

Course Change Request

New Course Proposal

Date Submitted: 06/21/17 1:30 pm

Viewing: **SPSY 627 : Culturally Responsive Interventions: Models for Making Cultural Adaptations to Interventions**

Last edit: 06/21/17 3:54 pm

Changes proposed by: sara_castro-olivo

Faculty Senate Number

Contact(s)

Name	E-mail	Phone
Sara Castro-Olivo	s.castro-olivo@tamu.edu	979-845-9722

Course prefix SPSY Course number 627

Department Educational Psychology

College/School Education & Human Development

Academic Level Graduate

Academic Level (alternate) Undergraduate

Effective term 2018-2019

Complete Course Title
Culturally Responsive Interventions: Models for Making Cultural Adaptations to Interventions

Abbreviated Course Title CULTURALLY RESPONSV E INTERVENT

Catalog course description

Introduction to literature that demonstrates the need to adapt evidence-based interventions for use with culturally and linguistically diverse populations; different models for making cultural adaptations; identify ways to ensure fidelity and integrity of interventions even after cultural adaptations are made; adaptations for populations with diverse home culture, language, race, sexual orientation, developmental abilities or SES.

Prerequisites and Restrictions

Graduate classification or approval of advisor.

Concurrent Enrollment No

Should catalog prerequisites / concurrent enrollment be enforced? No

Crosslistings No Crosslisted With

Stacked No Stacked with

Semester 3 Contact Hour(s) Lecture: 3 Lab: 0 Other: 0 Total 3

Credit Hour(s) (per week):

Repeatable for credit? No

In Workflow

1. EPSY Department Head
2. Curricular Services Review
3. ED Committee Preparer GR
4. ED Committee Chair GR
5. ED College Dean GR
6. GC Preparer
7. GC Chair
8. Faculty Senate Preparer
9. Faculty Senate
10. Provost II
11. President
12. Curricular Services
13. Banner

Approval Path

1. 06/21/17 2:19 pm
Shanna Hagan-Burke (shaganburke): Approved for EPSY Department Head
2. 06/21/17 3:54 pm
Sandra Williams (sandra-williams): Approved for Curricular Services Review
3. 06/26/17 8:26 am
Melanie Robideau (mrobideau): Approved for ED Committee Preparer GR
4. 07/19/17 1:07 pm
Beverly Irby (irbyb): Approved for ED Committee Chair GR
5. 07/19/17 1:59 pm
Beverly Irby (irbyb): Approved for ED College Dean GR
6. 07/21/17 2:53 pm
LaRhesa Johnson (lrjohnson): Approved for GC Preparer
7. 08/09/17 2:22 pm
LaRhesa Johnson (lrjohnson): Approved for GC Chair

Three-peat? No
 CIP/Fund Code 1309010004
 Default Grade Mode Letter Grade (G)
 Alternate Grade Modes Satisfactory/Unsatisfactory
 Method of instruction Lecture
 Seminar
 Will this course be taught as a distance education course? No
 Is 100% of this course going to be taught in Texas? Yes
 Will classroom space be needed for this course? Yes

This will be a required course or an elective course for the following programs:

Required (select program)

Program(s)
(PHD-SPSY) Doctor of Philosophy in School Psychology

Elective (select program)

Program(s)
(CERT-CG43) Prevention Science - Certificate

Course Syllabus

Syllabus: Upload syllabus

Upload syllabus [cultural_adaptations_syllabus_6_2017.docx](#)

Letters of support or other documentation No

Additional information

Reviewer Comments **Sandra Williams (sandra-williams) (06/16/17 2:37 pm):** Rollback: Please update syllabus: missing course number; late assignments: what about University excused absences?; missing link to student rule 7; old ADA statement; old aggie honor code website link.

Sandra Williams (sandra-williams) (06/21/17 3:54 pm): Update received.

Reported to state?

Key: 17968



SPSY 627: Culturally Responsive Interventions:
Models for Making Cultural Adaptations to Interventions
Course Syllabus
Term, Year TBD
Class time/Location: TBD

Instructor: Sara Castro-Olivo, PhD, NCSP

Office: Harrington Tower 704J

Phone: (979)-845-9722

E-mail: s.castro-olivo@tamu.edu

Spring Office hours: Wednesdays 1:00-3:00pm and by appointment

Course Description

This course introduces trainees to literature that demonstrates the need to adapt evidence-based interventions for use with culturally and linguistically diverse populations. Students will be exposed to different models for making cultural adaptations. In addition, trainees will learn to identify ways to ensure fidelity and integrity of interventions even after cultural adaptations are made. This course will discuss adaptations for populations with diverse home culture, language, race, sexual orientation, developmental abilities, or SES.

Prerequisites: graduate student standing and advisor approval

Required Texts

Hays, P. A. (2002). *ADDRESSING Cultural Complexities in Practice: A Framework for Clinicians and Counselors*. Washington, DC: APA.

eCampus

Course materials, including the syllabus, assigned readings, assessment materials, grading rubrics, and other forms will be posted on eCampus (ecampus.tamu.edu).

COURSE OBJECTIVES

The major goal for this course is for you to develop knowledge, understanding, and practical skills in the planning, implementation and evaluation of culturally responsive practices. At the end of this course you should be able to do the following:

1. Understand sociocultural and ecological factors that contribute to social emotional and behavioral problems in children and adolescents
2. Understand theories and models of cultural adaptations
3. Identify dimensions of evidence-based treatments that can be adapted without jeopardizing the integrity and fidelity of the program.
4. Demonstrate ability to make cultural adaptations of a given program
5. Identify risk and protective factors factors
6. Demonstrate professional and ethical behavior related to consultation practices.
7. Demonstrate ability to evaluate implemented cultural adapted programs
8. Understand ability to collect cultural related data to evaluate impact of adapted programs
9. Demonstrate ability to support and train other professional on culturally responsive practices.

Description of Assignments and Examinations

COURSE REQUIREMENTS

To successfully complete this course, you will be required to complete the following activities at the minimum level of competency determined by the instructor.

1. *Reflection Paper: Review of Existing Models (100 points)*: Students will be expected to submit a 10-12 page paper summarizing and reflecting on cultural adaptations models. Students could write about models discussed in class or other models published in reputable resources. Students should reflect on the pros and cons of each model and the feasibility of using each model with their population of interest.
2. *Presentation I: Evidence-Based Cultural Adapted Intervention (150 points total)*. Students will conduct a comprehensive presentation on a culturally adapted intervention that has shown to be effective with a given population. Students should discuss the research behind the intervention, methods conducted by authors, and ways students could replicate these methods with their target population.
3. *Intervention Adaptation Project (200 points)*. Students will identify an evidence-based manualized program that has not been adapted before and will conduct a systematic adaptation of given intervention for their population of interest (i.e. diverse group based on SES, race, ethnicity, language, etc). This is be a group project. More details to be provided in class.
4. *Term Paper (100 points)*. Students will write a 10-12 page paper on a topic of interest related to the development and implementation of culturally competent/responsive practices.

Class Attendance

You are expected to attend every class and arrive on time. If you must be absent for class: (a) you must contact me with as much anticipation as possible, and (b) you are expected to join via Skype (unless circumstances make this impossible). My Skype name is saracastro5@hotmail.com. If your absence is excused, you will be provided with an opportunity to make up any work completed in class (i.e. presentation, quiz, test, etc). You will have to complete your missed work within 30 calendar days after the excused absence in order to receive full credit. You are responsible for providing evidence of your excused absence. See Student Rule 7 for details (<http://student-rules.tamu.edu/rule07>) for a comprehensive list of TAMU's excused absences. The fact that these are university-excused absences does not relieve the student of responsibility for prior notification and documentation. Failure to notify and/or document properly may result in an unexcused absence. Falsification of documentation is a violation of the Honor Code.

Late Assignments

10% of the total points possible will be deducted for every day an assignment is late. Assignments over 7 days late will not be accepted, unless your assignment was late due to an excused absence. Incompletes will be given only in documented cases of serious personal emergencies.

Working in Schools

Schools are unique environments and their standards and procedures differ from other work environments. On all occasions your behavior and dress should reflect the highest professional standards.

When in schools you not only represent this project but also Texas A&M University. Please adhere to the following policies and regulations on all occasions you are in schools.

School Dress Codes

Each district has its own dress code. Review the dress code for each district where you will be working. In general, school policies call for conservative, modest, and professional dress.

School Rules

Be aware of the school rules and make sure you are in compliance.

1. Bring your driver's license. It will be required to check in at most schools.
2. Cell phones: Some schools have a strict "no phones" policy and you should comply with this policy even if you see other teachers breaking the rule. Please be very discrete in using your phone at a school that does allow them. Phones should never be used in the presence of students or teachers, even for e-mail or calendars.
3. No gum

Use of Sample Reports. To assist with your report writing I will provide you with de-identified sample assessment reports. I provide these reports to give you examples of format, style, and organization; however the content and words in your report should be your own. You may not copy/paste text or tables, or use language directly from these reports. The definition of plagiarism above applies to your assessment report writing and violations will be treated accordingly. Please see me if you have difficulty with any aspect of report writing.

Tolerance Statement:

The faculty of the College of Education and Human Development value and respect diversity and the uniqueness of each individual. The faculty affirms its dedication to non-discrimination in our teaching, programs, and services on the basis of race, color, religion, gender, age sexual orientation, domestic partner status, ethnic or national origin, veteran status, or disability. The College of Education and Human Development at Texas A & M University is an open and affirming organization that does not tolerate discrimination, vandalism, violence or hate crimes. We insist that appropriate action be taken against those who perpetrate such acts. Further, the College is committed to protecting the welfare, rights, and privileges of anyone who is a target of prejudice or bigotry. Our commitment to tolerance, respect, and action to promote and enforce these values embraces the entire university community. In the spirit of shared responsibility, each University unit, student organization, and community member is encouraged to help make our campus, and this class, a welcoming place for all. Should you have any concerns related to respect for diversity or feel that you (or any others) are being discriminated against, please contact your departmental Ombudsperson, or the Department Head, or the College Ombudsperson.

Americans with Disabilities Act (ADA) Policy Statement

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, currently located in the Disability Services building at the Student Services at White Creek complex on west campus or call 979-845-1637. For additional information visit <http://disability.tamu.edu/>

Academic Integrity Statement

As of September 1, 2004, all syllabi shall contain a section that states the Aggie Honor Code and refers the student to the Honor Council Rules and Procedures on the web: On all course work, assignments, or

examinations at Texas A&M University, the following Honor Pledge shall be pre-printed and signed by the student: **“On my honor, as an Aggie, I have neither given nor received unauthorized aid on this academic work.”**

AGGIE HONOR CODE

“An Aggie does not lie, cheat, or steal or tolerate those who do.”

Upon accepting admission to Texas A&M University, a student immediately assumes a commitment to uphold the Honor Code, to accept responsibility for learning, and to follow the philosophy and rules of the Honor System. Students will be required to state their commitment on examinations, research papers, and other academic work. Ignorance of the rules does not exclude any member of the TAMU community from the requirements or the processes of the Honor System. For additional information please visit:

<http://aggiehonor.tamu.edu>-

LEGAL AND ETHICAL POLICIES

All class activities must be conducted according to the legal and ethical policies of the American Psychological Association, National Association of School Psychologists, American Association of Counseling and Development, or other relevant organizations; the agency in which the project occurs; and Texas A&M University. Students must immediately seek the input of the instructor if a question or concern arises about the legal or ethical nature of an activity. **Students are reminded that in the community they are representatives of Texas A&M University and of the School Psychology Program. Further, students are reminded that they are *guests* in the school setting and need to comply with all school district policies (e.g., identification or other security practice, appropriate attire, professional courtesy). Parent consent for your FBA cases is mandatory and must be secured before you begin your assessment activities. Consistent with copyright laws, BASC SOS forms cannot be copied; these must be purchased from the CAC (1st floor).**

CLASS SCHEDULE

Session	Topic	Assigned Readings and Assignments Due
1	Introduction/ Course Overview: Self assessment activities	
2	Why and what to adapt?: Introduction to Multiple Identities	Readings: Hays Chapter 1-2
3	Evidence supporting cultural adaptations	Readings: Benish et al (2011); Bernal et al (2009); Griner & Smith (2006); Huey and Polo (2008)
4	Models of Cultural Adaptations: Part 1	Readings: Bernal et al (1995); Barrera and Castro (2006); Lau (2006); Cabassa & Baumann (2013)
5	Models of Cultural Adaptations: Part 2	Readings: Petterson et al (In Press); Bernal and Domenech Rodriguez (2012);
6	Needs Assessments: Part 1- ADDRESSING Frameworks	Readings: Hays Chapters 3-4; 6 Due: Models reflection paper
7	Needs Assessment: Part 2- Risk and Protective Factors	Readings: Blanco-Vega et al (2008); Castro et al (2004); Ingram (2010); Kloos et al (Chapter 9).
8	Needs Assessment: Community based strengths and resources.	Readings: Kloos et al. (2012) Chapters 2-4
9	Implementing Cultural Adaptations: Part 1: School Settings	Castro-Olivo (2014); Castro-Olivo & Merrell (2012); Graves et al., (2016)
10	Presentations: Culturally Adapted Intervention Review	
11	Presentations: Culturally Adapted Intervention Review	
12	Implementing Cultural Adaptations: Part 2: Individual counseling	Readings: Sue et al. (2009); Rosello et al. (2012); Hays Chapters 9-11
13	Implementing Cultural Adaptations: Part 2: Community based interventions	Readings: Martinez & Eddy (2005); Kataoka et al (2010); Parra-Cardona et al (2012)
14	Presentations: Cultural Adaptation Project	
15	Presentations: Cultural Adaptation Project	
16	Term Paper	

Course Readings

- Barrera, M., & Castro, F. G. (2006). A heuristic framework for the cultural adaptation of interventions. *Clinical Psychology: Science and Practice*, 13(4), 311-316.
- Benish, S. G., Quintana, S., & Wampold, B. E. (2011). Culturally adapted psychotherapy and the legitimacy of myth: a direct-comparison meta-analysis.
- Bernal, G., Bonilla, J., & Bellido, C. (1995). Ecological validity and cultural sensitivity for outcome research: Issues for the cultural adaptation and development of psychosocial treatments with Hispanics. *Journal of abnormal child psychology*, 23(1), 67-82.
- Bernal, G., & Domenech Rodríguez, M. M. (2012). Cultural adaptation in context: Psychotherapy as a historical account of adaptations. *Cultural adaptations: Tools for evidence-based practice with diverse populations*, 3-22.
- Blanco-Vega, C., Castro Olivo, S. & Merrell, K. (2008). Social and emotional needs of Latino immigrant students: An ecological model for developing, planning and implementing culturally sensitive interventions. *Journal of Latinos and Education* 7(1), 43-61.
- Cabassa, L. J., & Baumann, A. A. (2013). A two-way street: bridging implementation science and cultural adaptations of mental health treatments. *Implementation Science*, 8(1), 90.
- Castro, F. G., Barrera Jr, M., & Martinez Jr, C. R. (2004). The cultural adaptation of prevention interventions: Resolving tensions between fidelity and fit. *Prevention Science*, 5(1), 41-45.
- Castro-Olivo, S. (2014). The impact of a culturally adapted social-emotional learning program on ELL students' resiliency outcomes. *School Psychology Quarterly*, 29 (4), 567-577. doi: [10.1037/spq0000055](https://doi.org/10.1037/spq0000055)
- Castro-Olivo, S., & Merrell, K. W. (2012). Validating cultural adaptations of a school-based social-emotional learning program for use with Latino immigrant adolescents. *Advances in School Mental Health Promotion* 5 (2), 78-92.
- Graves, S. L., Herndon-Sobalvarro, A., Nichols, K., (2016) Examining the effectiveness of a culturally adapted social-emotional intervention for African American males in an urban setting. *School Psychology Quarterly*, <http://dx.doi.org/10.1037/spq0000145>
- Huey Jr, S. J., & Polo, A. J. (2008). Evidence-based psychosocial treatments for ethnic minority youth. *Journal of Clinical Child & Adolescent Psychology*, 37(1), 262-301.
- Huey Jr, S. J., Tilley, J. L., Jones, E. O., & Smith, C. A. (2014). The contribution of cultural competence to evidence-based care for ethnically diverse populations. *Annual Review of Clinical Psychology*, 10, 305-338.
- Ingraham, C. (2000). Consultation through a multicultural lens: Multicultural and cross-cultural consultation in schools. *School Psychology Review*, 29 (3), 320-334.
- Kataoka, S., Novins, D. K., & Santiago, C. D. (2010). The practice of evidence-based treatments in ethnic minority youth. *Child and adolescent psychiatric clinics of North America*, 19(4), 775-789.

- Kloos, B., Hill, J., Thomas, E., Wandermansman, A., Elias, M. J., & Dalton, J. H. (2012). *Community Psychology: Linking Individuals and Communities* (3rd Ed). Belmont, CA: Wadsworth. ISBN-13: 978-1-11-35257-8.
- Martinez Jr, C. R., & Eddy, J. M. (2005). Effects of culturally adapted parent management training on Latino youth behavioral health outcomes. *Journal of consulting and clinical psychology, 73*(5), 841.
- Parra Cardona, J. R., Domenech-Rodriguez, M., Forgatch, M., Sullivan, C., Bybee, D., Holtrop, K., ... & Bernal, G. (2012). Culturally adapting an evidence-based parenting intervention for Latino immigrants: The need to integrate fidelity and cultural relevance. *Family Process, 51*(1), 56-72.
- Preciado, J.A., Horner, R.H., & Baker, S.K. (2009). Using a function-based approach to decrease problem behaviors and increase academic engagement for Latino English language learners. *The Journal of Special Education, 42*, 227-240.
- Rosselló, J., Bernal, G., & Rivera-Medina, C. (2012). Individual and group CBT and IPT for Puerto Rican adolescents with depressive symptoms.
- Sue, S., Zane, N., Nagayama Hall, G. C., & Berger, L. K. (2009). The case for cultural competency in psychotherapeutic interventions. *Annual review of psychology, 60*, 525-548.

Course Change Request

New Course Proposal

Date Submitted: 07/11/17 5:29 pm

Viewing: **VIBS 642 : Histological Research Methods**

Last edit: 07/14/17 7:21 am

Changes proposed by: dm9420

Faculty Senate Number

Contact(s)

Name	E-mail	Phone
Dana Kneese	dkneese@cvm.tamu.edu	979-862-6414

Course prefix VIBS Course number 642

Department Vet Integrative Biosciences

College/School Veterinary Med & Biomedical Sc

Academic Level Graduate

Academic Level (alternate) Undergraduate

Effective term 2018-2019

Complete Course Title
Histological Research Methods

Abbreviated Course Title
HISTOLOGICAL RESEARCH METHODS

Catalog course description
Theoretical information and practical experiences; learn and perform proper procedures used in biomedical research including tissue fixation, processing and embedding tissue samples, sectioning and staining protocols for standard and special stains.

Prerequisites and Restrictions
Graduate classification or approval of instructor

Concurrent Enrollment No

Should catalog prerequisites / concurrent enrollment be enforced? No

Crosslistings No Crosslisted With

Stacked No Stacked with

Semester 3 Contact Hour(s) Lecture: 2 Lab: 3 Other: 0
Credit (per week): Total 5
Hour(s)

Repeatable for credit? No

Three-peat? No

CIP/Fund Code 2604010002

Default Grade Mode Letter Grade (G)

In Workflow

1. VIBS Department Head
2. Curricular Services Review
3. VM Committee Preparer GR
4. VM Committee Chair GR
5. VM College Dean GR
6. GC Preparer
7. GC Chair
8. Faculty Senate Preparer
9. Faculty Senate
10. Provost II
11. President
12. Curricular Services
13. Banner

Approval Path

1. 07/11/17 6:53 pm Evelyn Tiffany-Castiglioni (c-tiffany): Approved for VIBS Department Head
2. 07/14/17 7:25 am Sandra Williams (sandra-williams): Approved for Curricular Services Review
3. 07/17/17 10:14 am Kathie Smith (kathiesmith): Approved for VM Committee Preparer GR
4. 07/17/17 11:21 am C. Jane Welsh (c-welsh): Approved for VM Committee Chair GR
5. 07/17/17 12:27 pm Robert Burghardt (rburghardt): Approved for VM College Dean GR
6. 07/21/17 2:53 pm LaRhesa Johnson (lrjohnson): Approved for GC Preparer
7. 08/09/17 2:22 pm LaRhesa Johnson (lrjohnson): Approved for GC Chair

Alternate Grade Modes Satisfactory/Unsatisfactory

Method of instruction Lecture and Laboratory

Will this course be taught as a distance education course? No

Is 100% of this course going to be taught in Texas? Yes

Will classroom space be needed for this course? Yes

This will be a required course or an elective course for the following programs:

Required (select program)

Elective (select program)

Program(s)
(PHD-BIMS) Doctor of Philosophy in Biomedical Sciences
(MS-BIMS) Master of Science in Biomedical Sciences
(BS-BIMS) Biomedical Sciences - BS

Course Syllabus

Syllabus: Upload syllabus

Upload syllabus [SyllabusVIBS642_Histological research methods.docx](#)

Letters of support or other documentation No

Additional information

Reviewer Comments **Sandra Williams (sandra-williams) (07/14/17 7:25 am):** Moving forward, however, make-up policy in syllabus may contradict student rules.

Reported to state?

Key: 17988

Syllabus

VIBS 642 HISTOLOGICAL RESEARCH METHODS

Instructor:	Dr. Dana Kneese
Credit Hours:	3
Format:	lecture / lab
Meeting Times and Location:	FIRST SUMMER SESSION, 2018
Day, start time, Room #:	Lecture / discussion Tuesday, Wednesday, Thursday 9:45 am to 11:10 am Room 105 VID I
	Lab Tuesday and Wednesday 1:00 pm to 3:50 pm Room 101a Building 1010
Office hours:	1-3 PM Mondays
Office:	Building VID I Room 366 Phone: 862-6414 (office) Email dkneese@cvm.tamu.edu

Course Description

Students gain both theoretical information and practical experiences that will allow them to understand and be able to perform proper procedures in tissue fixation, processing and embedding for tissue samples used in biomedical research. The students will gain knowledge and experience with various media including paraffin embedded tissues and frozen tissues; sectioning; and staining protocols for standard and special stains, including immunohistochemistry and plastic sections. Students also will learn how to prepare tissues for frozen sectioning.

Learning Outcomes:

With successful completion of this course students will have a firm foundation that will allow them to conduct biological research with respect to proper procedures for tissue fixation, processing and embedding in a wide variety of media including frozen tissues, sectioning, different staining protocols using standard and special stains and coverslipping. Some additional procedures that students will learn about and practice in the laboratory section include: frozen tissue preparation, plastic embedding of tissues, preparation of samples for electron microscopy, performing preventative maintenance of standard equipment and instruments used in histological research such as microtomes and cryostats, learning appropriate principles of safety and developing appropriate professional conduct and interpersonal communication skills.

Prerequisites:

Graduate classification or permission of instructor

Resources:

Histotechnology - A self-instructional text, 3rd Ed. By Frieda L. Carson. (optional textbook)

Class notes - available on ecampus

Grading Policies:

There will be 2 written exams taken in class and in addition there will be 4 graded written exercises due throughout the five weeks.

I reserve the right to provide extra questions on the exams, give pop quizzes or provide additional work that would provide **BONUS POINTS** to students taking the class. Because these mechanisms are **BONUS** points, these points are **NOT** reflected in the point totals. The number of possible bonus points that will be made available will not exceed 5% of the point total. Therefore, the maximum number of bonus points that I could offer will be **25**. I do not guarantee that I will offer that many bonus points throughout the course. There could be less than 25 bonus points, but there will **NOT** be more than 25 bonus points made available throughout the course.

Point totals:

MIDTERM EXAM	80
FINAL EXAM	80
Written exercises 4 @ 10 points each	40
TOTAL	200

Grading Scale:

- A = 180 - 200
- B = 160 - 179
- C = 140 - 159
- D = 130 - 139
- F = < 129

The final grade will be based on the total number of points earned in the class as described above. There will be no curving of the grade distribution but as the instructor I reserve the right to adjust the thresholds for letter grade cut offs based on overall class performance. I **WILL NOT** adjust the distribution upwards. I will only adjust the distribution downwards, if necessary. (i.e., I will not make the cut off for an A to be greater than 180 points, but I could make it 175 points).

Attendance and Make up Policies:

Attendance will only be taken for the laboratory sessions.

ABSENCES - 0, 1, or 2 unexcused absences from the laboratory sessions will NOT result in any grade reduction. However, 3 unexcused absences will result in a grade reduction of one letter grade. 4 unexcused absences will result in a grade reduction of two letter grades. 5 unexcused absences will result in a grade reduction of three letter grades. 6 or more unexcused absences will result in a letter grade of F in the course.

Please see the university rules for descriptions of EXCUSED absences at:

<http://student-rules.tamu.edu/rule07>

Days of religious observance: if a student misses class due to an obligation of his or her religion, state law excuses the absence. A list of days of religious obligation for the current academic year can be found at: <http://dof.tamu.edu/Rules/Religious-Observance>

Make up Policies for Exams and Writing Assignments

Make-up Examinations and Assignments

Attendance for all examinations is mandatory. If a make-up examination is warranted, the **content, format and time given will be at the discretion of the course coordinator**, including the possibility of administering a single, comprehensive make-up exam at the end of the summer course.

All written assignments will be due at the end of the lecture class period on the day the assignment is due. Late written assignments may be turned in but one point will be subtracted from the score for each day the assignment is late.

Re-grading Examinations and Assignments

Please feel free to discuss your returned examinations and assignments me. If you wish to have your examination/assignment re-graded, please return your examination/assignment **within 3 days** after the examination/assignment is returned. **Note:** by submitting your examination/assignment for a re-grade the entire examination/assignment is subject to that re-grade and could possibly result in additional loss of points if a grading error, other than the one for which the exam was submitted, is noted. While every effort is made to ensure that points are tallied correctly, occasionally math errors occur. If you are owed points, please see me and point out the error. If the math error is in your favor, the points are yours to keep.

VIBS 642 Histological Research Methods

Summer 1 2018

Day of week	Date	Lecture	Lab
Tuesday	MAY 29	Introduction – fixation and solution preparation	Introduction – paraffin sectioning
Wednesday	MAY 30	Lab safety – biological hazards	Processing and Embedding and paraffin sectioning
Thursday	MAY 31	Processing and staining – nuclear and cytoplasmic	
Tuesday	JUNE 5	Staining – special stains written assignment 1 due	H&E staining and coverslipping and paraffin sectioning
Wednesday	JUNE 6	Staining - special stains	Embedding and Frozen sectioning
Thursday	JUNE 7	Microorganisms written assignment 2 due	
Tuesday	JUNE 12	Pigments / minerals / cytoplasmic granules	Special stains
Wednesday	JUNE 13	Enzyme histochemistry	Special stains
Thursday	JUNE 14	MIDTERM EXAM Immunohistochemistry	
Tuesday	JUNE 19	Immunohistochemistry	Immunohistochemistry
Wednesday	JUNE 20	Frozen sectioning	Immunohistochemistry
Thursday	JUNE 21	Electron microscopy and plastic sectioning written assignment 3 due	
Tuesday	JUNE 26	Electron microscopy and plastic sectioning	Embedding and plastic sectioning – Electron Microscopy
Wednesday	JUNE 27	Pigments / minerals/ cytoplasmic granules	Special tissues
Thursday	JUNE 28	Science and Ethics written assignment 4 due	
FINAL EXAM	JULY 2	FINAL EXAM	

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For additional information please visit: <http://aggiehonor.tamu.edu>

Pledge

On all examinations at Texas A&M University, the following Honor Pledge shall be pre-printed and signed by the student at the time the examination is taken:

"On my honor, as an Aggie, I have neither given nor received unauthorized aid on this academic work."

CLASSROOM COMMUNICATION FORM

The next page is a standard TAMU classroom communication form. Please feel free to use this form should you feel the need to do so during the semester.

CLASSROOM COMMUNICATION CONCERNS

Student Inquiry # _____ Date _____

Student _____ Major Class _____

ID# _____ Local Phone _____

Address _____

Signature _____

Professor _____ Course _____ Section _____ Semester _____

Specific Concerns _____

The intent of this policy is to provide a mechanism for improving classroom communication and for this purpose only. It is intended not only to detail how a student may register a specific problem in a class but also to provide a route for a faculty member seeking information on how to improve his or her teaching effectiveness.

The proper procedures for students to follow in registering concerns or praise about classroom communications are:

1. A student first reports concern to the instructor in charge of the course.
2. If the issue is not resolved at this level, the student should report the concerns to the instructor's Department Head for resolution and complete the Classroom Communication Concerns form. These forms are available in the departmental offices and in each Academic Dean's office.
3. If the issue is still not resolved or if the issue cannot be discussed with the instructor, the student should then bring the matter to the Academic Dean for Graduate or Undergraduate Programs in the college in which the course is offered. The student is asked to complete a reporting form for the "Classroom Communication Concerns" if one has not been completed
4. The Academic Dean for Graduate or Undergraduate Programs works with the respective Department Heads to investigate and resolve each complaint about classroom communications in conjunction with the instructor.
5. A 'Response' space for the instructor is included in the reporting form for "Classroom Communications Concerns."
6. The Department Head completes the form describing the investigation and the actions taken. The Academic Dean for Graduate or Undergraduate Programs signs the completed form and forwards a copy to the Provost's Office. The entire process is to be completed within seven class days from the time that the concern was registered. A summary of action taken will be made available to the student filing the "Classroom Communication Concerns."
7. If the issue cannot be resolved at the Department Head level through the Academic Dean, an appeal should be made by the student to the Dean. If further appeal becomes necessary, it should be made to the Office of the Provost.
8. See *University Regulations* for procedures to file complaints for sexual harassment, discrimination, and grade appeals.

Course Change Request

New Course Proposal

Date Submitted: 03/10/17 12:32 pm

Viewing: **VIBS 676 : Speciation Biology and Genetics**

Also Known As: EEBL 676 , GENE 676

Last edit: 07/14/17 4:34 pm

Changes proposed by: kathiesmith

Faculty Senate Number

Contact(s)

Name	E-mail	Phone
Kathie Smith	KSmith@cvm.tamu.edu	979-845-2851

Course prefix VIBS Course number 676

Department Vet Integrative Biosciences

College/School Veterinary Med & Biomedical Sc

Academic Level Graduate

Academic Level Undergraduate

(alternate)

Effective term 2018-2019

Complete Course Title

Speciation Biology and Genetics

Abbreviated Course SPECIATION BIOL & GENE

Title

Catalog course

description

Introduction to the ability to speciate into biologically diverse forms via microevolutionary processes; literature on the origin of species beginning with Darwin and continuing through contemporary work; overview of several major topics in speciation with special emphasis on the genetics of speciation in this genomic era.

Prerequisites and

Restrictions

GENE 603 and BIOL 610, or equivalent.

Concurrent Enrollment No

Should catalog Yes

prerequisites /
concurrent enrollment
be enforced?

In Workflow

1. VIBS Department Head
2. ENTO Department Head
3. BCBP Department Head
4. Curricular Services Review
5. VM Committee Preparer GR
6. VM Committee Chair GR
7. VM College Dean GR
8. GC Preparer
9. GC Chair
10. Faculty Senate Preparer
11. Faculty Senate
12. Provost II
13. President
14. Curricular Services
15. Banner

Approval Path

1. 03/10/17 1:45 pm
Evelyn Tiffany-
Castiglioni (c-tiffany):
Approved for VIBS
Department Head
2. 03/10/17 3:33 pm
David Ragsdale
(dragsdale): Approved
for ENTO Department
Head
3. 07/11/17 3:51 pm
Gregory Reinhart (g-
reinhart): Approved for
BCBP Department Head
4. 07/14/17 4:34 pm
Sandra Williams
(sandra-williams):
Approved for Curricular
Services Review
5. 07/14/17 5:33 pm
Kathie Smith
(kathiesmith):
Approved for VM
Committee Preparer GR
6. 07/14/17 5:38 pm
C. Jane Welsh (c-welsh):
Approved for VM
Committee Chair GR
7. 07/15/17 7:29 am
Robert Burghardt
(rburghardt): Approved
for VM College Dean GR

Letters of support or
other documentation
Additional information

No

Reviewer Comments

Sandra Williams (sandra-williams) (03/08/17 9:00 pm): Edits made to form to conform to catalog style guide.
Sandra Williams (sandra-williams) (03/08/17 9:02 pm): Rollback: What are the cross-listed courses - must be listed on form/syllabus? Schedule of topics shows "489"; 15 weeks?
Sandra Williams (sandra-williams) (07/14/17 9:19 am): CIP code not valid. Contacted department via email.
Sandra Williams (sandra-williams) (07/14/17 4:34 pm): Update received.

Reported to state?

Key: 17521

VIBS/EEBL/GENE 676
Speciation Biology and Genetics
Course Syllabus

Spring Semester 2018
3 Credit Hours

Brief Course Description

The purpose of this course is to provide graduate-level students with an introduction to the one of the most fundamental processes in populations and living systems, namely the ability to speciate into biologically diverse forms via microevolutionary processes. In this course, we will review the literature on the origin of species beginning with Darwin and continuing through contemporary work. The course aims to provide an overview of several major topics in speciation with special emphasis on the genetics of speciation in this genomic era.

This course uses a combinatorial approach of formal lectures, student-led short presentations on assigned readings from the primary literatures and seminar-style discussions. Following lecture delivery, a short presentation of the assigned readings from the primary literature will be led individually by two students but all students are expected to fully participate in the discussion thereafter. This course has an extremely heavy reading component comprising both text chapters from Coyne and Orr (2004) as well as readings from the primary literature. All students are required to read the assigned material prior to each class.

Students are strongly encouraged to ask questions. But students also need to come prepared to the class, both by reading the assigned material and also devoting careful thought to it. This is a graduate-level course and in order to draw out participation, students may be called on to explain key concepts from the readings to the remainder of the class.

Prerequisites

GENE 603 Genetics (or equivalent)
BIOL 610 Evolution (or equivalent)

A basic knowledge of evolution and genetics is assumed. Students are expected to be familiar with the basic concepts of the textbook *Evolutionary Biology* by Douglas Futuyma. If you have not taken a course in Evolution, you should read Chapters 15 and 16 of this book immediately. Both chapters will be provided as pdf files.

Meeting Times & Important Dates

- VIBS/GENE/EEBL will meet every **Tuesday and Thursday** from **11:10 am – 12:25 pm** in **Room XXX – VENI/VEDI/VICI**.
- There are no midterm or final examinations.
- *Term Paper* *Due April 19, 2018*

Instructor Information

Dr. Vaishali Katju

Associate Professor

Department of Veterinary Integrative Biosciences

College of Veterinary Medicine and Biomedical Sciences

Texas A&M University

College Station, TX 77845

979.458.1036

vkatju@cvm.tamu.edu

Office Location: Veterinary Medical Research Building (VMR), Rm 371

Office Hours: Wednesdays, 1 – 2 pm

Learning Outcomes and Overall Course Objectives

The origin of species was one of the most germane questions posited by Darwin in his theory of evolution and as such occupies a unique position of interest in the field of evolutionary biology. Darwin recognized that species not only evolve but also divide. However, he viewed the process of new species formation as intertwined with adaptation, his notion being that new species originated from a struggle for existence among individuals leading to the successful establishment of genotypes/phenotypes that were more adapted to a novel ecological niche.

This upper-level course is intended to provide graduate students in genetics and evolutionary biology/ecology a strong historical framework into the study of biodiversity and the origin of species. The initial lectures will focus on the early recognition of ‘species’ by the ancient Greeks, the efforts to classify them taxonomically under Linnaeus, the early hypotheses and focal studies in the pre-Darwinian era under Lamarck and Buffon (among others) that influenced Darwin, culminating in Darwin’s release of the ‘Origin of Species.’ We will then trace the trajectory of speciation biology in the post-Darwinian era, from the early Naturalists/Mutationists split and debate, and the formalization of the field in the 1930s with the Modern Synthesis when Mendelism, biogeography and natural selection were reconciled. Under famous evolutionary biologist, Theodosius Dobzhansky, much effort was expended in dissecting the role of ‘reproductive isolating mechanisms’, a set of diverse traits that serve to impede gene flow thereby enabling divergence among populations and the onset of the speciation process. In parallel, theoretical work by population geneticists and naturalists in the 1940s and 1950s complemented the genetic strides being made by starting the discussion in what constitutes a ‘species’ (referred to as species concepts). Although interest in the formation of new species over the next three to four decades waned due to a focus on studying the genetic variation within species, the field was resurrected in the 1980s and has made remarkable strides with the advent of the genomic era.

Within the historical framework outlined above, students will gain familiarity with the major concepts in speciation biology, namely the set of varied and competing species concepts, the major geographic models facilitating population divergence and the origin of incompatibility, and the various classes of pre-mating and post-mating reproductive isolating barriers. The study of speciation and speciation genetics in the current era is focusing on (i) the relative roles of the two dominant evolutionary forces, selection versus drift, in promoting speciation, (ii) the incorporation of mathematical theory, ecology and comparative studies, (iii) and the genetic basis of reproductive isolation with the use of modern high-throughput sequencing technology. We will specially focus on investigations into the genetic basis of speciation in this modern genomic era. Our first attention will be given to which of several competing genetic models best explain Haldane’s Rule, the preferential effect of sterility or inviability on hybrids of the heterogametic sex. Next, we will examine the concept of adaptive speciation and whether the adaptive traits in question originate as novel mutations or ancestral standing genetic variation. Lastly, we will examine in depth the particular genes involved in speciation and the role for gene expression in speciation.

Text Book

Primary Text:

Coyne, J.A., and Orr, H.A. 2004, *Speciation*, Sinauer Press, Sunderland, MA.

Grading Policies and Attendance

Class attendance is deemed essential and mandatory for this course. While some component of the class time is assigned to lectures, the remaining time is used for accomplishing class goals via journal club and seminar-style discussions, student-led presentations and active participation by students in the audience. Repeated class absence will influence the grade fraction set aside for participation as well as submitted article summaries which are due at the beginning of the lecture, unless an explanation and documentation of extenuating circumstances of absence are provided. If the student is seeking an excused absence, “the student must notify his or her instructor in writing (acknowledged e-mail message is acceptable) prior to the date of absence if such notification is feasible.” If prior notification is not possible (e.g., emergency), “the student must provide notification by the end of the second working day after the absence.” Please refer to university-approved excuses for missed deadlines as described in the TAMU Student Rules and found at: <http://student-rules.tamu.edu/rule07>.

All assignments should be received by their posted deadlines in order to receive full credit. Assignments submitted past the deadline will only be considered for credit under extenuating circumstance (accident, illness or emergency) with permission from the Instructor. Please refer to University Rules (<http://student.rules.tamu.edu>) for further explanation.

Grading Scale

- A = 90-100
- B = 80-89
- C = 70-79
- D = 60-69
- F = 0-59

Course Breakdown

One-page summaries of assigned articles from the primary literature	20%
Student-led group discussion	20%
Participation in discussion of primary literature	20%
Term Paper	40%

Student-led Group Discussions on Assigned Readings from the Primary Literature

Commencing in the third week, two students will lead a discussion on class topics of the week. The designated students will be assigned a paper from the primary literature on the topic being discussed. These papers will form the basis of a general discussion and will be e-mailed out as pdf files to the entire class.

When leading a discussion, students should prepare an overview of the specific paper from the primary literature that have been assigned to them. This overview should include an outline of the key points, tables or illustrations, a bibliography of the relevant papers, and a list of questions to generate discussion in powerpoint format. The lead student will present the salient points of the assigned paper for 15 minutes, followed by 20 minutes of discussion by the entire class in journal club style.

One-page summaries of articles from primary literature

To facilitate discussion, all students are required to turn in a one-page summary for each assigned article per lecture (Document Summary_reading.doc; typed summaries only). These should be printed out and turned in at the *beginning* of the class (please do NOT send these to me electronically).

These summaries should describe the following:

- The main question being addressed?
- What the authors did?
- What the authors found?
- The significance of the findings.
- Two or three questions for further discussion.

The summary document will be sent you electronically in the first week of class. Please save it and use it for submission of all reading summaries through the length of the semester.

Term Paper

Each student will write a term paper reviewing an important topic in speciation, due *at the beginning of class on April 19th*. I will assign three to four review topics within the first three weeks of class. Each student must select one topic and convey their topic selection to me at the earliest, but no later than February 15th, 2018. Students are also encouraged to decide on a review topic of their own choice but must consult me regards its feasibility and get my permission to pursue the topic before proceeding. The main body of the term paper (excluding bibliography) must adhere to a single-spaced six-page limit or less, font size 12.

Americans with Disabilities Act (ADA)

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, currently located in the Disability Services building at the Student Services at White Creek complex on west campus or call 979-845-1637. For additional information, visit <http://disability.tamu.edu>.

Academic Integrity

For additional information please visit: <http://aggiehonor.tamu.edu>

“An Aggie does not lie, cheat, or steal, or tolerate those who do.”

VIBS/GENE/EEB 676

Course Topics

Week 1: January 16 & 18, 2018

Lecture 1 – Historical Perspective, Major Themes and Players (Part 1)

- Organizational meeting (discussion of syllabus, course format, and grading)
- Historical perspective on human recognition of biodiversity:: ancient Greece (pre-Socratic, Plato and Essentialism, Aristotle)

Lecture 2 – Historical Perspective, Major Themes and Players (Part 2)

- Historical perspective on human recognition of biodiversity:: Linnaeus and the advent of modern taxonomy
- Speciation biology in the pre-Darwin era and the 19th century
 - Pre-Darwinian naturalists Lamarck and Buffon
 - Cuvier and *Catastrophism* vs. Lyell and *Uniformitarianism*
 - Darwin and *The Origin of Species*
 - Mendel and the *Mechanism of Heredity*

Week 2: January 23 & 25, 2018

Lecture 3 – Historical Perspective, Major Themes and Players (Part 3)

- Speciation biology in the post-Darwin era of early 20th century
 - Rediscovery of Mendel's laws
 - Naturalists vs. Mutationists
 - Early genetic and theoretical insights: Haldane's Rule, Bateson's model for the genetics of interspecific sterility

Lecture 4 – Historical Perspective, Major Themes and Players (Part 4)

- Speciation biology and genetics under the Modern Synthesis
 - Phase I (1926-1936)
 - Phase I (1937-1947)
- DNA! DNA! DNA! (1979-present)

Week 3: January 30 & February 1 2, 2018

Lecture 5 – Species Concepts and Definitions

- The reality of species
 - Sexually reproducing eukaryotic taxa
 - Groups with little or no sexual reproduction
- Typological Species Concept
- Mayr's Biological Species Concept (BSC)
 - Advantages and Disadvantages

Lecture 6 – Species Concepts and Definitions

- Phylogenetic Species Concept (PSC)
- Genotypic Cluster Species Concept (GCSC)
- Recognition Species Concept (RSC)
- Cohesion Species Concept (CSC)
- Ecological Species Concept (EcSC)

- Evolutionary Species Concept (EvSC)
- Why are there species?

Week 4: February 6 & 8, 2018

Lecture 7 – Studying Speciation

- The problem of speciation
- Identifying and measuring Reproductive Isolation
 - Absolute strength of isolating barriers
 - Relative strength of isolating barriers
 - Prezygotic vs. Postzygotic isolation
 - Which isolating barrier caused Speciation?

Lecture 8 – Studying Speciation

- Comparative studies of Isolating Barriers
- Identifying and measuring Reproductive Isolation
 - How fast does Reproductive Isolation appear?
 - Which traits promote the evolution of Reproductive Isolation?

Week 5: February 13 & 15, 2018

Lecture 9 – Geographic Modes of Speciation

- Allopatric Speciation
 - Vicariant
 - Peripatric

Lecture 10 – Geographic Modes of Speciation

- Parapatric Speciation

Week 6: February 20 & 22, 2018

Lecture 11 – Geographic Modes of Speciation

- Sympatric Speciation
 - Theory (Disruptive Sexual Selection)
 - Theory (Disruptive Natural Selection)

Lecture 12 – Geographic Modes of Speciation

- Sympatric Speciation
 - Experimental Evidence
 - Evidence from Nature (habitat islands, host races and host-specific species)
 - Allochronic (temporal) isolation in sympatry
 - Comparative studies of the biogeography of speciation

Week 7: February 27 & March 1, 2018

Lecture 13 – Isolating Barriers

- Premating, Prezygotic Barriers
 - Ecological Isolation (Habitat, Temporal/Allochronic, & Pollinator Isolation)

Lecture 14 – Isolating Barriers

- Premating, Prezygotic Barriers
 - Nonecological Isolation (Behavioral, Mechanical & Mating System Isolation)

Week 8: March 6 & 8, 2018

Lecture 15 – Isolating Barriers

- Gametic (Postmating, Prezygotic Barriers)
 - Copulatory Behavioral & Gametic Isolation (Habitat, Temporal/Allochronic, & Pollinator Isolation)

Lecture 16 – Isolating Barriers

- Postzygotic Barriers
 - Extrinsic (Ecological Inviability & Behavioral Inviability)
 - Intrinsic (Hybrid Inviability & Hybrid Sterility)

Week 9: March 12 - 16, 2018

SPRING BREAK - NO CLASSES

Week 10: March 20 & 22, 2018

Lecture 17 – Genetic Basis of Postzygotic Isolation (Intrinsic Postzygotic Isolation)

- Haldane's Rule (Phenomenon, Causes)

Lecture 18 – Genetic Basis of Postzygotic Isolation (Intrinsic Postzygotic Isolation)

- How many genes?
- Genomic location of these genes
- Are duplicate genes important?
- What are these 'speciation' genes?
- Molecular divergence of 'speciation' genes due to selection or drift?

Week 11: March 27 & 29, 2018

Lecture 19 – Speciation by Polyploidy

- Classification of polyploids
- Genetic pathways to polyploidy

Lecture 20 – Speciation by Polyploidy

- Incidence of polyploidy
- Ecology and persistence of polyploids
- Why is polyploidy rarer in animals than in plants?

Week 12: April 3 & 5, 2018

Lecture 21 – Recombinational or Hybrid Speciation

- Early theory into the genetics of hybrid speciation
- Recent theory into the tempo and model of hybrid speciation
- Frequency and fitness of hybrids in nature

Lecture 22 – Recombinational or Hybrid Speciation

- Artificial hybrids

- Natural Recombinational Speciation
- Data meet Theory

Week 13: April 10 & 12, 2018

Lecture 23 – Reinforcement

- Definition and historical background
- Data from Selection Experiments in the Laboratory
- Evidence from Nature: Case studies for and against
- Evidence from Nature: Comparative approaches
- Reinforcement for Postzygotic Isolation

Lecture 24 – Reinforcement

- Evidence from Nature: Comparative Studies
- Reinforcement for Postzygotic Isolation
- Alternative Explanations
- Distinguishing the Alternatives

Week 14: April 17 & 19, 2018

Lecture 25 – Selection vs. Drift in Speciation

- Speciation by Selection
 - Natural selection
 - Sexual Selection
 - Mathematical-theories of selection-based speciation

Lecture 26 – Selection vs. Drift in Speciation

- Speciation by Drift
 - Peak Shift Models
 - Theoretical criticisms
 - Recent Peak Shift Models
 - Data (evidence from the laboratory and nature)
- **Term Papers Due!**

Week 15: April 24 & 26, 2018

Lecture 27 – Speciation and Macroevolution

- Speciation Rate
 - Theory and Speciation Rates
 - Calculating Speciation Intervals
 - Extreme Rates of Speciation
 - Effect of Biogeography

Lecture 28 – Speciation and Macroevolution

- Factors Affecting Speciation Rates
 - Test for the Effects of Key Factors
 - Distinguishing speciation from extinction
 - The Data

Week 16: May 1, 2018

Lecture 29 - Concluding Remarks

- Speciation research in the Genomic Era
- Future of Speciation Research

Course Change Request

New Course Proposal

Date Submitted: 07/10/17 1:42 pm

Viewing: **VPAT 654 : Fundamentals in Laboratory Animal Medicine**

Last edit: 07/11/17 1:48 pm

Changes proposed by: kathiesmith

Faculty Senate Number

Contact(s)

Name	E-mail	Phone
Kathie Smith	KSmith@cvm.tamu.edu	979-845-2851

Course prefix VPAT Course number 654

Department Veterinary Pathobiology

College/School Veterinary Med & Biomedical Sc

Academic Level Graduate

Academic Level (alternate) Undergraduate

Effective term 2018-2019

Complete Course Title
Fundamentals in Laboratory Animal MedicineAbbreviated Course Title
FUNDAMENTALS IN LAB ANIMAL MED

Catalog course description

Knowledge of the biology, management, and diseases of laboratory animals; preparation of comparative medicine residents for the board certifying examination of the American College of Laboratory Animal Medicine (ACLAM).

Prerequisites and Restrictions

DVM degree and acceptance into the laboratory animal residency program; or approval of instructor.

Concurrent Enrollment No

Should catalog prerequisites / concurrent enrollment be enforced? No

Crosslistings No Crosslisted With

Stacked No Stacked with

Semester	2	Contact Hour(s)	Lecture:	2	Lab:	0	Other:	0
Credit Hour(s)		(per week):	Total	2				

Repeatable for credit? Yes

Number of times repeated for credit 5 - OR - Maximum number of hours

When will this course be repeated? Within a student's career

In Workflow

1. VTPB Department Head
2. Curricular Services Review
3. VM Committee Preparer GR
4. VM Committee Chair GR
5. VM College Dean GR
6. GC Preparer
7. GC Chair
8. Faculty Senate Preparer
9. Faculty Senate
10. Provost II
11. President
12. Curricular Services
13. Banner

Approval Path

1. 07/10/17 3:37 pm
Ramesh Vemulapalli (rvemulapalli): Approved for VTPB Department Head
2. 07/11/17 1:48 pm
Sandra Williams (sandra-williams): Approved for Curricular Services Review
3. 07/12/17 8:14 am
Kathie Smith (kathiesmith): Approved for VM Committee Preparer GR
4. 07/12/17 8:50 am
C. Jane Welsh (c-welsh): Approved for VM Committee Chair GR
5. 07/15/17 7:30 am
Robert Burghardt (rburghardt): Approved for VM College Dean GR
6. 07/21/17 2:53 pm
LaRhesa Johnson (lrjohnson): Approved for GC Preparer
7. 08/10/17 3:47 pm
LaRhesa Johnson (lrjohnson): Approved for GC Chair

Three-peat?	Yes
CIP/Fund Code	5125090002
Default Grade Mode	Letter Grade (G)
Alternate Grade Modes	Satisfactory/Unsatisfactory
Method of instruction	Lecture
Will this course be taught as a distance education course?	No
Is 100% of this course going to be taught in Texas?	Yes
Will classroom space be needed for this course?	Yes

This will be a required course or an elective course for the following programs:

Required (select program)

Elective (select program)

Program(s)
(MS-BIMS) Master of Science in Biomedical Sciences
(PHD-BIMS) Doctor of Philosophy in Biomedical Sciences

Course Syllabus

Syllabus: Upload syllabus

Upload syllabus [VPAT 654 Fundamentals in Laboratory Animal Medicine Syllabus.pdf](#)

Letters of support or other documentation No

Additional information

Reviewer Comments **Sandra Williams (sandra-williams) (06/28/17 4:29 pm)**: Rollback: Please update course description to conform catalog style guide; reference our website here: <http://registrar.tamu.edu/Our-Services/Curricular-Services/Catalog/Style-Guide-for-Catalog-Course-Descriptions>
Sandra Williams (sandra-williams) (07/06/17 2:18 pm): Rollback: Please reference email for comments.
Sandra Williams (sandra-williams) (07/11/17 1:48 pm): Update received.

Reported to state?

Key: 17973



Course title and number **VPAT 654 – Fundamentals in Laboratory Animal Medicine**
Term (e.g., Fall 200X) **Spring 2018**
Meeting times and location Mondays 3-5 pm; TBD

Course Description and Prerequisites

Laboratory animal medicine is specialty within regulatory medicine. Students will gain a working knowledge of the biology, management, and diseases of laboratory animals. This course may be taken during all three (3) years of the comparative medicine residency training program. This course is designed to prepare comparative medicine residents for the certifying (“board”) examination of the American College of Laboratory Animal Medicine (ACLAM). This is a required course in the comparative medicine residency training program at Texas A&M. Residents are expected to repeat this course a total of 5 times (5 semesters) during their residency so as to cover all of the topics pertinent to the certifying examination.

This course is designed for students that have a DVM degree.

Prerequisite: DVM and acceptance into the laboratory animal residency program (other equivalent degrees or other graduate students may be accepted with the permission of the instructor)

Learning Outcomes or Course Objectives

Laboratory animal (comparative) medicine is specialty within veterinary medicine. It is therefore essential that comparative medicine residents be well versed in the biology and management of laboratory animals. Laboratory animal specialists must also be able to correctly diagnose and treat common laboratory animal diseases. A thorough knowledge of preventive medicine strategies is also essential.

Course objectives are derived from the ACLAM Role Delineation Document (2013). The RDD is attached and the objectives covered by this course are highlighted in yellow. (Note that the objectives will be covered over the 5 semesters required for each resident to take. A sample 3-year rotation of the topics to be covered is included.)

Instructor Information

Name Tracy Vemulapalli, DVM, MS, DACLAM
Telephone number (979) 458-1774
Email address tvemulapalli@cvm.tamu.edu
Office hours By Appointment
Office location VIDI 384

Textbook and/or Resource Material

Required textbooks: *Laboratory Animal Medicine (3rd Edition)*. eBook ISBN: 9780124166134; Hardcover ISBN: 9780124095274; Imprint: Academic Press; Published Date: 2nd September 2015

Grading Policies

The Final Grade in Course is Based on (% for each):

_____ Short Quizzes	_____ 40% Oral Reports	_____ Attendance
_____ 20% Hour ("Mock Board") Exams	_____ Written Reports	_____ Attitude & Motivation
_____ 20% Final Exams	_____ Lab. Perform.	_____ 20% Participation in class discussions

Participation: Short quizzes (e.g., iClickers) will be given during the most class periods to assess student understanding of the previous lecture. These will count toward the students' participation grade.

Online or take-home tests: On assignments that are declared "open book", students may use any written resource available, but the written answer(s) must be their own (duplication of a classmate's work or consultation with anyone about take home assignments/exam questions is not permitted). When necessary, students may ask the instructor for clarification on a specific assignment.

In-class exams: Will be closed-book and may utilize the ExamSoft delivery platform.

Oral presentations: Individual students (or small groups if student numbers support) will make oral presentations on a particular aspect of laboratory animal medicine. Students will be graded on the quality of their scholarship in researching the topic and organization of the materials.

Late work will not be accepted unless the reason for the late/missed work is an excused absence.

Policy on Make-up Examinations: Make-up exams will only be given to a student who missed the exam due to an excused absence. Missed exams due to an unexcused absence will result in a grade of zero (0). For more on attendance, see **Class Attendance** (below).

Class Attendance: Mandatory. Students are expected to attend all classes and laboratories. Failure to attend classes/lab may result in loss of points. Anticipated absences must be discussed with the instructor prior to the date of the absence. Regarding anticipated/unanticipated absences, students are expected to follow the Attendance Policy of the Texas A&M University Student Rules (Part I, Sect. 7) <http://student-rules.tamu.edu>.

Grading Scale

- A = 90-100
- B = 80-89
- C = 70-79
- D = 60-69
- F = <60

Course Topics, Calendar of Activities, Major Assignment Dates

Spring 2018

Week	Date	Topic	Chapter
1	01/15/18	Martin Luther King HOLIDAY NO CLASS	
2	01/22/18	Pre-anesthesia, anesthesia, analgesia, euthanasia I	Ch. 24
3	01/29/18	Pre-anesthesia, anesthesia, analgesia, euthanasia II	Ch. 24
4	02/05/18	Biology, Management, Diseases and Uses of Ferrets	Ch. 14
5	02/12/18	Gnotobiotics; Microbial Quality Control Rodents/Lagomorphs	Ch. 26
6	02/19/18	"Mock" exam	
7	02/26/18	Animal Models	Ch. 34
8	03/05/18	Research in Lab Animal and Comparative Medicine; The Design of Animal Experiments (M. Festing) – Part I	Ch. 35
9	03/12/18	Spring Break HOLIDAY NO CLASS	
10	04/02/18	The Design of Animal Experiments (M. Festing) – Part II	n/a
11	04/09/18	"Mock" exam	
12	04/16/18	Laboratory Animal Behavior (incl behavior evaluation techniques)	Ch. 38
13	04/23/18	Behavioral phenotyping of Mice (elevated plus maze; Morris water maze; etc)	Literature
14	04/30/18	Animal Welfare	Ch. 39
15	05/07/18	Program Management	Ch. 37
16	05/14/18	"Mock" exam (Finals Week)	

Final Exam: A cumulative final exam will be given covering all the material in the course. This will be in the form of an in-class exam modeled after the ACLAM certifying examination.

Other Pertinent Course Information

Americans with Disabilities Act (ADA)

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Disability Services, currently located in the Disability Services building at the Student Services at White Creek complex on west campus or call 979-845-1637. For additional information, visit <http://disability.tamu.edu>.

Academic Integrity

For additional information please visit: <http://aggiehonor.tamu.edu>

"An Aggie does not lie, cheat, or steal, or tolerate those who do."

Example of 3-year topic cycle for this course

Year	Sem	CHAPTER TOPIC	Chapter No.
2017	Fall	Biol & Diseases of Other Rodents I	Ch. 07
2017	Fall	Biol & Diseases of Other Rodents II	Ch. 07
2017	Fall	Biol & Diseases of Woodchucks	Ch. 08
2017	Fall	Biol & Diseases of Chinchillas	Ch. 09
2017	Fall	Microbial Quality Control Rodents/Lagomorphs	Ch. 11
2017	Fall	Biology and Diseases of Dogs	Ch. 12
2017	Fall	Biology and Diseases of Cats	Ch. 13
2017	Fall	Biol & Mgmt - Laboratory Fishes	Ch. 21
2017	Fall	Quail	Ch. 22
2017	Fall	Finches	Ch. 23
2017	Fall	TBD	n/a
2018	Spring	Pre-anesthesia, anesthesia, analgesia, euthanasia I	Ch. 24
2018	Spring	Pre-anesthesia, anesthesia, analgesia, euthanasia II	Ch. 24
2018	Spring	Biology, Management, Diseases and Uses of Ferrets	Ch. 14
2018	Spring	Gnotobiotics; Microbial Quality Control Rodents/Lagomorphs	Ch. 26
2018	Spring	Animal Models	Ch. 34
2018	Spring	Research in Lab Animal and Comparative Medicine; The Design of Animal Experiments (M. Festing) - Part I	Ch. 35
2018	Spring	The Design of Animal Experiments (M. Festing) - Part II	n/a
2018	Spring	Laboratory Animal Behavior (incl behavior evaluation techniques)	Ch. 38
2018	Spring	Behavioral phenotyping of Mice (elevated plus maze; Morris water maze; etc)	Literature
2018	Spring	Animal Welfare	Ch. 39
2018	Spring	Program Management	Ch. 37
2018	Fall	Board Preparation Strategies	n/a
2018	Fall	Biology/Uses of Mice	Ch. 03
2018	Fall	Biology/Uses of Rats	Ch. 04
2018	Fall	Diseases of Mice I	Ch. 03
2018	Fall	Diseases of Mice II	Ch. 03
2018	Fall	Diseases of Rats I	Ch. 04
2018	Fall	Diseases of Rats II	Ch. 04
2018	Fall	Biology, Management of Rabbits	Ch. 10
2018	Fall	Diseases of Rabbits	Ch. 10
2018	Fall	Rodent Genetics, Production, Nomenclature; Genetic Monitoring Mice/Rats	Ch 03, 04; Ch. 31
2018	Fall	Genetically Engineered Rodents	Ch. 32
2019	Spring	Biol & Diseases of Hamsters II	Ch. 05
2019	Spring	Biol & Diseases of Hamsters II	Ch. 05
2019	Spring	Biol & Diseases of Guinea Pig I	Ch. 06
2019	Spring	Biol & Diseases of Guinea Pig II	Ch. 06

2019	Spring	Biol, Management, Diseases and Uses of Sheep, Goats, Cattle I	Ch. 15
2019	Spring	Biol, Management, Diseases and Uses of Sheep, Goats, Cattle II	Ch. 15
2019	Spring	Comprehensive NHP Taxonomy Review & Biology, Management and Uses of New World NHPs	Ch. 17
2019	Spring	Biology, Management of NWP (con't)	Ch. 17
2019	Spring	Diseases of New World NHPs – Cebidae and Callitrichidae	Ch. 17
2019	Spring	Biology, Management, Diseases and Uses of Amphibians	Ch. 18
2019	Spring	Biology, Management, Diseases and Uses of Reptiles	Ch. 19
2019	Fall	Biol & Diseases of Swine I	Ch. 16
2019	Fall	Biol & Diseases of Swine II	Ch. 16
2019	Fall	Old World NHP-Biology and Disease I	Ch. 17
2019	Fall	Old World NHP-Biology and Disease II	Ch. 17
2019	Fall	Zebrafish	Ch. 20
2019	Fall	Techniques and Experimentation	Ch. 25
2019	Fall	Biocontainment Facilities/Procedures Working with Biohazards	Ch. 27
2019	Fall	Zoonoses	Ch. 28
2019	Fall	Xenozoonoses/Occ Health	Ch. 29, 30
2019	Fall	Factors influencing research	Ch. 33
2019	Fall	Design and Management of Facilities	Ch. 36

ACLAM Role Delineation Document
August 2013

Overview of this Document

The Role Delineation Document is comprised of six Domains. Each Domain is composed of Tasks and Knowledge topics. As a result of the Role Delineation study, most of the tasks have been identified as those performed by an ACLAM Diplomate at the time of certification. Some of the tasks were identified as being performed predominantly after certification has been earned.

The knowledge topics were identified in one of three categories:

- Acquired predominantly during a DVM/VMD program

- Required at time of certification

- Acquired predominantly either on the job or in a continuing education setting after certification

NOTE: The tasks and knowledge statements are cumulative, i.e., tasks performed at the time of certification continue to be performed post certification and knowledge required at time of certification builds on prerequisite knowledge acquired during a DVM/VMD program. In addition, listing task and knowledge statements as predominantly acquired either during a DVM/VMD program or post certification does not preclude inclusion of these items in recognized training program curricula or on the ACLAM certification examination. The fundamental basis for all knowledge and task statements is expected of all minimally competent diplomats regardless of when the knowledge is predominantly acquired or the task predominantly performed.

Domain 1: Management of Spontaneous and Experimentally Induced Diseases and Conditions

Tasks performed at time of certification

- T1. Prevent spontaneous or unintended disease or condition
- T2. Control spontaneous or unintended disease or condition
- T3. Diagnose disease or condition as appropriate
- T4. Treat disease or condition as appropriate

Knowledge required to perform these tasks acquired usually during a DVM/VMD program

- K1. diagnostic procedures
 - a. conduct of a physical examination
 - b. clinical pathology (e.g., hematology [CBC]; clinical chemistries and urinalysis)
 - c. other diagnostic procedures (e.g., imaging techniques; EKG)
- K2. surgical techniques associated with diagnostic (e.g., exploratory; biopsy) and therapeutic (e.g., tumor removal) surgeries
- K3. immunobiology (e.g., antibody responses; cellular immunity; species-specific immune responses)
- K4. nutrition with emphasis on effects of deficiency or toxicity

Knowledge required to perform these tasks at time of certification as a Diplomate

- K1. anatomy with emphasis on features which have significance with regard to clinical medicine (e.g., rat Harderian gland) or experimental medicine (e.g., coronary artery anatomy of the pig, which allows use for induced infarcts; Circle of Willis anatomy in gerbils, which allows use in stroke models)
- K2. physiology with emphasis on normative data and characteristics (e.g., seasonal changes in squirrel monkeys; coprophagia in rabbits), metabolic differences (e.g., hypoglycemia in squirrel monkeys) or metabolism of induced disease (e.g., streptozotocin-induced diabetes mellitus), reproductive physiology, and clinically significant physiological features
- K3. parasitology with emphasis on parasitic diseases that can become established in a colony and zoonotic parasitic diseases
- K4. microbiology with emphasis on organisms of clinical significance; subclinical infections that cause physiologic, biochemical, and/or immunologic alterations; zoonotic disease organisms; organisms used experimentally to induce infection and unintended infections (e.g., infections associated with chronic vascular cannulation); and sampling and culture techniques for such organisms
- K5. anatomic pathology including pathogenesis of significant naturally occurring (e.g. tuberculosis) and experimentally induced (e.g. collagen

induced arthritis) diseases; typical gross and histopathologic lesions (e.g., age-related changes, or pathologic changes of adverse phenotypes associated with genetically modified rodents); and pertinent anatomic pathology techniques (e.g., Steiner's stain)

K6. pharmacology with emphasis on drugs used to treat spontaneous or induced disease (e.g., indications, use and contraindications of drugs; adverse reactions; adverse interactions; mechanisms of action; species-specific toxicity), and drugs used to induce disease (e.g., azoxymethane to induce neoplasia, or [Dextran sulfate sodium](#) (DSS) to induce colitis)

K7. epidemiology including species-specific susceptibility to induced disease (e.g., modes of disease transmission; latency; persistence; prevalence; incidence)

K8. preventive medicine (e.g., immunization; quarantine; prescreening tests)

K9. diagnostic procedures

a. species-specific behavioral assessment

b. serologic, cytologic, and molecular diagnostic tests (e.g., PCR; ELISA; IFA; HAI; MAP) and proper sampling techniques

K10. genetics with emphasis on control and treatment of naturally occurring and experimentally induced disease, predisposition to disease, and modes of inheritance

Domain 2: Management of Pain and Distress

Tasks performed at time of certification

T1. Recognize pain and/or distress

T2. Minimize or eliminate pain and/or distress

T3. Administration of anesthesia

T4. Euthanize (Euthanize)

Knowledge required to perform these tasks acquired usually during a DVM/VMD program

K1. anatomy and physiology of pain and distress

K2. patient monitoring

K3. critical and post-procedural care techniques

Knowledge required to perform these tasks at time of certification as a Diplomate

K1. assessment of pain and distress (e.g., behavior which is a sign of pain and/or distress; physiologic changes; pain and distress scoring systems)

K2. causes of pain

K3. causes of distress

K4. effects of pain and distress on normative physiology and on research studies

K5. pharmacological interventions for pain and distress and their effects on physiology, including age and species differences for such interventions, and depth and duration of analgesia provided by such interventions

K6. nonpharmacological interventions for pain and distress and their effects on physiology, including age and species differences for such interventions

K7. euthanasia

K8. humane endpoint criteria

Domain 3: Research

Tasks performed at time of certification

T1. Facilitate or provide research support

T2. Advise and consult with investigators on matters related to their research

T3. Design and conduct research

Knowledge required to perform these tasks at time of certification as a Diplomate

K1. bi methodology techniques (e.g., collection of blood and other body fluids and tissues; handling and restraint; administration of compounds and treatments)

K2. research methods and equipment (e.g., antibody production; adjuvants; tumor induction; imaging; data collection techniques such as telemetry; observation; behavioral assessment methods)

K3. animal models (spontaneous and induced) including normative biology relevant to the research (e.g., background lesions of common strains)

K4. genetics and nomenclature

K5. genetic modification/engineering technology including application of molecular biology techniques

K6. characterization of animal models (e.g., phenotyping, behavioral assessment)

K7. gnotobiotics

K8. experimental surgical techniques and instrumentation

K9. principles of experimental design and statistics including scientific method

K10. information resources (e.g., National Agricultural Library; National Library of Medicine)

K11. scientific writing

K12. Replacement, Reduction and Refinement techniques

K13. Effective methods for communicating research-related concerns

K14. Aseptic requirements for performing surgery

K15. genomics, metabolomics, and proteomics

Tasks performed usually post-certification as a Diplomate

T1. Collaborate with other scientists on research projects

Knowledge required to perform the tasks in the Domain acquired usually post-certification

K2. grant application, review and funding mechanisms

Domain 4: Animal Care

Tasks performed at time of certification

T1. Develop animal husbandry programs

T2. Manage or provide indirect management/oversight of animal husbandry programs

T3. Manage or provide indirect management/oversight of laboratory animal facilities

Knowledge required to perform these tasks at time of certification as a Diplomate

K1. species-specific husbandry (e.g., nutrition, housing, exercise)

K2. environmental enrichment

K3. methods of sterilization, sanitation, and decontamination

K4. quality assurance techniques for animal care-related equipment (e.g., verification of effective cage sanitation) and supplies (e.g., water, food, bedding)

K5. animal procurement considerations (including sources, vendor surveillance, genetic monitoring, transportation)

K6. breeding colony management (e.g., systems and records, genetic monitoring)

K7. animal identification systems

K8. pest control (e.g., methods, hazards and toxicity)

K9. pathogen-free barriers (exclusion)

K10. containment facilities (inclusion)

K11. environmental causes of physiological alterations in animals and their effects on research (e.g., sound, light, temperature, humidity, housing systems)

K12. environmental monitoring

K13. watering and feeding (e.g., automated watering, liquid diets, ad lib or restricted diets)

Tasks performed usually post-certification as a Diplomate

T1. Design laboratory animal facilities

Knowledge required to perform the tasks in the Domain acquired usually post-certification

- K1. selection criteria for animal care-related equipment and supplies
- K2. fiscal management as it relates to budgetary and financial issues associated with animal facility management (e.g., per diem rate setting; equipment cost comparisons)
- K3. human resource management as it relates to operation of animal care and use programs
- K4. disaster planning
- K5. facility planning, design, and construction (e.g., programming, commissioning, master planning, material selection, security)
- K6. mechanical, electrical and plumbing systems
- K7. waste management
- K8. housing systems (e.g. aquatics, rodents high density housing, NHP caging)

Domain 5: Regulatory Responsibilities

Tasks performed at time of certification

- T1. Perform direct or delegated Attending Veterinarian responsibilities
- T2. Advocate for humane care and use of animals
- T3. Provide advice to occupational health and safety programs
- T4. Provide advice on biological, chemical and radiation hazards in an animal research program
- T5. Serve as a member of an IACUC
- T6. Review protocols and provide advice to investigators and the IACUC

Knowledge required to perform these tasks acquired usually during a DVM/VMD program

- K1. laws, regulations, policies and standards
 - a. Controlled Substances Act/DEA Regulations

Knowledge required to perform these tasks at time of certification as a Diplomate

- K1. laws, regulations, policies and standards
 - a. Animal Welfare Act, USDA regulations, Animal Care policies
 - b. Health Research Extension Act, Public Health Service Policy on Humane Care and Use of Laboratory Animals, OLAW interpretive guidance
 - c. Guide for the Care and Use of Laboratory Animals (ILAR/NRC)
 - d. AVMA Guidelines for the Euthanasia of Animals (AVMA)
 - e. Biosafety in Microbiological and Biomedical Laboratories (CDC/NIH)
 - f. Good Laboratory Practices (FDA/EPA)

- g. Endangered Species Act/CITES
- h. Guide for the Care and Use of Agricultural Animals in Agricultural Research and Teaching (FASS)
- i. Live Animals Regulations (IATA – International Air Transportation Association)
- j. USDA and CDC animal importation regulations
- k. NIH Recombinant DNA Guidelines and Office of Biotechnology
- l. Occupational Health and Safety in the Care and Use of Research Animals (ILAR/NRC)
- m. Occupational Health and Safety in the Care and Use of Nonhuman Primates

K2. role and function of the IACUC

K3. protocol review

K4. facility inspection and program review

K5. occupational health and safety (e.g., ergonomics; OSHA; allergens; blood-borne pathogens; radiation and chemical hazards; MSDS)

K6. role and function of the Institutional Biosafety Committee (IBC)

K7. role and function of the Association for Assessment and Accreditation of Laboratory Animal Care – International (AAALAC)

K8. responsible conduct of research

Knowledge required to perform the tasks in the Domain acquired usually post-certification

K1. international laws, policies, and standards (e.g., Canadian Council on Animal Care; EU Directives)

Domain 6: Education

Tasks performed at time of certification

T1. Train personnel in animal care and use

T2. Maintain current knowledge and continued competence in laboratory animal medicine

Knowledge required to perform these tasks at time of certification as a Diplomate

K1. educational resources (e.g., publications, inanimate models, computer applications, conferences)

K2. certification programs (e.g., AALAS technician certification program, ACLAM certification)

K3. societal issues involving use of animals:

- a. organizations related to and/or supportive of laboratory animal medicine and animal research (e.g., AALAS, ASLAP, ILAR, NABR, AMP)

- b. organizations opposed to animal research (e.g., PETA, HSUS) including their philosophy and opposition strategies
- c. philosophy and ethics of animal use
- d. history and value of animal research

Tasks performed usually post-certification as a Diplomate

- T1. Provide education in academic and/or laboratory animal residency programs
- T2. Outside of formal training programs, mentor those interested in or involved in laboratory animal medicine
- T3. Provide community outreach on animal care and use

Species Categories

Based on mean importance ratings from the Role Delineation Study, the suggested species were classified as primary, secondary and tertiary. Below is the list by category.

Category	Species
Primary	Mouse (<i>Mus musculus</i>)
Primary	Rat (<i>Rattus norvegicus</i>)
Primary	Rabbit (<i>Oryctolagus cuniculus</i>)
Primary	Macaques (<i>Macaca</i> spp.)
Primary	Dog (<i>Canis familiaris</i>)
Primary	Pig (<i>Sus scrofa</i>)
Secondary	Zebrafish (<i>Danio rerio</i>)
Secondary	African clawed frog (<i>Xenopus laevis</i> and <i>Xenopus tropicalis</i>)
Secondary	Cat (<i>Felis domestica</i>)
Secondary	Guinea pig (<i>Cavia porcellus</i>)
Secondary	Ferret (<i>Mustela putorius furo</i>)
Secondary	Squirrel monkey (<i>Saimiri sciureus</i>)
Secondary	Sheep (<i>Ovis aries</i>)
Secondary	Syrian hamster (<i>Mesocricetus auratus</i>)
Secondary	Baboon (<i>Papio</i> spp.)
Secondary	Marmoset/tamarins (<i>Callitrichidae</i>)
Secondary	Gerbil (<i>Meriones</i> spp.)
Secondary	Goat (<i>Capra hircus</i>)
Tertiary	Other rodents
Tertiary	Chicken (<i>Gallus domestica</i>)
Tertiary	Other nonhuman primates
Tertiary	Other mammals
Tertiary	Pigeon (<i>Columba livia</i>)
Tertiary	Other amphibians
Tertiary	Other livestock species including cattle and horses
Tertiary	Other Fish
Tertiary	Reptiles
Tertiary	Other birds
Tertiary	Invertebrates

Course Change Request

New Course Proposal

Date Submitted: 07/10/17 1:55 pm

Viewing: **VPAT 655 : Contemporary Topics in Laboratory Animal Medicine**

Last edit: 07/11/17 1:49 pm

Changes proposed by: kathiesmith

Faculty Senate Number

Contact(s)

Name	E-mail	Phone
Kathie Smith	KSmith@cvm.tamu.edu	979-845-2851

Course prefix VPAT Course number 655

Department Veterinary Pathobiology

College/School Veterinary Med & Biomedical Sc

Academic Level Graduate

Academic Level (alternate) Undergraduate

Effective term 2018-2019

Complete Course Title

Contemporary Topics in Laboratory Animal Medicine

Abbreviated Course Title CONTEMP TOPICS LAB ANIMAL MED

Catalog course description

Analysis of at least one article per week and deliverance of a short oral presentation to the class concerning the article's main points as well as commenting on the quality of the paper experimental design; relies heavily from the current literature published through two main laboratory animal medical journals, Comparative Medicine (CompMed) and Journal of the American Association for Laboratory Animal Science (JAALAS).

Prerequisites and

Restrictions

DVM and acceptance into the laboratory animal residency program; or approval of instructor.

Concurrent Enrollment No

Should catalog prerequisites /

concurrent enrollment be enforced?

Crosslistings No Crosslisted With

Stacked No Stacked with

Semester	1	Contact Hour(s)	Lecture:	1	Lab:	0	Other:	0
Credit Hour(s)		(per week):	Total	1				

Repeatable for credit? Yes

In Workflow

1. VTPB Department Head
2. Curricular Services Review
3. VM Committee Preparer GR
4. VM Committee Chair GR
5. VM College Dean GR
6. GC Preparer
7. GC Chair
8. Faculty Senate Preparer
9. Faculty Senate
10. Provost II
11. President
12. Curricular Services
13. Banner

Approval Path

1. 07/10/17 3:37 pm
Ramesh Vemulapalli (rvemulapalli): Approved for VTPB Department Head
2. 07/11/17 1:49 pm
Sandra Williams (sandra-williams): Approved for Curricular Services Review
3. 07/12/17 8:15 am
Kathie Smith (kathiesmith): Approved for VM Committee Preparer GR
4. 07/12/17 8:49 am
C. Jane Welsh (c-welsh): Approved for VM Committee Chair GR
5. 07/15/17 7:31 am
Robert Burghardt (rburghardt): Approved for VM College Dean GR
6. 07/21/17 2:53 pm
LaRhesa Johnson (lrjohnson): Approved for GC Preparer
7. 08/10/17 3:47 pm
LaRhesa Johnson (lrjohnson): Approved for GC Chair

Number of times repeated for credit 6 - OR - Maximum number of hours

When will this course be repeated? Within a student's career

Three-peat? Yes

CIP/Fund Code 5125090002

Default Grade Mode Letter Grade (G)

Alternate Grade Modes Satisfactory/Unsatisfactory

Method of instruction Lecture

Will this course be taught as a distance education course? No

Is 100% of this course going to be taught in Texas? Yes

Will classroom space be needed for this course? Yes

This will be a required course or an elective course for the following programs:

Required (select program)

Elective (select program)

Program(s)
(MS-BIMS) Master of Science in Biomedical Sciences
(PHD-BIMS) Doctor of Philosophy in Biomedical Sciences

Course Syllabus

Syllabus: Upload syllabus

Upload syllabus [VPAT 655 Contemporary Topics in Laboratory Animal Medicine Syllabus.pdf](#)

Letters of support or other documentation No

Additional information

Reviewer Comments **Sandra Williams (sandra-williams) (06/28/17 4:29 pm):** Rollback: Please update course description to conform catalog style guide; reference our website here: <http://registrar.tamu.edu/Our-Services/Curricular-Services/Catalog/Style-Guide-for-Catalog-Course-Descriptions>
Sandra Williams (sandra-williams) (07/06/17 2:18 pm): Rollback: Please reference email for comments.
Sandra Williams (sandra-williams) (07/11/17 1:49 pm): Update received.

Reported to state?

Key: 17975



Course title and number **VPAT 655 – Contemporary Topics in Laboratory Animal Medicine**
Term (e.g., Fall 200X) **Spring 2018**
Meeting times and location Thursdays 4-5 pm; TBD

Course Description and Prerequisites

It is essential that students studying comparative medicine be well versed in the current literature published within the discipline. The course will draw heavily from the current literature published through two main laboratory animal medical journals, Comparative Medicine (CompMed) and Journal of the American Association for Laboratory Animal Science (JAALAS).

Students will be expected to analyze at least 1 article per week and then deliver a short oral presentation to the class concerning the article's main points as well as commenting on the quality of the paper experimental design. All students will be expected to read all of the articles scheduled for that week and participate in the discussion of each article. However, they will only be responsible for presenting on the articles they were asked to analyze and present to the group.

This course may be taken during all three (3) years of the comparative medicine residency training program. This course is designed to prepare comparative medicine residents for the current literature covered on the certifying ("board") examination of the American College of Laboratory Animal Medicine (ACLAM). This is a required course in the comparative medicine residency training program at Texas A&M. Residents are expected to take this course every semester (total = 6) during their residency so as to cover all of the current topics presented in the literature to the certifying examination.

This course is designed for students that have a DVM degree.

Prerequisite: DVM and acceptance into the laboratory animal residency program (other equivalent degrees or other graduate students may be accepted with the permission of the instructor)

Learning Outcomes or Course Objectives

At the conclusion of this course, students will be able to:

- Perform a thorough and rigorous critique of the current scientific literature
- Effectively summarize and present key findings in the current literature as they related to the practice of laboratory animal medicine
- Identify key instruments or other materials and methods used in common research designs (e.g., Von Frey hairs, elevated plus maze; vascular access ports, etc.)
- Identify the disease or condition when presented with photographs or other descriptions of key clinical signs or lesions
- Demonstrate a good working knowledge of the current laboratory animal-related scientific literature

Instructor Information

Name Tracy Vemulapalli, DVM, MS, DACLAM
Telephone number (979) 458-1774
Email address tvemulapalli@cvm.tamu.edu
Office hours By Appointment
Office location VIDI 384

Textbook and/or Resource Material

Required textbooks: *None; PDF or hard copies of the current literature to be discussed will be provided to the students*

Grading Policies

The Final Grade in Course is Based on (% for each):

_____ Short Quizzes	_____ 40% Oral Reports	_____ Attendance
_____ 15% Hour ("Mock Board") Exams	_____ Written Reports	_____ Attitude & Motivation
_____ 15% Final Exams	_____ Lab. Perform.	_____ 30% Participation in class discussions

Participation: Short quizzes (e.g., iClickers) may be given during the most class periods to assess student understanding of the previous lecture. These will count toward the students' participation grade

Online or take-home tests: On assignments that are declared "open book", students may use any written resource available, but the written answer(s) must be their own (duplication of a classmate's work or consultation with anyone about take home assignments/exam questions is not permitted). When necessary, students may ask the instructor for clarification on a specific assignment.

In-class exams: Will be closed-book and may utilize the ExamSoft delivery platform.

Oral presentations: Individual students (or small groups if student numbers support) will make oral presentations on a particular aspect of laboratory animal medicine. Students will be graded on the quality of their scholarship in researching the topic and organization of the materials.

Late work will not be accepted unless the reason for the late/missed work is an excused absence.

Policy on Make-up Examinations: Make-up exams will only be given to a student who missed the exam due to an excused absence. Missed exams due to an unexcused absence will result in a grade of zero (0). For more on attendance, see **Class Attendance** (below).

Class Attendance: Mandatory. Students are expected to attend all classes and laboratories. Failure to attend classes/lab may result in loss of points. Anticipated absences must be discussed with the instructor prior to the date of the absence. Regarding anticipated/unanticipated absences, students are expected to follow the Attendance Policy of the Texas A&M University Student Rules (Part I, Sect. 7) <http://student-rules.tamu.edu> .

Grading Scale

- A = 90-100
- B = 80-89
- C = 70-79
- D = 60-69
- F = <60

Course Topics*, Calendar of Activities, Major Assignment Dates

		Journal Information		
Week	Date	Month	Year	Journal/Part
1	01/18/18	June	2016	CompMed I
2	01/25/18	June	2016	CompMed II
3	02/01/18	July	2016	JAALAS I
4	02/08/18	July	2016	JAALAS II
5	02/15/18	Aug	2016	CompMed I
6	02/22/18	Aug	2016	CompMed II
7	03/01/18	Midterm "Mock Boards" Exam		
8	03/08/18	Sept	2016	JAALAS I
9	03/15/18	<i>Spring Break (No class)</i>		
10	03/22/18	Sept	2016	JAALAS II
11	03/29/18	Oct	2016	CompMed I
12	04/05/18	Oct	2016	CompMed II
13	04/12/18	<i>TBD</i>		
14	04/19/18	Nov	2016	JAALAS I
15	04/26/18	Nov	2016	JAALAS II
16	TBD	Finals Week (Final "Mock Board" Exam)		

* exact journal month/year covered may differ slightly as we are currently working through literature in an informal journal club; it will depend how far we get through the literature in the informal club

Final Exam: A cumulative final exam will be given covering all the material in the course. This will be in the form of an in-class exam modeled after the ACLAM certifying examination.

Other Pertinent Course Information

Americans with Disabilities Act (ADA)

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