

**Department of Animal & Range Sciences**  
**Graduate Program Assessment Plan**  
January 2018

**Program Learning Outcomes**

For masters' students:

1. Conduct research resulting in an original thesis or dissertation
2. Demonstrate mastery of subject content knowledge and research/critical inquiry methodology
3. Demonstrate effective written communication of substantive content
4. Demonstrate effective oral communication of substantive content
5. Be able to conduct scholarly or professional activities in an ethical manner

For doctoral students:

1. Produce and defend an original significant contribution to knowledge
2. Demonstrate mastery of subject content knowledge and research/critical inquiry methodology
3. Demonstrate excellence in written communication of substantive content
4. Demonstrate excellence in oral communication of substantive content
5. Be able to conduct scholarly and professional activities in an ethical manner
6. Demonstrate professionalization into the field of study as demonstrated through publications, presentations, funded fellowships, professional association activities, professional experience, etc.

**Student Performance: Data Sources**

Masters' Programs with Thesis

Data Source	Outcomes				
	1	2	3	4	5
Departmental Records <sup>1</sup>	X				
Thesis/thesis defense <sup>2</sup>		X	X	X	X
ARNR 507: Research Methods			X	X	
Ethics training in responsible conduct of research <sup>3</sup>					X

Doctoral Programs

	Outcomes					
	1	2	3	4	5	6
Departmental records <sup>1</sup>	X					
Qualifying exam		X	X			
Dissertation/dissertation defense <sup>2</sup>		X	X	X	X	
ARNR 507: Research Methods			X	X		
Ethics training in responsible conduct of research <sup>3</sup>					X	
C.V. <sup>4</sup>						X

<sup>1</sup> Program will track thesis/dissertation defenses and calculate success rates.

<sup>2</sup> The rubrics for outcomes 1–4 are to be completed at the thesis/dissertation defense. If departments prefer, they may use comprehensive exams rather than the actual dissertation, thesis, or paper. These rubrics will not be used to assess or evaluate individual students and will not inform the decision regarding whether a student passes a defense or course. The data will be aggregated for all students in the program over a two-year period in order to assess the success of the program in meeting its program learning outcomes (see sample rubric attached).

<sup>3</sup> The rubric for outcome 5 is the completion of some ethics training.

<sup>4</sup> C.V.s of students will be collected as they complete their degrees. The C.V. will be used to provide evidence of appropriate professional activities to the particular field of study (these may be published papers, research training, teaching development, presentations at conferences, etc. as is appropriate for your discipline or program and as was identified in learning outcome 6 above).

## **Response Threshold**

### **All programs:**

- At least 80% of students will be ranked at a 3–4 level in subject content knowledge, written communication, and oral communication.
- 100% of students will successfully complete ethics training
- At least 80% of students will complete their Program and Study and pass their master's or doctoral defense on the first attempt

### **Doctoral programs:**

- 100% will demonstrate professionalization in their field of study

## **Schedule of Assessment**

- Assessment reports for all programs (M.S. and Ph.D.) will be submitted in September of odd-numbered years.

## **Process for Assessing the Data**

1. Data are collected from identified sources.
2. The graduate assessment coordinator will tabulate the scores from the rubrics and the data on defenses/program completion. S/he will also prepare lists of students taking comprehensive/qualifying exams and the results (pass or fail) of such exams. For doctoral programs, the coordinator will also identify, based on an analysis of C.V.s, the percent of students demonstrating acceptable professionalization into the field of study.
3. Scores will be presented to the faculty graduate advisors for assessment. The faculty will review the assessment results and make decisions about how to respond.
  - If an acceptable performance threshold has not been met, a faculty response is required. It should include some strategy for addressing improving areas where the threshold has not been met. Possible responses include:
    - Gather additional data during the following review period to verify or refute the results.
    - Change something in the curriculum or program to try to improve performance.
    - Develop or select an alternative performance datum to assess outcome.
    - Change the acceptable performance threshold (must provide reasoning behind such a strategy).
  - If faculty members identify new strategies for meeting the learning outcomes, they may respond to assessment results even if the acceptable performance threshold has been met.
  - It is also acceptable to decide that changes are not needed when students are demonstrating proficiency with each learning outcome.

4. A summary of the year's assessment activities and faculty decisions is reported to the Provost's office in the Department's annual Graduate Program Assessment Activities Report.

The assessment report due on September 15 must include the following:

- 1) A list of students taking comprehensive exams/qualifying exams and defending theses/dissertations or completing program requirements in the past two years.
- 2) The results of those examinations and defenses summarized into the numbers of passes and failures.
- 3) A list of the students who left their program without completing their degree.
- 4) A record of the completion of ethics training.
- 5) A statement on the assessment of the program indicating if the program outcomes are being met, and identifying any program changes needed to better prepare students to meet the program learning outcomes.

## APPENDIX A. Rubric for graduate assessment

1. Graduate advisors will complete the *Thesis / Dissertation and Defense Assessment* following an attempted graduate student defense.

**4 = Exceeds Standards:** Student demonstrates competent performance exceeding normal standards at either the M.S. or Ph.D. level.

**3 = Meets Standards:** Student demonstrates appropriate performance for professionalization

**2 = Below Standards:** Student does not demonstrate the skills commensurate with M.S. or Ph.D. degree.

**1 = Unacceptable:** Performance is clearly inadequate. Student demonstrates an inability or unwillingness to develop appropriate skills.

Thesis / Dissertation and Defense Assessment (score each component 1-4)	Score
Demonstrates mastery of subject content knowledge and research/critical inquiry methodology	
Demonstrates effective written communication of their study	
Demonstrates effective oral presentation of their study	
Conducted study and professional activities during their program in an ethical manner	
Average score	

2. Every graduate student in the Department must complete at least two credits of ARNR 507: Research Methods. One credit is taken early in a graduate student's Program of Study, and a second credit is taken near the end of her/his degree program. Each semester of course offering, two members of the faculty who are not the primary instructor for the course will score a random sample of writing assignments and oral presentations from students taking the class for the second or third time. Graduate Assessment faculty will use the following rubrics for evaluating writing and oral communication of graduate students.

**Rubric for Assessment of: Effectiveness in written communication of substantive content (Learning Outcome 3)**

**4 = Exceeds Standards:** Student demonstrates competent performance exceeding normal standards at either the M.S. or Ph.D. level.

**3 = Meets Standards:** Student demonstrates appropriate performance for professionalization

**2 = Below Standards:** Student does not demonstrate the skills commensurate with M.S. or Ph.D. degree.

**1 = Unacceptable:** Performance is clearly inadequate. Student demonstrates an inability or unwillingness to develop appropriate skills.

Indicators of Effective Written Communication of Substantive Content	1	2	3	4	Score
Style / Organization	Paper is poorly written and reveals a lack of effort suitable for a graduate student	Paper conveys appropriate ideas, but reveals weak control over diction, syntax, and organization.	Effective command of sentence structure and diction. Paper is organized in a logical scientific manner	Excellent command of sentence structure, diction, and organization is appropriate for subject matter content	
Content	Major omissions necessary for scientific paper.	Some necessary components of an effective paper missing or poorly described.	Good job presenting ideas; contains all necessary content for scientific paper, but not as clear or succinct as it could be.	Clearly presents appropriate justification, objectives and methods; If available, results are complete and inferences follow from the data	
Grammar	Weak grammar, spelling	Several grammar and spelling errors	Few spelling and grammar errors	No spelling or grammar mistakes	
Sources	Poorly sourced	Some major relative literature not covered	Major relative literature discussed	Exhaustive literature presented	

**Rubric for Assessment of: Effectiveness in oral communication of substantive content (Learning Outcome 4)**

**4 = Exceeds Standards:** Student demonstrates competent performance exceeding normal standards at either the M.S. or Ph.D. level.

**3 = Meets Standards:** Student demonstrates appropriate performance for professionalization

**2 = Below Standards:** Student does not demonstrate the skills commensurate with M.S. or Ph.D. degree.

**1 = Unacceptable:** Performance is clearly inadequate. Student demonstrates an inability or unwillingness to develop appropriate skills.

Indicators of Effective Oral Communication of Substantive Content	1	2	3	4	Score
Organization	Poor	Insufficient	Adequate	Presentation is arranged logically	
Content	Omission of critical information necessary for a scientific presentation	Missing key components of effective presentation	Most components covered, but talk would benefit from additional information	Material presented was complete and appropriate, all key components covered	
Clarity	Study justification, objectives, and methods unclear; demonstrated lack of preparation	Slides poorly arranged or improperly formatted. Font size too small, too crowded, inappropriate color scheme, overuse of acronyms and jargon	Presentation is relatively clear; some slides too busy or lacking; visual aids are well designed, legible, with appropriate content	Presentation is succinct and clear; avoids jargon and acronyms; visual aids are well designed, legible, with appropriate content	

<p>Knowledge &amp; Understanding</p>	<p>Demonstrates poor knowledge of the materials presented</p>	<p>Demonstrates a lack of knowledge in critical components of the study (e.g., literature, study design, analyses)</p>	<p>Demonstrates solid understanding of the topic and associated literature; highlights important points where study is strongest; delivers effective conclusion</p>	<p>Demonstrates a superb grasp of the topic and the literature related to the topic; well prepared for questions; Revisits important and relative points</p>	
<p>Delivery</p>	<p>Obvious ill-preparedness</p>	<p>Ineffective delivery; poor speech mechanics; nervous habits interfered with effective presentation</p>	<p>Effective delivery; appropriate volume, few nervous habits, relatively little reliance on notes; evidence of preparation</p>	<p>Outstanding delivery; engagement with audience, little reliance on notes, smooth transitions</p>	