Texas A&M University

Departmental Request for a New Course
Undergraduate * Graduate * Professional
* Submit original form and attach a course syllabus.

1. This request is submitted by the Department of Animal Science

2. Course prefix, number and complete title of course: ANSC 622 - Research Methods In Animal Science

3. Course description (not more than 50 words): Development of the conceptual framework of research; study of software programs for data recording, management, and analysis; evaluation of specific experimental designs historically used in animal experiments; discussion of interpretations found in peer-reviewed research publications; data presentation for scientific meetings and publication; the peer review process and publication in technical journals.

4. Prerequisite(s) STAT 651; 652

5. Is this a variable credit course? □ Yes ☑ No

6. Is this a repeatable course? □ Yes ☑ No

7. Has this course been taught as a 289/489/689? ☑ Yes □ No

8. This course will be:

   a. required for students enrolled in the following degree program(s) (e.g., B.A. in history)

   b. an elective for students enrolled in the following degree program(s) (e.g., M.S., Ph.D. in geography)

5. M.S., Ph.D. in Animal Science, Animal Breeding

9. If other departments are teaching or are responsible for related subject matter, the course must be coordinated with these departments. Attach approval letters.

10. Prefix | Course # | Title (excluding punctuation)
        ANSC 622 | RESEARCH METHODS IN ANSC

<table>
<thead>
<tr>
<th>Lect.</th>
<th>Lab</th>
<th>SCH</th>
<th>Subject Matter Content Code</th>
<th>Admin. Unit</th>
<th>Acad. Year</th>
<th>FICE Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>02</td>
<td>00</td>
<td>02</td>
<td>01 10 09 01 00 05 02 70 08 09</td>
<td>00 3 6 3 2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Level 6

Approval recommended by:

Head of Department

Date

Head of Department (If cross-listed course)

Date

Dean of College

Date

Submitted to Coordinating Board by:

Director of Academic Support Services

Date

Effective Date

Questions regarding this form should be directed to Sandra Williams at 845-8856.
OAR/AS - 04/07.
Texas A&M University  
Departmental Request for a New Course  
Undergraduate • Graduate • Professional  
Submit original form and attach a course syllabus.  

1. This request is submitted by the Department of Animal Science  

2. Course prefix, number and complete title of course: ANSC 622 - Research Methods in Animal Science  

3. Course description (not more than 50 words): Development of the conceptual framework of research; study of software programs for data recording, management, and analysis; evaluation of specific experimental designs historically used in animal experiments; discussion of interpretations found in peer-reviewed research publications; data presentation for scientific meetings and publication; the peer review process and publication in technical journals.  

4. Prerequisite(s): STAT 651, 652  

Cross-listed with:  

Cross-listed courses require the signature of both department heads.  

5. Is this a variable credit course? ☐ Yes ☑ No  
If yes, from _______ to _______.  

6. Is this a repeatable course? ☐ Yes ☑ No  
If yes, this course may be taken ______ times. Will the course be repeated within the same semester/term? ☐ Yes ☑ No  

7. Has this course been taught as a 289/489/689? ☑ Yes ☐ No  
If yes, how many times? 2  
Indicate the number of students enrolled for each academic period it was taught: 05B-12, 06B-10  

8. This course will be:  
a. required for students enrolled in the following degree program(s) (e.g., B.A. in history)  

b. an elective for students enrolled in the following degree program(s) (e.g., M.S., Ph.D. in geography) M.S., Ph.D. in Animal Science, Animal Breeding  

9. If other departments are teaching or are responsible for related subject matter, the course must be coordinated with these departments. Attach approval letters.  

10. Prefix  
Course #  
Title (excluding punctuation)  

<table>
<thead>
<tr>
<th>ANSC</th>
<th>622</th>
<th>RESEARCH METHODS IN ANSC</th>
<th></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Lect.</th>
<th>Lab.</th>
<th>SCH</th>
<th>Subject Matter Code</th>
<th>Content Code</th>
<th>Admin. Unit</th>
<th>Acad. Year</th>
<th>FICE Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>02</td>
<td>00</td>
<td>02</td>
<td>20109010005</td>
<td>0270</td>
<td></td>
<td></td>
<td>003632</td>
</tr>
</tbody>
</table>

Level 6  

Approval recommended by:  

<table>
<thead>
<tr>
<th>Name</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Chair, College Review Committee Date  

Dean of College Date  

Dean of College Date  

Questions regarding this form should be directed to Sandra Williams at 845-8836.  
OAR/AS – 04/07
April 3, 2008

Dr. Simon J. Sheather
Professor and Head
Department of Statistics
3143 TAMU

Dear Dr. Sheather:

One of our faculty members, Dr. Jason Sawyer, has taught a Special Topics course in "Research Methods in Animal Science". This course covers the basics in experimental design, animal use protocol and scientific presentations at meetings; all presented in the framework of a basic knowledge of statistical principles. The course will require prerequisites of STAT 651 and 652 and will not be substituted for any statistics course on degree plans.

Dr. Sawyer would like to continue teaching this as a new numbered course (ANSC 622) pending your approval. I look forward to your reply. Thank you.

Sincerely,

Ronnie L. Edwards
Professor and Associate Department Head

RLE:vr

Approved.

Dr. Simon J. Sheather

Department of Animal Science
133 Kleberg - 2471 TAMU
Texas A&M University
College Station, TX 77843-2471
Tel. 979.845.1542
Fax. 979.845.6453
r-edwards@tamu.edu
animalscience.tamu.edu

April 3, 2008
ANSC 622  
Research Methods in Animal Science  
Summer 2009

Instructors:  Jason E. Sawyer  
Assistant Professor  
845-5065  
Room 230 Kleberg

Text:  No text is required. Copies of journal research articles will be provided. A reference text on research design and analysis may be helpful.

Class time:  10 to 11:10 am, TR, KLCT 200

Course objective:  To understand the principles important to designing, implementing, interpreting, and publishing of findings for animal science research projects.

Course Description:  Development of the conceptual framework of research; study of software programs for data recording, management, and analysis; evaluation of specific experimental designs historically used in animal experiments; discussion of interpretations found in peer-reviewed research publications; data presentation for scientific meetings and publication; the peer review process and publication in technical journals.

Attendance:  Attendance is fully expected and will be required to participate in discussions integral to successful completion of assignments.

Course grade:  

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topical assignments</td>
<td>500 points</td>
</tr>
<tr>
<td>Quizzes</td>
<td>250 points</td>
</tr>
<tr>
<td>Class Project</td>
<td>250 points</td>
</tr>
</tbody>
</table>

Assignments will focus on experimental planning, analysis, presentation, interpretation and defense of research results. Many of these assignments will be based in part on utilization of certain software packages (i.e. EXCEL, WORD, PowerPoint, SAS).

Final course grades will be determined by total point accrual:

- “A” > 900 points
- “B” > 800 points
- “C” > 700 points
- “D” > 600 points
- “F” < 600 points

ADA Policy:  The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute providing 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 reasonable accommodation of such disabilities. If you believe that you have a disability requiring an accommodation, please contact the Department of Student Life, Services for Students with Disabilities, in Cain Hall, 845-3113.

Academic Integrity:  Personal and professional integrity is the most important component of your success in life. As such, you are expected to abide by the Aggie Code of Honor:
An Aggie does not lie, cheat, or steal; nor tolerate those who do.

Upon accepting admission to Texas A&M University, a student immediately assumes a commitment to uphold this code, to accept full responsibility for their own learning and actions, and to follow the philosophy and rules of the Honor System. Ignorance of the rules does not remove the burden of compliance from any member of the Texas A&M University community. For more information on the Aggie Honor Code, please visit http://www.tamu.edu/aggiehonor/
<table>
<thead>
<tr>
<th>Lecture No.</th>
<th>Date</th>
<th>Topic(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>27 May</td>
<td>A Dose of Philosphy; The scientific method; Inductive vs. deductive reasoning; Creating confidence in conclusions</td>
</tr>
<tr>
<td>2</td>
<td>29 May</td>
<td>Justification for your research; Asking the ‘right’ questions; Foundations of experimental design</td>
</tr>
<tr>
<td>3</td>
<td>3 June</td>
<td>Treatments and experimental factors; Treatment arrangements; Designing treatments to address the question</td>
</tr>
<tr>
<td>4</td>
<td>5 Jun</td>
<td>Experimental Units and the size of the experiment; the need for replication, pseudo-replication</td>
</tr>
<tr>
<td>5</td>
<td>10 Jun</td>
<td>Purpose of designed experiments; assigning variation to sources; The basic effects model; Probability, distributions, the F test</td>
</tr>
<tr>
<td>6</td>
<td>12 Jun</td>
<td>The completely randomized design; Partitioning variation, Examples in the literature</td>
</tr>
<tr>
<td>7</td>
<td>17 Jun</td>
<td>Accommodating treatment arrangements in the CRD; examples in the literature</td>
</tr>
<tr>
<td>8</td>
<td>19 Jun</td>
<td>Adding other effects to the model: Blocks and the RCBD; Examples in the literature; Random and fixed blocks</td>
</tr>
<tr>
<td>9</td>
<td>24 Jun</td>
<td>More blocks: Latin Squares and incomplete blocks</td>
</tr>
<tr>
<td>10</td>
<td>26 Jun</td>
<td>Mean separation; pair-wise, contrasts, application of other methods; Orthogonality</td>
</tr>
<tr>
<td>11</td>
<td>1 Jul</td>
<td>Split Plot designs: Two sizes of experimental units or two experiments in one?</td>
</tr>
<tr>
<td>12</td>
<td>3 Jul</td>
<td>Repeated measures I: The split plot concept, Gil and Hafs</td>
</tr>
<tr>
<td>13</td>
<td>8 Jul</td>
<td>Repeated measures II: Modeling subject covariance</td>
</tr>
<tr>
<td>Week</td>
<td>Date</td>
<td>Topic</td>
</tr>
<tr>
<td>------</td>
<td>-------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>14</td>
<td>10 Jul</td>
<td>Basic applications of multiple linear regression; Examples in the literature</td>
</tr>
<tr>
<td>15</td>
<td>15 Jul</td>
<td>Analysis of Covariance: Combining regression and classification variables</td>
</tr>
<tr>
<td>16</td>
<td>17 Jul</td>
<td>Presenting Results: Building tables and figures; Writing the story; Following Style and Form Guides</td>
</tr>
<tr>
<td>17</td>
<td>22 Jul</td>
<td>The Peer Review Process and publication in technical journals</td>
</tr>
<tr>
<td>18</td>
<td>24 Jul</td>
<td>Presentation of Results and Class Peer Reviews</td>
</tr>
<tr>
<td>19</td>
<td>29 Jul</td>
<td>Animal Research: Ethics, welfare, and the Institutional Animal Care and Use system</td>
</tr>
<tr>
<td>20</td>
<td>31 Jul</td>
<td>Writing the Animal Use Protocol</td>
</tr>
<tr>
<td>21</td>
<td>6 Aug</td>
<td>Final Exam</td>
</tr>
</tbody>
</table>