

# Degree Requirements for Department of Agriculture and Natural Resources

The Department of Agriculture and Natural Resources offers a Master of Science in Agriculture and Natural Resources Systems Management (M.S.A.N.R.). The M.S.A.N.R. program is administered through UT Online. The M.S.A.N.R. curriculum is comprised of 36 hours of graduate course work and is offered exclusively via the Internet. The program features three concentrations to meet the needs of place-bound professionals. Students in the M.S.A.N.R. program can select a concentration (12 hours) in: Systems Science in Agriculture, Agricultural Education and Leadership, or Natural Resources Systems Management.

**Systems Science in Agriculture** will be of interest to students seeking to expand their managerial and technical competencies for agricultural industries and government agencies. Students selecting the **Agricultural Education and Leadership** concentration will take education specific courses from the Department of Educational Studies and the Department of Agriculture and Natural Resources. While the Agricultural Education and Leadership concentration does not lead to professional licensure for teaching agriculture at the high school level, it does provide individuals who are already teaching agriculture at the high school level an opportunity to pursue a graduate degree tailored to their professional work environment. Students selecting the **Natural Resources Systems Management** concentration can access graduate courses from the universities participating in the Natural Resources Distance Learning Consortium (NRDLC).

Students can pursue either a non-thesis or a thesis option in the M.S.A.N.R. program. Students pursuing the thesis option will register for and complete the requirements of Agriculture 701-702 or Natural Resources Management 701-702, while students in the non-thesis option will register for and complete the requirements of Agriculture 790-791 or Natural Resources Management 790-791.

Students must satisfy the university general requirements and the following requirements specific to the degree.

## Master of Science in Agriculture and Natural Resources Systems Management (1180)

### Résumé of Degree Requirements

**Ia. Systems Science in Agriculture Group (1183)**.....12 hours  
All Systems Science in Agriculture students must complete 12 hours of course work from the following courses:

#### **Management Science in Agriculture (6 hours)**

Agricultural Engineering Technology 784 Applied Management Science in Agricultural Systems I (3)  
**or**

Agricultural Economics 784 Applied Management Science in Agricultural Systems I (3)

Agricultural Engineering Technology 785 Applied Management Science in Agricultural Systems II (3)  
**or**

Agricultural Economics 785 Applied Management Science in Agricultural Systems II (3)

**and**

#### **Agricultural Engineering Technology (6 hours)**

Choose two courses from:

Agricultural Engineering Technology 650 Agricultural Structures (3)

Agricultural Engineering Technology 710 Safety and Ergonomic Sciences in Agriculture (3)

Agricultural Engineering Technology 720 Advanced Soil and Water Conservation Engineering (3)

Agricultural Engineering Technology 760 Comprehensive Nutrient Management Planning and Design (3)

Agricultural Engineering Technology 782 GIS for Agricultural and Natural Resources Management (3)  
**or**

**Agricultural Marketing and Management (6 hours)**

Choose two courses from:

- Agricultural Economics 705 Advanced Agricultural Marketing (3)
- Agricultural Economics 710 Commodity Futures and Options Markets (3)
- Agricultural Economics 780 Project Management Issues in Agriculture (3)

Systems Science in Agriculture Elective (3) – Any 600 level or higher course in agricultural engineering technology, agricultural economics, engineering, or the sciences approved by the M.S.A.N.R. Graduate Coordinator.

**OR**

**Ib. Agricultural Education and Leadership Group (1181)..... 12 hours**

Agricultural Education and Leadership (AEL) students must complete 12 hours of approved graduate course work\* from the College of Agriculture and Applied Science or the College of Education and Behavioral Science (in the area of agricultural education, educational studies, or other approved education-related area). All AEL Group course must be approved by the M.S.A.N.R. Graduate Coordinator.

**OR**

**Ic. Natural Resources Systems Management Group (1182)..... 12 hours**

Students in the Natural Resources Systems Management group must complete 12 hours of course work from the following courses:

- Agricultural Engineering Technology 720 Advanced Soil and Water Conservation Engineering (3)
- Agricultural Engineering Technology 760 Comprehensive Nutrient Management Planning and System Design (3)
- Agricultural Engineering Technology 782 GIS for Agricultural and Natural Resources Management (3)
- Natural Resources Management 722 Production of Biorenewable Resources (3) **or**
- Plant Science 722 Production of Biorenewable Resources (3)
- Natural Resources Management 760 Management of Interpretive Resources (3) **or**
- Park and Recreation Administration 760 Management of Interpretive Resources (3)
- Natural Resources Management 765 Conservation and Preservation of Historic Structures (3) **or**
- Park and Recreation Administration 765 Conservation and Preservation of Historic Structures (3)
- Natural Resources Management 770 Topics in Natural Resources Management (1-6)
- Park and Recreation Administration 770 Topics in Park and Recreation Administration (1-6)
- Soil Science 630 Wetland Science (3)
- Wildlife Biology 730 Wildlife Policy (3)
- Wildlife Biology 770 Topics in Wildlife Biology (1-6)

**or**

Graduate courses from member institutions of the Natural Resources Distance Learning Consortium (NRDLC) as approved by the M.S.A.N.R. Graduate Coordinator (up to 12 hours).

**II. Agribusiness/Business Group..... 9 hours**

Choose three courses (9 hours) from:

- Agricultural Economics 645 Natural Resources Economics (3)
- Agricultural Economics 665 Agricultural Finance (3)
- Agricultural Economics 671 Agricultural Management (3)
- Agricultural Economics 745 Agricultural Production Economics (3)
- Agricultural Economics 750 Agricultural Risk Analysis and Decision Making (3)
- Agricultural Economics 751 Strategic Management Issues in Agriculture (3)
- Information Systems 761\* Information Systems (3)
- Management 730\* Operations Management (3)
- Management 740\* Management of Innovation and Technology (3)

Natural Resources Management 730 Advanced Natural Resources Economics (3)  
 Agribusiness/Business Elective (3) – Any 600-level or higher course in agribusiness, marketing, or management approved by the M.S.A.N.R. Graduate Coordinator.  
 \*Consult the College of Business and Public Affairs Graduate Coordinator regarding applicable prerequisites. These courses may not be offered online.

**III. Internship or Research Group..... 6**  
 hours

**Non-Thesis Option**

Agriculture 790 Scientific Writing and Presentations (3) **or**  
 Natural Resources Management 790 Scientific Writing and Presentations (3) **and**  
 Agriculture 791 Research/Internship in Agriculture (1-3) **or**  
 Natural Resources Management 791 Research/Internship in Natural Resources Management (1-3)

**OR**

**Thesis Option**

Agriculture 701-702 Master’s Thesis (3, 1-3) **or**  
 Natural Resources Management 701-702 Master’s Thesis (3, 1-3)  
 Thesis option students will complete a research study in an approved area of agriculture or natural resources management. The thesis research director must have a terminal degree and be actively involved in research or extension. The student, in consultation with the thesis research advisor, must submit a written research proposal to the graduate thesis committee for approval prior to collecting thesis data. The graduate thesis committee will be composed of a minimum of three faculty members with graduate faculty status.

**IV. Statistics/Advanced Mathematics Group.....3**  
 hours

Agriculture 741 Statistical Methods in Agriculture and Natural Resources (3) **or**  
 A graduate-level statistics or mathematics course approved by the M.S.A.N.R. Graduate Coordinator (3)

**V. International Agriculture and Natural Resources Group..... 3**  
 hours

Choose one course (3 hours) from:  
 Agricultural Economics 735 Seminar in International Agricultural Trade (3)  
 Agriculture 732 International Travel Study (3)  
 Any 700 level or higher course in international studies approved by the M.S.A.N.R. Graduate Coordinator (3)

**VI. Agriculture and Natural Resources Elective Group..... 3**  
 hours

Any 600 level or higher course in agriculture, natural resources, natural or physical sciences, or other course approved by the M.S.A.N.R. Graduate Coordinator

**Minimum hours required for degree.....36**

A minimum of 70 percent of the degree requirements must be taken at the 700 level. All M.S.A.N.R. students must complete a written comprehensive final examination during the semester they expect to graduate. The comprehensive final exam will be administered and graded (Pass/Fail) by the M.S.A.N.R. Graduate Supervisory Committee. Thesis students receiving a Pass score on the comprehensive final exam will schedule an oral thesis defense at least three weeks prior to graduation. All M.S.A.N.R. students must receive a Pass score on the written comprehensive exam to graduate. Thesis students must also receive a Pass score on the oral thesis defense to graduate. Thesis students must meet all of the requirements listed above and requirements as outlined in the section of this catalog entitled Thesis Option.