



# **Animal and Range Sciences Graduate Student Handbook**

**For students interested in:**

**Master of Science (MS) in Animal Science**

**Master of Agriculture with Concentration in Domestic Animal Biology  
(MAG-DAB)**

**Master of Science (MS) in Range Science (both Thesis and non-Thesis  
options)**

**Doctor of Philosophy (PhD) in Animal Nutrition or Reproductive  
Physiology**

**Doctor of Philosophy (PhD) in Range Science**

**DEPARTMENT OF ANIMAL AND RANGE SCIENCES  
NEW MEXICO STATE UNIVERSITY**





# 2013 – 2014

## (Revised September, 2013)

### **Guidelines for Graduate Students**

Masters and Doctoral Degrees are offered in several areas of Animal and Range Sciences at New Mexico State University. The responsibility of providing graduate training is taken very seriously at this institution and the faculty and staff expect graduate students to be equally serious in their goal of obtaining an advanced degree. Undergraduate programs are usually "classroom" oriented whereas graduate work is generally characterized by more individual effort in the form of independent reading, seminar preparations, and research activities. The decision to pursue an advanced degree should not be made without a great deal of consideration. Once the decision is made both students and faculty should strive to make the graduate program a valuable experience. Graduate students are an integral part of this Department and their research and teaching contributions are far too numerous to count. The attitude of both faculty and students, therefore, must be one of mutual effort since we are all here to learn and contribute to the advancement of science. Subsequent sections are intended to serve as a guide for policies related to graduate students/assistants in the Department of Animal and Range Sciences. If students have questions or items not covered in this handbook, they should be referred to the Department Head, the Department Graduate Committee Chair, or the student's Graduate Advisor.

#### **Graduate Assistantships**

##### General

A limited number of assistantships are available on a competitive basis to qualified individuals. These assistantships are designed to offer students valuable teaching and research experience while, at the same time, the Department benefits greatly from the contributions of these assistants. To be eligible for consideration for an assistantship, applicants must be admitted as a "regular" student by the Graduate College and have maintained a 3.0 grade point average (A = 4.0) in the last half of all undergraduate or all graduate work. Letters of recommendation from at least three individuals familiar with the student's qualifications will also be requested. Receipt of an assistantship requires that the student then maintain a 3.0 grade point average in all subsequent graduate work. Graduate assistants are considered residents of New Mexico for tuition purposes during their first 12 months, after which the individual must establish New Mexico residency or pay out-of-state tuition. The university limits the time that a Masters student can be supported to 2 years of funding from the New Mexico State General Fund. Departments can appeal for a fifth semester of support. For those students entering doctoral programs with a master's degree in their field of study, a limit of 4 years of support should come from New Mexico State General Fund. Departments can appeal for a fifth year of support.





## Duties of Graduate Assistants

Most graduate assistants are contracted under what is termed a half-time assistantship, which means that the student is obligated to contribute 20 hours each week toward Departmental activities. These duties are usually divided between teaching and research responsibilities. Teaching assistants will be assigned at least one course with which to assist each semester. The student will then be responsible to the faculty member in charge of that course for the teaching portion of his/her duties. Other duties in support of the Department teaching/service function may also be assigned such as conducting facility tours, review sessions, etc. The research segment of the assistantship duties will be under the direction of the student's Graduate Advisor and will generally involve helping the faculty member with his/her research projects. Research activities directed toward the student's thesis/dissertation material are performed in addition to those required for the assistantship.

Graduate assistants are considered as part-time employees of the University and, as such, they are entitled to 11 days (22 half-days) of annual leave each year, as well as workmen's compensation should an on-the-job injury occur. They are also eligible to participate in the Graduate Assistant Health Insurance Benefit Program. From a teaching/research standpoint, graduate assistants are an integral part of the Department and they are considered by the administration, undergraduates, alumni, and other individuals to be representatives of the Department of Animal and Range Sciences. The professionalism with which their duties are performed, as well as their general conduct, should, therefore, leave a favorable impression with university clientele.

## Termination of Graduate Assistantship/Graduate Program

As described in previous sections, graduate assistants are employees of the Department and the University and are compensated for work performed in either teaching and/or research functions. If a student fails to perform duties of the position, the student will receive written notification from his/her Graduate Advisor and/or Department Head stating specifically how the student is failing to discharge duties of the position. If the student continues to perform in an unacceptable manner, the assistantship may be removed with no further compensation to the student. Cancellation of an assistantship is done by the Department Head in consultation with the Graduate Advisor.

In addition to termination of an assistantship, the graduate program may also be terminated if the student fails to maintain acceptable academic performance as described in the Graduate School Catalog. Other activities that may result in termination of a graduate program include failure to follow the student Code of Conduct, failure to meet expectations of the Graduate Advisor, failure to perform adequately on any of the exams required for the specific graduate degree.





## **Graduate Student's Advisory Committee**

Each graduate student will have an Advisory Committee regardless of the degree being sought. A description of the committee structure and function is included in requirements for each departmental degree which are shown at the end of this Handbook.

## **Desk/Office Space**

Graduate assistants provide integral support for the teaching/research activities of the Department; it is, therefore, important that they have a study area in which they can be located by faculty and undergraduate students. Graduate students will not be officed in laboratories containing hazardous/radioactive chemicals. In addition, students should recognize that security can be a problem in public university buildings and the University does not carry insurance on any personal items. The Department will attempt to provide a desk/carrel for all graduate students as long as space is available. In the event that space becomes limited, graduate assistants will be accommodated first. Students working toward masters degrees and doctoral students who are not graduate assistants will, in general, be housed in desk or carrel areas located in rooms 209A, 253, and 301 of Knox Hall. If adequate space is available, attempts will be made to provide doctoral graduate assistants with a semi-private office area. A listing of currently used areas for Ph.D. students is maintained in the Departmental office along with a list of doctoral assistants in order of seniority basis. When doctoral study areas become available, the Department Head will reassign them on a seniority basis. In the event that an excess of doctoral study space is available, the Department Head may assign such space to graduate assistants pursuing masters degrees on a seniority basis (based on date of graduate enrollment). Students will be issued keys to their office area. These keys must be returned before the student leaves NMSU. Failure to return keys may result in NMSU refusal to release grades or distribute graduation information. If a student loses NMSU keys, the incident should be reported immediately to the Department office.

## **Publications**

Prior to completion of an advanced degree, graduate students are expected to adapt their thesis or dissertation material for submission as a scientific journal article or Experiment Station bulletin or research report. If University funds (salary or research) are used in the completion of the research, resultant data and publications arising from the data are University property.

## **Continuation of Graduate Studies at NMSU**

Students completing a M.S. program in the Department of Animal and Range Sciences and who desire to continue in a Ph.D. program in this Department must submit a formal request to the Departmental Graduate Committee at





least 6 weeks before the M.S. oral examination. The Departmental Committee will review the request, consult with the student's Graduate Advisor and Department Head, and recommend to the Graduate Dean as to whether the M.S. oral examination should be allowed to serve as a Ph.D. qualifying examination.

## **Other Guidelines**

### Seminars

Graduate seminars are offered during both fall and spring semesters and students are required to enroll in AnSc/RgSc 515 at least twice (once for MAG-DAB) before completion of each advanced degree. All graduate students are expected to attend seminar (regardless of enrollment); research and class schedules should, therefore, be arranged accordingly.

### Secretarial Assistance

Graduate students often require secretarial assistance for various types of projects. Because Departmental secretaries have a heavy work load, their time is spent on Departmental business. The following typing tasks may be performed by Departmental secretaries provided that they are given adequate notice:

- Departmental graduate seminar reports
- Journal articles, research reports, bulletins, proceedings papers, other publications
- Visual aids for papers to be presented at scientific meetings
- Placement materials for graduate students

All work to be performed by Departmental secretaries should be channeled through a faculty member.

### Departmental Supplies and Photocopy Machine

Stenographic supplies related to teaching and research activities are provided by the Department. Students needing materials for such activities should issue a request to their Graduate Advisor or professor or the faculty member in charge of the course with which they are assisting. Supplies are not provided for the student's coursework activities. A photocopy machine is available for Departmental business. All transactions require an access code number which may be obtained from the Graduate Advisor. Personal use of the machine should be kept to a minimum and then only when it is not being used for official purposes. The Department will provide one copy of a graduate thesis or dissertation for each committee member before the oral examination. All other copying related





to the thesis or dissertation (including required revisions) is at the student's expense.

### University Vehicles

Vehicles are available for official use only. Individuals intending to use university vehicles must have a valid New Mexico operator's license and a State of New Mexico permit which is issued after completion of the NMSU Defensive Driving course. Graduate students are encouraged to enroll in the defensive driving course as soon as possible after their arrival. When using departmental vehicles, operators are expected to ensure that the vehicle is returned with a full tank of fuel and in clean condition. If a traffic citation is received while driving a university vehicle, the NMSU vehicle operator permit may be revoked.

### Training Requirements

All employees are required to attend certain training classes offered through the Employee Health and Safety Office depending on the laboratory in which the individual works. These classes may include Hazard Communication, Laboratory Standard, Biosafety, Bloodborne Pathogens, and(or) Radiation Safety. In addition, all individuals working with animals must be certified by the Institutional Animal Care and Use Committee and complete the Occupational Health and Safety Program for Animal Workers.

## **REQUIREMENTS FOR THE GRADUATE DEGREES OFFERED BY THE DEPARTMENT OF ANIMAL AND RANGE SCIENCES ARE SHOWN IN SUBSEQUENT SECTIONS**





New Mexico State University  
Department of Animal and Range Sciences

**Requirements for a Master of Agriculture (Concentration in Domestic Animal Biology) in Animal Science**

The Department of Animal and Range Sciences at New Mexico State University offers a non-thesis coursework Master of Agriculture degree with a Concentration in Domestic Animal Biology (MAG-DAB) which provides students with graduate training in animal nutrition and physiology. The degree is earned after satisfactory completion of 32 credit hours of upper division and graduate-level courses. The curriculum is completed in two or three academic semesters and includes a creative component which can be met in several ways.

Students having an undergraduate degree in an area of agriculture or a related field may consider the MAG-DAB as an alternative to a Master of Science which traditionally involves preparation of a thesis. Students who may benefit from this program include those in need of additional advanced science-based coursework in preparation for applying to a professional program in veterinary medicine. Other individuals may be interested in careers in the cooperative extension service, education, or the feed and pharmaceutical industries where an advanced degree may be of benefit to advancement. The curriculum outlined below will assist students in preparing for a number of career opportunities.

**ADMISSION TO THE PROGRAM**

The MAG-DAB program is administered through the Department of Animal and Range Sciences and is coordinated by the Animal Science Graduate Committee. Admission to the program requires acceptance by the NMSU Graduate School as well as the Department of Animal and Range Sciences. Basic requirements include an undergraduate degree in an agricultural or a related major from an accredited college or university and an undergraduate GPA of 3.0. Depending on undergraduate training, some individuals may need to complete deficiency classes. In addition, the graduate school may require international students to complete one or more English language courses. Applications to the Department should include three letters of reference, a resume, and a statement of interest in advanced graduate training. **Students participating in the MAG Program are not eligible for a graduate assistantship.**





Once admitted to the program, each student will work with an advisor to develop a course work plan of study. The advisor and the student will also select an advisory committee consisting of two departmental faculty members and a third member from outside the department who will normally serve as the Dean's representative to the committee.

Inquiries about the MAG-DAB Program should be directed to the Chair of the Animal Science Graduate Committee.

## **Specific Admission Requirements**

- A. GPA of 3.0 or greater.
- B. Three letters of recommendation.
- C. Completion of the form, "Application for Graduate Admission in Animal Science" including a brief letter (personal statement) outlining the student's background, career goals, and research interest.
- D. Resume
- E. Favorable evaluation for admission will be by consensus of the Animal Science Graduate Committee.
- F. A requirement for admission as a MAG graduate student in the department is completion of a curriculum substantially equivalent to that required of undergraduate animal science students. Therefore, deficiency courses may be required after admission to the program, as determined initially by the Animal Science Graduate Committee.

## **COURSE REQUIREMENTS**

### **CORE COURSES**

**Students in the MAG-DAB Program will complete the following classes:**

- AnSc 480 - Environmental Physiology of Domestic Animals - 3 credits
  - AnSc 501 - Advanced Animal Nutrition - 3 credits
  - AnSc 509 - Endocrinology of Domestic Animals - 3 credits
  - AnSc 512 - Experimental Methods in Animal Science - 4 credits
  - AnSc 522 – Animal Nutrition or AnSc 484 - Ruminant Nutrition - 3 credits
  - AnSc 515 - Graduate Seminar - 1 credit
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## **ELECTIVE COURSES**

**In consultation with their graduate advisor, students choose at least 12 credits from the following list of courses (other classes may be considered on an individual basis):**

- AnSc 462 - Parasitology - 3 credits
- AnSc 504 - Animal Physiology Techniques - 4 credits
- AnSc 507 - Lab Techniques in Nutrition - 4 credits
- AnSc 520 - Feedlot Nutrition - 3 credits
- AnSc 521 - Cow/Calf Nutrition - 3 credits
- AnSc 560 - Rumen Microbiology - 3 credits
- AnSc 602 - Advanced Reproductive Physiology - 3 credits
- AnSc 603 - Cardiovascular and Neural Physiology - 3 credits
- AnSc 604, 605, 606 – Advanced Reproductive Endocrinology – 3 credits
- AnSc 621 - Metabolic Functions and Dysfunctions 3 credits

## **CREATIVE COMPONENT**

The creative component of the program involves completing at least two credits of AnSc 598 (Special Research Programs). This requirement can be met in one of two ways. In consultation with the advisor, the student can select a topic of importance in domestic animal biology and prepare a comprehensive literature review covering that topic. An alternative way to meet this requirement is for the student, in consultation with the advisor, to conduct a research project and prepare a written manuscript for evaluation by the advisory committee. In either case, the student will present results of the project in the graduate seminar (AnSc 515) and then be examined by the advisory committee. In certain cases, the student may request approval from the Advisory Committee to complete two additional graduate courses (at least six credits) in lieu of one of the reports described above. If this approach is approved, the oral examination at the end of the program will cover all the courses completed during the MAG-DAB Program. Students pursuing this option must also prepare and present a topical seminar in AnSc 515 at some time during the program.





## **The Master of Agriculture Advisory Committee**

The MAG Advisory Committee is appointed by the student's advisor with approval of the Department Head and consists of four members including three from the animal science area and one representative from the Graduate School.

## **The Master of Agriculture Final Examination**

The MAG Final Oral Examination is primarily concerned with the creative component completed by the student but it may also extend over the entire discipline. Candidates for a MAG Degree are expected to demonstrate a thorough understanding of their creative component including how it was conducted, the results that were found, and what the results mean. They should also demonstrate knowledge of the general discipline of Animal Science.





New Mexico State University  
Department of Animal and Range Sciences

**Requirements for a Master of Science  
Degree in Animal Science**

**Admission**

- A. GPA of 3.0 or greater.
- B. Three letters of recommendation.
- C. Completion of the form, “Application for Graduate Admission in Animal Science” including a brief letter (personal statement) outlining the student’s background, career goals, and research interest.
- D. Resume
- E. Favorable evaluation for admission will be by consensus of the Animal Science Graduate Committee and will be contingent on availability of an advisor and research funding.
- F. A requirement for admission as a masters graduate student in the department is completion of a curriculum substantially equivalent to that required of undergraduate animal science students. Therefore, deficiency courses may be required after admission to the program, as determined initially by the Animal Science Graduate Committee.

**General Requirements**

- A. Graduate students must maintain at least a 3.0 grade point average.
  - B. A minimum of 30 credit hours of graduate work is required of which:
    1. At least 15 credits must be in courses numbered 500 or above
    2. At least 15 credits must be in Animal Science courses
    3. At least 15 credits (exclusive of AnSc 599) must be taken with other than a single professor
  - C. Designated hours to be completed:
    1. At least four formal Animal Science courses numbered 500 or above
    2. At least six credits in AnSc 599 (Master’s Thesis)
    3. At least two credits in AnSc 515 (Graduate Seminar)
    4. At least four credits in Experimental Statistics
  - D. **Graduate Assistants**
    1. All graduate assistants must enroll as full-time students taking at least 9 graded graduate credits (courses numbered 450 and above). No audits can be taken as part of the 9 minimum credits. Only 3 of the 9 credits may be taken as an S/U option.
    2. A graduate assistant may not enroll for more than 15 credits each semester.
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3. If a student needs to take deficiency courses as part of the 9 credits, then a memo from the advisor or department head should be submitted to the Graduate School. If approved, the student can register for 3 undergraduate credits and a minimum of 6 graded graduate credits during their first semester at New Mexico State University.
4. Enrollment during summer sessions is not required.

**E. Additional Requirements**

1. A maximum of six credits in S/U courses may be taken during a Master's program
2. A maximum of six credits (four in a single semester) in AnSc 598 (Special Research Programs) may be taken during a Master's program.
3. If a minor is declared, a minimum of eight credits in this discipline must be completed and approved by that department.
4. In certain instances, deficiency courses may be required.
5. Attendance at graduate seminars is urged.
6. Graduate students are encouraged to adapt their thesis data for submission as a scientific journal article, an Experiment Station Bulletin, or research report.

**F. The Masters Committee**

The Masters Committee is appointed by the student's advisor with approval of the Department Head and consists of four members including three from the animal science area and one representative from the Graduate School.

**G. The Masters Final Examination**

The Masters Final Oral Examination is primarily concerned with the thesis research conducted by the student but it may also extend over the entire discipline. Candidates for a Masters Degree are expected to demonstrate a thorough understanding of their research topic including how it was conducted, the results that were found, and what the results mean. They should also demonstrate knowledge of the general discipline of Animal Science.





New Mexico State University  
Department of Animal and Range Sciences

**Requirements for Ph.D. Degree  
in Animal Science**

**I. Admission**

- A. GPA of 3.0 or greater.
- B. Three letters of recommendation.
- C. Completion of the form, “Application for Graduate Admission in Animal Science” including a brief letter (personal statement) outlining the student’s background, career goals, and research interest.
- D. Resume
- E. Favorable evaluation for admission will be by consensus of the Animal Science Graduate Committee and will be contingent on availability of an advisor and research funding.
- F. A requirement for admission as a doctoral graduate student in the department is completion of a curriculum substantially equivalent to that required of undergraduate animal science students. Therefore, deficiency courses may be required after admission to the program, as determined initially by the Animal Science Graduate Committee.
- G. Non- thesis MS degrees are not acceptable although some of the courses may be transferred if deemed appropriate by the student's Doctoral Committee.

**II. General Requirements**

- A. Graduate students must maintain at least a 3.0 grade point average.
  - B. A minimum of 60 credit hours of graduate work above a MS degree in Animal Science is required of which:
    - 1. At least 30 credits must be in courses numbered 600 or above.
    - 2. At least 18 credits must be in AnSc 700 (Doctoral Dissertation).
  - C. All graduate assistants must enroll as full-time students taking at least 9 graded graduate credits (courses numbered 450 and above). No audits can be taken as part of the 9 minimum credits. Only 3 of the 9 credits may be taken as an S/U option.
    - 1. A graduate assistant may not enroll for more than 15 credits each semester.
    - 2. If a student needs to take deficiency courses as part of the 9 credits, then a memo from the advisor or department head should be submitted to the Graduate School. If approved, the student can register for 3 undergraduate credits and a minimum of 6 graded graduate credits during their first semester at New Mexico State University.
    - 3. Enrollment during summer sessions is not required.
  - D. Students admitted to the Doctoral program (passed qualifying exam) must continue to enroll in three credits of graduate work each semester (exclusive of summer sessions) until the dissertation is approved by the Graduate School.
  - E. In certain instances, deficiency courses may be required.
  - F. Two semesters of AnSc 515 (Graduate Seminar) are required and students are urged to
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attend seminar every semester that they are in residence.

G. No more than 6 credits of AnSc 698 may apply toward graduation.

H. The “Program of Study and Committee for Doctoral Students” form listing the graduate committee and courses to be taken, should be filed with the Graduate School after completion of 12 credits and after the qualifying exam, and before registering for additional courses.

## II. **Qualifying Examination**

A. The Animal and Range Sciences Department may allow the M.S. Final examination to serve as a Ph.D. qualifying exam for students receiving an M.S. in Animal Science at NMSU. See “Guidelines for Graduate Studies” for further details.

B. Doctoral students must take a qualifying exam before completion of one semester of graduate work. The exam is scheduled by the student’s advisor and administered by a provisional committee of at least 3 regular Animal Science faculty members in the student's area of concentration (reproductive physiology or ruminant nutrition). Its purpose is to evaluate the student’s strengths and weaknesses, determine deficiency courses, and discuss a possible program of study (coursework).

C. After successful completion of this exam, a Doctoral Committee is appointed.

## III. **Doctoral Committee**

A. The student's Doctoral Committee is selected by the student and the student’s advisor, with approval of the Department Head and the Graduate Dean. The committee will consist of five or more members, as follows:

1. The committee chair (advisor) and at least two other members must be from the regular Animal Science faculty in the student's concentration area (reproductive physiology or ruminant nutrition).
2. One member must be from the Related Area.
3. One member from the Research Tool Area.
4. The member from the Related or Research Tool Area may serve as the Representative of the Graduate Dean.

B. Duties of the Doctoral Committee

1. Prepare and file a preliminary program of study with the Graduate Dean
2. Provide counsel for the student during the program
3. Attend the comprehensive oral examination and the final dissertation defense.

**NOTE:** Changes in committee membership must be approved by the Graduate Dean.



**IV. Related Area**

A. Doctoral students are required to complete advanced coursework (at least nine hours) in a field of study closely allied with Animal Science.

B. Courses to be completed will be determined by the Doctoral Committee.

C. Possible areas of study include:

1. Range Science
2. Experimental Statistics
3. Biology
4. Biochemistry

**V. Research Tool**

A. Doctoral students are also expected to demonstrate proficiency in an area of study that will promote their ability to conduct research.

B. A minimum of three courses approved by the Doctoral Committee will usually meet this requirement.

C. Courses completed in the Related Area may not be used toward the Research Tool. D. Possible study areas include:

1. Experimental Statistics
2. Foreign Language
3. History of Science
4. Philosophy of Science

**VI. Comprehensive Examination**

A. The comprehensive examines the student's knowledge in the major field of study as well as the Related and Research Tool areas.

B. The exam begins with a written examination prepared by the faculty in the student's concentration area (reproductive physiology or ruminant nutrition). This examination must be passed satisfactorily before the student continues with the remainder of the process.

C. Secondly, the student is administered a separate written examination by each member of the Doctoral Committee. This segment must be passed satisfactorily before the student proceeds.

D. The final phase of the Doctoral Comprehensive Examination is the Oral Exam.

E. Students that satisfactorily complete all segments of the Comprehensive Examination are admitted to candidacy for the doctorate.

**VI. Final Oral Examination**

A. The final oral exam is primarily concerned with the dissertation research conducted by the student but it may also extend over the entire discipline.

B. Doctoral candidates are expected to exhibit the skills required to conduct independent research in the animal science discipline.



# New Mexico State University

## Department of Animal & Range Sciences

### Requirements for a Master of Science Degree in Range Science

Other important stipulations may be in the Graduate Catalog. Final approval of a student's program resides with the Graduate School.

#### Admission

- GPA of 3.0 or higher.
- Three letters of recommendation.
- Completion of the form, "Application to the Graduate Program in Range Sciences," including a brief letter outlining the student's background, career goals, and research interest.
- GRE exam is not required.
- Evaluation for admission will be by consensus of the Range Science Graduate Admissions Committee.
- Prerequisite for admission as a regular graduate student in the department is the completion of a curriculum substantially equivalent to that required of undergraduate students. Therefore, deficiency courses may be required after admission to the program, as determined by the admissions committee and the student's graduate committee and advisor.

#### General Requirements

- Graduate students need a minimum of a 3.0 grade point average. Students on assistantship must maintain this minimum throughout their program.
- Students with graduate assistantships must enroll in at least 9 graduate credits (450 or above, none audited, & only 3 S/U) per semester, but not more than 15 per semester.

#### Graduate Program with the Thesis (Research) Option

- Coursework
  - A minimum of 30 credits of graduate work is required to graduate.
  - At least 15 credits must be in courses numbered 500 or above.
  - At least 15 credits must be from the Range Science program.
  - Not more than 6 nor fewer than 4 thesis credits (RgSc 599) may be counted toward the requirements for a master's degree.
  - Two semesters of RgSc 515 (Seminar) are required. One may be taken from another department with permission of student's graduate committee.
  - At least one advanced statistics course or equivalent is required, as determined by the student's graduate committee.
- Thesis
  - The thesis research project must be approved by the student's graduate committee.
  - Every effort should be made to publish the thesis as a scientific journal article or Experiment Station publication.



## Graduate Program with the Non-Thesis Option

- Coursework
  - A minimum of 32 credits of graduate work is required to graduate.
  - At least 15 credits must be in courses numbered 500 or above.
  - At least 15 credits must be from the Range Science program.
  - RgSc 599 (Thesis) may not be taken.
  - Two credits of RgSc 598 (subtitled Non-Thesis Report) are required for the written report.
  - Two semesters of RgSc 515 (Seminar) are required. One may be taken from another department with permission of student's graduate committee.
- Written Report
  - The report will be on a topic approved by the student's graduate committee.
  - Research for the report may involve field work and data gathering, but should also be strongly library- and literature-based.
  - The report should be of graduate quality and content, and should follow graduate school thesis format or the format of an acceptable scholarly journal. Final approval and acceptance of the report will be by the student's graduate committee.
  - Every effort should be made to publish the report in an appropriate outlet (journal article, Experiment Station bulletin or report, Extension bulletin, etc.)
  - Copies of the report will be bound and placed in the university and departmental libraries.

## Graduate Committee

- The graduate committee is selected by the student and the student's advisor, with approval of the Department Head and the Graduate Dean. The committee will consist of four or more members, as follows:
  - The committee chair (advisor) and at least one other member must be from the Range Science regular faculty.
  - At least one member must be from another department, and may serve as the dean's representative.

## Outline of Required Events to Complete the M.S. Degree

- Enroll for first semester.
- Meet with graduate committee no later than second semester to outline planned coursework and to discuss planned research for thesis or non-thesis topic.
- File the "Application for Admission to Candidacy" (program of study) no later than after the completion of 12 credits of graduate work.
- Complete course work.
- Complete research and prepare thesis or written report.
- File form for taking final oral exam with Graduate School at least 10 working days before exam.
- At least seven working days before the final exam, deliver a copy of the thesis or written report to each committee member.
- Take final oral examination in defense of thesis or written report and course work.
- For the thesis option:
  - Deliver a final copy of the thesis to the graduate editor at least 10 working days before graduation.
  - Take 3 approved copies signed by the adviser to the Graduate Dean for his/her signature.
  - Take these 3 copies with abstracts of not more than 350 words and a receipt for all fees to the librarian.
- For the non-thesis option:
  - Deliver 3 final copies of the approved written report to the graduate committee chair (advisor) prior to graduation.
  - Pay applicable binding fee to the department.

# New Mexico State University

## Department of Animal & Range Sciences

### Requirements for a Ph.D. Degree in Range Science

Other important stipulations may be in the Graduate Catalog and online at <<http://gradschool.nmsu.edu/>>. Final approval of a student's program resides with the Graduate School.

#### Admission

- GPA of 3.0 or higher.
- Three letters of recommendation.
- Completion of the form, "Application to the Graduate Program in Range Sciences," including a brief letter outlining the student's background, career goals, and research interest.
- GRE exam is required.
- Evaluation for admission will be by consensus of the Range Science Graduate Admissions Committee.
- Prerequisite for admission as a regular graduate student in the department is the completion of a curriculum substantially equivalent to that required of undergraduate students. Therefore, deficiency courses may be required after admission to the program, as determined by the admissions committee and the student's graduate committee and advisor.

#### General Requirements

- Students on assistantship must maintain a 3.0 GPA throughout their program.
- Students with graduate assistantships must enroll in at least 9 graduate credits (450 or above, none audited, & only 3 S/U) per semester, but not more than 15 per semester.
- Students must demonstrate proficiency in a foreign language or research tool, such as experimental statistics, computer science, or mathematics, as approved by the student's graduate committee.

#### Graduate Ph.D. Program

- Qualifying Exam
  - The exam is scheduled by the student's advisor, and administered by a provisional committee of at least 3 total regular range science faculty.
  - It should take place during the first semester of graduate work.
  - Its purpose is to evaluate the student's strengths and weaknesses, determine deficiency courses, and discuss a possible program of study (coursework).
- Coursework
  - A minimum of 30 credits of graduate work plus 18 credits of dissertation (RgSc 700) are required to graduate.
  - At least 15 credits must be in courses numbered 500 or above.
  - At least 15 credits must be from the Range Science program.
  - Two semesters of RgSc 515 (Seminar) are required. One may be taken from another department with permission of student's graduate committee.
  - No more than six credits of RgSc 698 may apply toward graduation.
  - The "Program of Study and Committee for Doctoral Students" form, listing the graduate committee and courses to be taken, should be filed with the Graduate School after completion of 12 credits and after the qualifying exam, and before registering for additional courses.

- Comprehensive Exam
  - The exam is intended to test the knowledge of the major and minor fields of study.
  - The student will be admitted to the exam after fulfilling the language/research tool requirement, after completion of adequate coursework (as determined by the department and the Graduate School), and when considered by the student's graduate committee to be adequately prepared.
  - The exam is part written and part oral.
  - The student is formally considered a candidate for the Ph.D. only after the successful completion of the comprehensive exam, the recommendation of the committee, and the approval of the graduate dean.
- Dissertation
  - The research project must be approved by the student's graduate committee.
  - The dissertation is expected to demonstrate the student's ability in independent investigation and to be a contribution to human knowledge.
  - It shall display a mastery of the literature, present an organized, coherent development of ideas with a clear exposition of results, and provide a critical discussion of the student's conclusions.
  - The form and style of the dissertation must comply with regulations given in Guidelines for Preparing a Thesis or Dissertation.
  - Every effort should be made to publish the dissertation as a scientific journal article or Experiment Station publication.
- Final Exam
  - The exam is concerned primarily with the research work of the student as embodied in the dissertation, but it may also extend over the entire field of study. It is entirely oral.
  - The final exam will be advertised to the public one week prior to the exam.

## Graduate Committee

- The graduate committee is selected by the student and the student's advisor, with approval of the Department Head and the Graduate Dean. The committee will consist of five or more members, as follows:
  - The committee chair (advisor) and at least two other members must be from the Range Science regular faculty.
  - At least one member must be from another department, and may serve as the dean's representative.

## Outline of Required Events to Complete the Ph.D. Degree

- See time schedule online at <<http://gradschool.nmsu.edu/Guidelines/disstimeschedule.html>>
- Enroll for first semester.
- Take the Qualifying Exam (or equivalent) before completion of the first semester.
- Meet with graduate committee no later than second semester to outline planned coursework and to discuss planned research.
- File the "Program of Study and Committee for Doctoral Students" no later than after the completion of 12 credits of graduate work.
- Fulfill the language/research tool requirement.
- Complete course work.
- Take the Comprehensive Exam. The form must be filed with the Graduate School at least 10 working days before exam.
- Complete the research and write the dissertation.
- Take the Final Exam. The form for this must be filed with the Graduate School at least 10 working days before the exam. Copies of the dissertation must be delivered to each committee member at least seven working days prior to the exam.
- Disposition of the dissertation: See guidelines and time schedule online.