

032 RECEIVED
AUG 11 2009
WSU Registrar

Washington State University
MAJOR CURRICULAR CHANGE FORM - - COURSE
(Submit original signed form and ten copies to the Registrar's Office, zip 1035)
See www.ronet.wsu.edu/ROPubs/ for this form.

Required Effective Date: Fall 2010 New course Temporary course Drop service course
(effective date cannot be retroactive) There is a course fee associated with this course
<http://www.schedules.wsu.edu/Schedules/Apps/CourseFees.ASP>

- Variable credit 1-2 Repeat credit (cumulative maximum 12 hours)
- Increase credit (former credit) Lecture-lab ratio (former ratio)
- Number (former number) Prefix (former prefix)
- Crosslisting (between WSU departments) Cooperative listing (UI prefix and number)
(Must have both departmental signatures) taught by: WSU UI jointly taught
- Conjoint listing (400/500) S, F grading
- Request to meet Writing in the Major [M] requirement (Must have All-University Writing Committee Approval)
- Request to meet GER in (Must have GenEd Committee Approval) Fulfills GER lab (L) requirement
- Professional course (Pharmacy & Vet Med only) Graduate credit (professional programs only)
- Other (please list request)

VMS 584 Comparative Theriogenology
course prefix course no. title

V 1- 2	1-2	0	0	DVM or equivalent, graduate standing or pre-approval
credit	lecture hrs per week	lab hrs per week	studio hrs per week	prerequisite

Description (**20 words or less**) Lectures from WSU College of Veterinary Medicine and Department of Animal Sciences and from UI Department of Animal and Veterinary Science. repeatable summer...

Instructors: Mushtaq A. Memon, Ahmed Tibary Phone number: 335-0738
Contact: Mushtaq Memon Phone number: 335-0766 Email: memon@vetmed.wsu.edu

- Please attach rationale for your request, a detailed course outline/syllabus and explain how this impacts other units in Pullman and other branches (if applicable).
- Secure all required signatures and provide 10 copies to the Registrar's Office.

[Signature] 8/11/09 Chair/date [Signature] 8-6-09 Dean/date General Education Com/date

Chair (if crosslisted/interdisciplinary)* Dean (if crosslisted/interdisciplinary)* Graduate Studies Com/date

All-University Writing Com/date Academic Affairs Com/date Senate/date

***If the proposed change impacts or involves collaboration with other units, use the additional signature lines provided for each impacted unit and college.**

Course Number: VMS 584

Course Title: Comparative Theriogenology

Course Description: V 1-2 credits, may be repeated fro credits, Prereq DVM degree of equivalent, Lectures from WSU College of Veterinary Medicine and Department of Animal Sciences and from U of I department of Animal Sciences

Department: Veterinary Clinical Sciences

Semesters: Fall and spring of every year

Course Classification: Graduate

Course Credits: 1-2 credit/semester (may be repeated)

Time & Place: This course will be offered twice a year (Fall and Spring semesters). The class will meet in ADBF 2018, weekly on Wednesdays from 7:30 to 8:30 a.m.

Instructors: Ahmed Tibary, DMV, PhD, Diplomate, ACT
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Ram Kasimanickam, BVSc, DVSc, Diplomate ACT
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Course Objectives: To enhance knowledge of graduate students in advanced reproductive physiology with comparative species approach

Course Format/Teaching Methods: Graduate students will give weekly presentation on major topics in Theriogenology

Criteria for Student Evaluation: The students will be evaluated by Theriogenology faculty attending the presentation with input from attending graduate students (please see details below under grading)

Grading Scale:

A provides 4.0 grade points per credit hours
B provides 3.0 grade points per credit hours
C provides 2.0 grade points per credit hours
D provides 1.0 grade point per credit hours
F provides no credit or grade points (Credits attempted are calculated in GPA)

Grading: The final grade (A: 90-100, B: 80-90, C: 70-80, D: 60-70, F: <60%) distribution is mentioned in the enclosed course information.

The students will be graded on following criteria:**Students taking the course for 1 credit**

Grades will be based on classroom discussion and presentation of assigned topic (100 points) see attached evaluation form

Students taking the course for 2 credits

The final grade will be weighed as follows:

1. Participation in the classroom discussion and presentation of topics (50%)
2. Submitted review paper (50%)

Detailed point distribution

Classroom discussion and topic presentation (100 points): Students will be assigned specific topics throughout the semester. The responsibility of the student is to select appropriate journal articles on the topic and lead the discussion following a 20 minutes presentation. Student presentation and leadership will be evaluated by the instructors. The evaluation form is enclosed.

Review paper (100 points): This is a requirement for students taken the course for 2 credits. The paper will be on a topic of her or his own choice within the general theme of the semester. The topic needs to be approved by one of the instructors, no later than 4 weeks after the beginning of classes.

Review papers will be graded in the following manner

1. Timely submission of the topic (10 points)
2. Statement of importance of the topic (10 points)
3. Literature review (choice of relevant papers) (30 points)
4. Scientific writing style and critical evaluation of papers (30 points)
5. Paper submission format and timing (20 points). Papers should be written in the format required by the journal "Theriogenology" and should include the following headings
 - Abstract
 - Introduction with statement of objectives and importance of the topics
 - Review of the literature
 - Discussion and conclusion
 - References

Papers are due on the last day of class (10 points will be deducted from the total grade if paper is submitted after the due date).

Audio or Video Recording of Course Material: None

Primary Topics: Advanced applied reproductive physiology in comparative manner (Ruminants, camelis, Equine, Bovine, and small animals)

Academic Policies:

See <http://www.vetmed.wsu.edu/prospectivestudents/academicStnds.aspx> for policies related to academic integrity, accommodation for students with a disability and attendance and absences.

Students with Disabilities: Reasonable accommodations are available for students with a documented disability. If you have a disability and may need accommodations to fully participate in this class, please visit the Disability Resource Center (DRC). All accommodations MUST be approved through the DRC (Washington Building, Room 217). Please stop by or call 509-335-3417 to make an appointment with a disability specialist.

Campus safety plan/emergency information:

In the interest of campus safety and emergency procedures, please become familiar with the information available on the WSU-provided websites.

<http://safetyplan.wsu.edu> Campus safety plan

<http://oem.wsu.edu/emergencies> Emergency management website

<http://alert.wsu.edu> WSU Alert site

VMS 584 – Comparative Theriogenology- detailed content

This objective of this course is to provide students intending to specialize in animal reproduction with an in depth knowledge of the mechanism regulating reproductive function as well as aspects of applied reproductive biotechnology with a focus on a comparative approach to study each mechanism in the main domestic species (Cattle, sheep, goat, horses, Camelid, dogs and cats)

Semester – 1

Spermatogenesis

1. Male sexual differentiation, embryology and anatomy
2. Mechanism of puberty
3. Hormonal regulation of spermatogenesis
4. Sperm maturation

Semester – 2

Follicular dynamics and cyclicity in the female

1. Female sexual differentiation, embryology and anatomy
2. Puberty
3. Mechanism of control of seasonality in the female
4. Follicular dynamics and its hormonal regulation
5. Ovulation and its hormonal regulation
6. corpus luteum function and its regulation

Semester – 3

Fertilization and Pregnancy

1. Molecular mechanism of sperm-egg interaction
2. Zygote development and oviduct stage of embryo development
3. Embryonic development: uterine stages and early maternal recognition

4. Physiology of implantation and placental development
5. Feto-placental development and interaction, and fetal physiology
6. Endocrinology of pregnancy

Semester – 4

Parturition and Lactation

1. Biology of Pregnancy length variation
2. Readiness for birth and Endocrine control of parturition
3. Molecular and hormonal control of colostrogenesis and lactation
4. Neonatal adaptation to extra uterine life
5. Lactation physiology

Semester – 5

Postpartum Period

1. Endocrine control of uterine involution
2. Comparative histology of uterine involution
3. Endocrine control and ovarian function in the postpartum period
4. Physiology of Lactational anestrus

Semester – 6

Gamete Preservation

1. Semen collection and biochemistry
2. Principles of short term preservation of semen: semen extenders development
3. Principles of semen cryopreservation: Cryoprotectant and their role in the effects freezing/thawing protocols of spermatozoa morphology and biology
4. Oocyte and Embryo cryopreservation by slow freezing techniques and vitrification
5. In vitro embryo production: biology of in vitro maturation, in vitro fertilization, intracytoplasmic sperm injection, nuclear cloning, oocyte activation and embryo culture

Additional Notes:

- Each module would be **one credit course** with 15 contact hours.
- Student interested in reproductive physiology would take all six modules.
- **Paper Writing Requirement:** Additional 1 course credit would be granted for writing an acceptable paper on one of the topics covered during the semester. The paper would be focused on improving the critical writing skills of the student. The publishing of the paper in a peer-reviewed journal will be highly recommended.