Graduate Programs Assessment Plan
Department of Animal Science-Revised December 2007-Revised September 2010

Every OSU degree program must have an assessment plan that describes expected student learning outcomes for the degree program and the methods used to evaluate student achievement of those outcomes. A single assessment plan may cover multiple degree programs only if those programs have a common mission statement and have the same expected student learning outcomes. If programs have different expected learning outcomes, each should have its own assessment plan and annual report.

A. What degree program(s) will be assessed under this plan? If multiple programs are covered by this plan, please list each one separately. Do not list degree options. Assessment activities of all programs included in this plan should be reported in one annual report.

Ph.D.	Animal Breeding and Reproduction
Ph.D.	Animal Nutrition
M.S.	Animal Science
(degree, i.e., B.S., M.S., Ph.D.)	(program name)

B. *What is the mission for this degree program? The mission statement, educational objectives and goals for program should guide the assessment process. Assessment should provide feedback on the extent to which the program is accomplishing its publicly stated goals. Multiple programs may be included in one plan only if they have a common mission statement and have the same student learning outcomes.*

Mission and Vision

Building on its tradition of excellence, the Department of Animal Science discovers, develops and disseminates scientific knowledge to advance the animal and food industries.

The Department of Animal Science has preeminent programs in teaching, research and extension that will continue to serve societal needs related to the animal and food industries.

Pertaining to the degree programs, the Department will develop life-long learners who understand science, can think creatively and analytically, treat others with honesty and respect, and are prepared to serve and lead the animal and food industries with confidence.

Offer effective, dynamic and progressive graduate programs that attract and motivate advanced degree students and prepare them to serve society, the animal and food industries, education, and research.

Goals and objectives

1. **Critical thinking/research.** Graduates will demonstrate the ability to think critically and apply the scientific method and knowledge of animal science and related disciplines in conducting research and solving needs of the animal industries (demonstrated problem-solving skills). This includes the possession of field, laboratory and computer skills for conducting research and the ability to plan, execute, and interpret experiments. Included are abilities in experimental design, analysis of data, and critical evaluation.
2. **Knowledge of selected disciplines.** Graduates will have acquired fundamental knowledge in the selected field (Animal Breeding and Reproduction, Animal Nutrition, and/or Animal Science) and understanding of the principles underlying the field. Also, the possession of substantial understanding of the biological sciences and statistics. Included are assimilation of information, its integration with other knowledge, and its intelligent use.
3. **Effectiveness in communicating scientific findings and issues.** Graduates will demonstrate ability to evaluate and communicate scientific data to others in writing and in oral and visual presentations.
4. **Preparation for careers in livestock and food industries.** Students will be prepared for varied careers associated with the livestock and food industries including further training (graduate or professional school, or postdoctoral positions).

Please respond to items C., D., and E., by providing the information requested on the following page.

C. What are the Primary Student Learning Outcomes for this program? (What do faculty expect students will know and be able to do upon degree completion?) A program may have many expected outcomes; please provide 3-5 statements of assessable student learning outcomes that program faculty believe to be most important. You may include more than five if you believe they are essential for your program, or if your accreditation process requires more. However, the most important outcomes should be listed first, and it is expected that reported assessment activity will reflect the relative importance of various outcomes.

D. What Assessment Methods will you use to measure student achievement of these expected outcomes? (How will you determine the extent to which students have achieved the outcomes?) If you plan to use multiple measures for one outcome, please list all methods. If one method will be used to assess multiple outcomes, please list that method for all expected outcomes it will be used to assess. Both direct and indirect measures should be included. Examples of direct measures (such as certification exams, subject tests) and indirect methods (exit interviews, alumni satisfaction surveys) can be found on the University Assessment and Testing website.

Annual surveys of alumni conducted by University Assessment and Testing provide data about employment of graduates and alumni satisfaction. You can list these alumni surveys as an assessment method if your unit participates in the surveys. The outcomes they assess are alumni satisfaction and alumni perceptions about how well the academic program prepared them for employment or graduate study. Surveys also provide some employment information, such as self-reported salary ranges and job titles. Surveys of alumni of undergraduate programs are conducted in even years, of graduate programs in odd years.

E. Please indicate the timeframe for each assessment to be conducted (each semester, annually, in alternate years).

C. Primary expected student learning outcomes	D. Methods that will be used to assess each outcome	E. Timeline for use of each method
1. Critical thinking/research.	1a. Dissertation/Thesis evaluation (see appendix III (items B, C, D, E H, I, J, K, L, M, N & O))	Annually
	1b. Preliminary examination evaluation (see appendix II) *	Annually
	1c. Alumni Survey, item ANSI 6, 8, 9	Alternate years
2. Knowledge of selected disciplines.	2a. Dissertation/Thesis evaluation (see appendix III (item A, F & P))	Annually
	2b. Oral presentation evaluation (see appendix I (item G))	Annually
	2c.Written preliminary question examination (see appendix II, question 7) *	Annually
	2d. Alumni Survey (appendix IV (item 6 and ANSI 6))	Alternate years
3. Effectiveness in communicating scientific findings and issues.	3a. Dissertation/thesis evaluation (see appendix III (items H, I, J, K, L & O))	Annually
	3b. Oral (seminar) presentation evaluation (see appendix I (items A, B C, D, E, F, & H)	Annually
	3c. Alumni survey (appendix IV (item 6))	Alternate years
4. Preparation for careers in livestock and food industries.	4a. Alumni survey (appendix IV (items 1, 2, 3, 4, 5, 6, 8, 9, 10, 11, ANSI 10, 11))	Alternate years

*** Ph. D. students only**

F. *How will assessment results be acted on to improve academic and student programs? Describe the process that assures regular curriculum and/or program improvements based on assessment results and stated student learning outcomes. This process should include the program faculty and faculty committees.*

Information will be collected and compiled by the Assessment Coordinator. **Data for each degree will be summarized and reported independently within the complete report.** Copies of assessment reports are given to all faculty and to the department head. Reports will be discussed with the Department Head and the Teaching and Graduate Committees. These individuals/committees will discuss the competencies that the Department's graduate programs expect from our graduates. When ideas for improvement are identified, they will be brought to the full faculty. The departmental faculty will discuss and improve the curriculum and other key elements of the graduate program.

Appendices

Overview of Assessment Methods for Animal Science Graduate Programs

Each method is described in more detail in the individual Appendices. The relationship of these methods to desired learning outcomes and how they will be used in improvement of the graduate program are covered in the main part of this document

Appendix I – Evaluation of graduate student oral presentations (thesis/dissertation presentations, seminar presentations) by General Seminar Committee, members of the Assessment Committee and/or other faculty

Appendix II – Evaluation of written preliminary examination by student's graduate committee

Appendix III – Evaluation of thesis/dissertation and its defense by the student's Graduate Committee

Appendix IV – Alumni Satisfaction Survey

Note of thanks and acknowledgement. The Graduate Assessment Committee in Animal Science is grateful to the Department of Biochemistry & Molecular Biology for sharing their graduate assessment plan. Much of their work is reflected here--especially in the specific assessment tools found in these appendices. We appreciate the assistance.

Appendix I--Evaluation of Graduate Student Oral Presentations

Oral Presentation Assessment Instrument

_____Evaluator's name

_____Student's name

Degree program of student (circle one) Animal Breeding and Reproduction, Animal Nutrition, Animal Science, Foods

Type of presentation: _____ Seminar _____ MS thesis/report _____PhD thesis

Date of presentation: _____

Directions: Please read each of the statements below and respond by adding a number indicating your level of agreement/disagreement with the statement, according to the following scale:

1. strongly disagree 2. disagree 3. neutral 4. agree 5. strongly agree

A. _____Presentation was well organized.

B. _____The delivery of the presentation was superb.

C. _____Illustrations were excellent (easily visible, got the point across, sparing of words).

D. _____I understood what the main points of the presentation were.

E. _____The speaker fielded questions satisfactorily.

F. _____The presentation generated questions and/or discussion from the audience.

G. _____Speaker was knowledgeable about the subject.

H. _____The presentation was appropriate for the target audience.

I. _____Overall, this was an excellent seminar.

Optional Comments:(Use back of form or additional sheets if needed. Of special interest is item G.)

Appendix II--Evaluation of Preliminary Examination for Ph. D. Students

Written Preliminary Examination Assessment Instrument

_____**Evaluator's name**

_____**Student's name**

Degree program of student (circle one) Animal Breeding and Reproduction, Animal Nutrition, Animal Science, Foods

Date of examination: _____

Directions: Please read each of the statements and respond by adding a number indicating your level of agreement/disagreement with the statement, according to the following scale:

1. strongly disagree 2. disagree 3. neutral 4. agree 5. strongly agree

1. _____Student has excellent background knowledge in the field of his/her research project.
2. _____Student has excellent background knowledge in the specific areas of animal science of his/her training.
3. _____Student interprets data well.
4. _____Student is able to construct hypotheses well.
5. _____Student is familiar with most analytical instruments and methods used in his/her area, including the principles on which they are based
6. _____Student can design properly controlled experiments.

7. For the following disciplines, please indicate your perceptions of the student's knowledge.

1. inadequate
2. adequate
3. excellent

Enter "0" or leave blank if you cannot judge based on this examination.

_____Animal Breeding/Genetics	_____Bioenergetics	_____Molecular Biology
_____Animal Management	_____Bioinformatics	_____Physiology
_____Animal Nutrition	_____Endocrinology	_____Statistics
_____Animal Reproduction	_____Immunology	
_____Animal Welfare	_____Metabolism	
_____Biochemistry	_____Microbiology	

Optional Comments:(Use back of form or additional sheets if needed.)

Appendix III Evaluation of Thesis/Dissertation and its Defense

MS and PhD Thesis/Dissertation and Defense Assessment Instrument

_____**Evaluator's name**:

_____**Student's name**

Degree Program of Student (circle one) Animal Breeding and Reproduction, Animal Nutrition, Animal Science, Food Science

Defense type:_____ MS thesis_____ MS report_____PhD defense

Date of defense: _____

Directions: Please respond to each of the statements below by indicating agreement/disagreement with the statement, according to the following scale (some questions have comments indicating how your rating may be interpreted).

1. strongly disagree 2. disagree 3. neutral 4. agree 5. strongly agree

A. _____Candidate was broadly aware of literature both directly relevant to the work done and from related fields. (5 aware of literature directly relevant to the work done and from related fields, 4 aware of all directly relevant literature, 3 aware of a good range of literature, 2 only aware of key papers, 1 totally unaware).

B. _____Thesis/dissertation tested hypotheses generated by the candidate from an analysis of previous work, both published and unpublished. (5 candidate generated the hypothesis and mastered the analysis that led to it; 4 candidate did not generate hypothesis but has mastered the analysis that led to it; 3 knows the hypothesis; 2 doesn't know the hypothesis; 1 no hypothesis).

C. _____Experiments reported were designed well to test hypotheses.

D. _____Experiments included all necessary positive and negative controls.

E. _____Results of experiments were interpreted appropriately.

F. _____Results were placed in proper context of other work.

G. _____Work contributes to the advancement of the field.

H. _____Thoughts were logically organized.

I. _____Thoughts were expressed clearly, using appropriate words, correct grammar, etc.

J. _____Good use was made of tables and figures.

K. _____Tables and figures were easily comprehensible.

L. _____Appropriate credit given to ideas, quotations and illustrations taken from other sources.

M. _____Work reported used appropriate laboratory methods.

N. _____Work reflects candidate's competency in use of computational tools.

O. _____Candidate readily understood questions asked of her/him in the defense.

P. _____Candidate answered questions thoroughly and, to the best of my knowledge, correctly.

Other comments:

Appendix IV

Alumni Satisfaction Surveys for all Animal Science Graduate Programs

The university periodically conducts surveys of alumni satisfaction for graduate programs. OSU common questions and program specific questions follow.

Employment Status

CQ1. Are you currently employed?
Yes
No
Don't know
Refused

CQ2. Are you currently seeking employment? *
Yes
No
Don't know
Refused

* Question only asked to those alumni who were not currently employed.

Current Employment

CQ3. Which of the following best describes your employer?
Large corporation
Small business or corporation
Federal government
State government
Local government
Nonprofit organization
Educational institution or organization
Self-employed
Don't know
Refused

CQ4. Are you employed full-time or part-time?
Full-time
Part-time
Don't know
Refused

CQ5. How closely is your current position related to your graduate studies at OSU?
Not at all related
Slightly related
Moderately related
Highly related
Don't know
Refused

CQ6. In general, how well did your OSU graduate program prepare your for your current position? *
Not at all

Not very well
Adequately
Very well
Don't know
Refused

* Does not include alumni who said their current position was "not at all" related to their major.

CQ7. What is your approximate total annual salary, including bonuses? *
< $15,000
$15,000 - <$25,000
$25,000 - <$35,000
$35,000 - <$45,000
$45,000 - <$55,000
$55,000 - <$65,000
$65,000 - <$75,000
$75,000 - <$100,000
>$100,000
Don't know
Refused

* Includes only alumni employed full-time, including those who were employed and in graduate school.

CQ8. Since you completed your OSU graduate degree, have you completed another graduate or professional school program, or are you currently enrolled in such a program?
Yes, currently enrolled
Yes, completed a degree
No
Don't know
Refused

CQ9. What graduate or professional degree are you pursuing or, if you have completed a degree, what degree did you complete?
Master's
Doctoral
Medical
Law
Business
Veterinary medicine
Other
Don't know
Refused

CQ10. In general, how well did your OSU graduate program prepare you for your graduate or professional school program?
Not at all
Not very well
Adequately
Very well
Don't know
Refused

CQ11. How satisfied are you with the overall educational experience at OSU?
Very dissatisfied
Dissatisfied
Neutral
Satisfied
Very Satisfied
Don't know
Refused

OSU Graduate Student Alumni Survey
Program-Specific Questions for Animal Science

ANSI1. What did you see as the primary *strength* of the Animal Science graduate program?

ANSI2. What did you see as the primary weaknesses of the Animal Science graduate program?

ANSI3. What should the Department of Animal Science do to improve its graduate programs?

ANSI4. Did you publish the research from your OSU thesis/dissertation?
Yes
No
Don't know
Refused

ANSI5. I expanded my knowledge and skills in my field of study.
1 = not at all
2 =
3 =
4 =
5 = a great deal
Don't know
Refused

ANSI6. I improved my professional writing skills.
1 = not at all
2 =
3 =
4 =
5 = a great deal
Don't know
Refused

ANSI7. I improved my computer use/application skills.
1 = not at all
2 =
3 =
4 =
5 = a great deal

Don’t know
Refused

ANSI8. I increased my ability to critically examine my own ideas and the ideas of others.
1 = not at all
2 =
3 =
4 =
5 = a great deal
Don’t know
Refused

ANSI9. My performance in my current position has been enhanced because of the education I received during my OSU Animal Science graduate program.
1 = not at all
2 =
3 =
4 =
5 = a great deal
Don’t know
Refused

ANSI10. Animal Science faculty members were interested in the welfare and professional development of graduate students. Would you…
Strongly disagree
Disagree
Neutral
Agree
Strongly agree
Don’t know
Refused

ANSI11. The quality of academic advising in the Animal Science graduate program was excellent. Would you…
Strongly disagree
Disagree
Neutral
Agree
Strongly agree
Don’t know
Refused

ANSI12. I have continued to grow and learn in my professional and personal life. I consider myself a life-long learner.
Strongly disagree
Disagree
Neutral
Agree
Strongly agree

Don’t know
Refused