coat color in cats and dogs.
4. Use probabilities and statistical tests to predict progeny distribution from different matings.
5. Explain the concept of genetic linkage and how can be applied in searching for genes controlling feline and canine traits.
6. Examine several case studies related to specific canine or feline genetic disorders and understand the technologies and steps needed to study these disorders.

7. Describe recent advances in genomic technologies and their impact on our ability to uncover the genetic basis of specific canine and feline disorders.

Course Textbook(s) and/or Other Assigned Readingno formal text is required; readings include:
Early Canid Domestication: The Farm-Fox Experiment (American Scientist)
Perspectives on domestication: The history of our relationship with man's best friend (J. of Animal Science)
Feline Genetics: Clinical Applications and Genetic Testing (Topics in Companion Animal Medicine)
Canine Morphology Hunting for Genes and Tracking Mutations (PLOS Reviews)
The taming of the cat (Scientific American)
Canine Behavioral Genetics: Pointing Out the Phenotypes and Herding up the Genes (The American journal of human genetics)
International and collaborative strategies to enhance genetic health in purebred dogs (The veterinary journal)
Deafness in blue-eyed white cats: The uphill road to solving polygenic disorders (The veterinary journal)
State of cat genomics (Trends in genetics)
Dogs really are man best friend (Briefings in functional genomics and proteomics)
Genetic diversity, inbreeding and breeding practices in dogs: Results from pedigree analysis (The veterinary journal)
Risk assessment in the improvement of inherited disorders in pedigree dogs (The veterinary journal)
Identification of quantitative trait loci for osteoarthritis of hip joints in dogs (American Journal of Veterinary Research)
Genetic and phenotypic variations of inherited retinal diseases in dogs: the power of within- and across-breed studies (Mammalian Genome)
Canine Inherited Disorders (The journal of heredity)

Weekly Schedule of Topics Week 1: Dog and Cat Domestication
Week 2: Basic Genetic Concepts
Week 3: Gender and Inheritance
Week 4: Multiple Allelic Systems and Lethal Alleles
Week 5: Epistasis
Week 6: Genetics of Feline Coat Color
Week 7: Genetics of Canine Coat Color
Week 8: Probabilities
Week 9: Testing Genetic Hypotheses
Week 10: Linkage
Week 11: Detecting Recessive Alleles
Week 12: Canine Hip Dysplasia
Week 13: Progressive Retinal Atrophy
Week 14: Inherited Bleeding Disorders
Grading Scheme Total 494 points;
- 11 Quizzes at 10 points each (110 points)
- 14 Assignments at 10 points each (140 points)
- 11 Discussions at 4 points each (44 points)
- Term Paper at 200 points

Instructor(s) Raluca Mateescu

UF UNIVERSITY of FLORIDA

UCC: External Consultations

External Consultation Results (departments with potential overlap or interest in proposed course, if any)

Department	Name and Title
Agronomy	Robert Gilbert, Professor and Chair
Phone Number	**E-mail**
352 294-1583	ragilber@ufl.edu

Comments

The Agronomy Department has reviewed the proposed syllabus for ANS 3xxx, Canine and Feline Genetics. While there is some overlap with AGR 3303 on topics such as gender and inheritance and epistasis this is to be expected. We note that since this specialty genetics course will require 3000 level prerequisites (including AGR 3303) you may want to offer it at the 4000 level. We have no objection to this course going forward.

Department	Name and Title
Phone Number	**E-mail**

Comments

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Comments

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Phone Number	**E-mail**

Comments

Department	Name and Title
Phone Number	**E-mail**

Comments

Syllabus Fall 2016

CANINE AND FELINE GENETICS

COURSE SYLLABUS

Course

ANS 4XXX On-line course
Fall 2016 — 3 Credits

Lecture

On line (Canvas website)

Instructor

Dr. Raluca Mateescu
Office: Room 202B, Animal Science – Bldg 459
Phone: (352) 392-2367
e-mail: raluca@ufl.edu

Course Description

Lectures, seminars and lab exercises on application of genetic principles to canine and feline characteristics will provide an in depth understanding of how these traits are inherited and analyzed. Information on new genomic technologies and their impact on studying specific traits, including coat color and genetic disorders, are discussed.

Pre-requisites

ANS 3384, AGR 3303, PCB 3063 or equivalent

Syllabus Fall 2016

Instructor

Instructor: Dr. Raluca Mateescu
E-mail: Please use the Inbox email tool in Canvas, or email raluca@ufl.edu
Virtual Office Hours: By appointment
Phone: 352-392-2367

The instructor will be available for students. Please make arrangements to visit at your convenience. If you call and I am not available, leave your name and telephone number or e-mail address and you will be contacted as soon as the message is received. The best method to reach me is through e-mail. DO NOT **WAIT UNTIL EXAMINATION TIME!**

It is important to keep up and not fall behind. Get started on the first day of class – do your homework on time, get help when you need it – and remember there is no substitute for **DAILY PREPARATION. It is much easier on all of us if you get answers to questions one or two days after class rather than one or two days before an exam.**

Course Description

Lectures, seminars and lab exercises on application of genetic principles to canine and feline characteristics will provide an in depth understanding of how these traits are inherited and analyzed. Information on new genomic technologies and their impact on studying specific traits, including coat color and genetic disorders, are discussed.

Learning Objectives

By the end of the semester, the student should be able to:

1. Define and recognize different theories domestication for cats and dogs.
2. Describe the principles of recombination, gender and inheritance, epistasis as they apply to the inheritance of canine and feline traits, use probabilities and statistical tests to predict progeny distribution from different matings.
3. Understand the principles of genetic testing and describe the process of tracking genes and mutations responsible for canine and feline traits.
4. Discuss the role of genetics in canine and feline behavior.
5. Identify and recognize how different coat color phenotypes are inherited in cats and dogs.
6. Examine several case studies related to specific canine or feline genetic disorders and understand the technologies and steps needed to study these disorders.
7. Describe recent advances in genomic technologies and their impact on our ability to uncover the genetic basis of specific canine and feline disorders.

Pre-requisites

ANS 3384, AGR 3303, PCB 3063 or equivalent

Syllabus Fall 2016

Attendance Policy

Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at: https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx

Text

No formal text is required. Students will be provided handouts, which are current and relevant to topics discussed in class. A suggested reading list is provided as well as links to free published sources.

Grading Policy

11 Quizzes (10 pts)		110 pts
14 Assignments (10 pts)		140 pts
11 Discussions (4 pts)		44 pts
Term Paper		200 pts
	Total	**494 pts**

Letter grades will be assigned based upon the following scale:

A 93-100%	**B- 80-82.9%**	**D+ 67-69.9%**
A- 90-92.9%	**C+ 77-79.9%**	**D 63-66.9%-**
B+ 87-89.9%	**C 73-76.9%**	**D- 60-62.9%-**
B 83-86.9%	**C- 70-72.9%**	**E 60% and Below**

The scale may be lowered but will not be raised.

Policy on Late Assignments

Assignments are due on Monday by 5pm. They may be handed in late (with no penalty) **only** if it is arranged with the instructor. Otherwise there will be a **4 point penalty** per day.

No late quizzes or discussions will be allowed, unless arranged with the instructor—these will close on Canvas at the specified date/time and they will not be available past the deadline.

Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at: https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx

Syllabus Fall 2016

Tentative Outline

(Note: This schedule is subject to revision as the course progresses.)

Date	Lecture/Assignment		
24-Aug	Lecture	1	**Dog & Cat Domestication**
	Assign	1	1. Early canid domestication-the farm-fox experiment; Perspectives on domestication. The history of our relationship with man's best friend
	Quiz, Discussion	1	
31-Aug	Lecture	2	**Review of Genetic Concepts: principles of recombination, gender and inheritance**
	Assign, Quiz	2	2. Problem Set 1
7-Sep	Lecture	3	**Statistical basis of inheritance**
	Assign, Quiz	3	3. Problem Set 2
14-Sep	Lecture	4	**Genetic testing, tracking genes and mutations**
	Assign	4	4. Feline Genetics_Clinical Applications and Genetic Testing; Canine Morphology Hunting for Genes and Tracking Mutations
	Quiz, Discussion	4	
21-Sep	Lecture	5	**Role of Genetics in Behavioral Traits**
	Assign	5	5. The taming of the cat; Canine Behavioral Genetics
	Quiz, Discussion	5	Article discussion, Paper Topic due for approval.
28-Sep	Lecture	6	**Genetics of Feline Coat Color: Brown, Orange, Agouti, Tabby, Albino, White, Spotting, Calico, Inhibitor genes**
	Assign	6	6. Summary of genes determining coat color in cats
	Quiz, Discussion	6	
5-Oct	Lecture	7	**Genetics of Canine Coat Color: Agouti, Black, Yellow, Brown, Albino, Dilution, Extension, Brindle, Gray, Merle, Harlequin, Tweed, Spotting, Ticking**
	Assign	7	7. Summary of genes determining coat color in dogs
	Quiz, Discussion	7	
12-Oct	Lecture	8	**Linkage and Association Mapping of complex traits**
	Assign	8	8. International and collaborative strategies to enhance genetic health in purebred dogs; Deafness in blue-eyed white cats
	Quiz, Discussion	8	
19-Oct	Lecture	9	**Strategies for improving inherited canine and feline disorders**
	Assign	9	9. Problem Set 3
	Quiz, Discussion	9	
26-Oct	Lecture	10	**Canine and Feline research in the genomics era**
	Assign	10	10. Dogs really are man's best friend; State of cat genomics
	Quiz, Discussion	10	
2-Nov	Lecture	11	**Genetic diversity and detection of Recessive Alleles**
	Assign	11	11. Genetic diversity, inbreeding and breeding practices in dogs; Risk assessment in the improvement of inherited disorders in pedigree dogs
	Quiz, Discussion	11	**Paper Outline**
9-Nov	Lecture	12	**Canine Hip Dysplasia**
	Assign	12	12. Identification of quantitative trait loci for osteoarthritis of hip joints in dogs
	Discussion	12	
16-Nov	Lecture	13	**Progressive Retinal Atrophy**
	Assign	13	13. Genetic and phenotypic variations of inherited retinal diseases in dogs: the power of within- and across-breed studies
	Discussion	13	
23-Nov	Lecture	14	**Inherited Bleeding Disorders**
	Assign	14	14. A review of canine inherited bleeding disorders: biochemical and molecular strategies for disease characterization and carrier detection
	Discussion	14	
7—Dec	Final Paper		**Final Paper**

Syllabus Fall 2016

General UF information

Services for Students with Disabilities

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, www.dso.ufl.edu/drc/) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

Grades and Grade Points

For information on current UF policies for assigning grade points, see https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx

Online course evaluation process

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at https://evaluations.ufl.edu. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at https://evaluations.ufl.edu/results/.

Software Use

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate

Academic Honesty

UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Honor Code (https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Campus Helping Resources

Students experiencing crises or personal problems that interfere with their general well-being are encouraged to utilize the university's counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

- University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575, www.counseling.ufl.edu/cwc/
  Counseling Services, Groups and Workshops, Outreach and Consultation, Self-Help Library
  Wellness Coaching
- U Matter We Care, www.umatter.ufl.edu/
- Career Resource Center, First Floor JWRU, 392-1601, www.crc.ufl.edu/

Student Complaint Process

For information see *http://www.distance.ufl.edu/student-complaint-process*.