FISHERIES AND WILDLIFE SCIENCE (WILDLIFE ECOLOGY AND MANAGEMENT) - BACHELOR OF SCIENCE IN FISH, WILDLIFE AND CONSERVATION ECOLOGY

The Department of Fish, Wildlife and Conservation Ecology prepares you for careers in a variety of natural resource fields related to the management of wild animal populations and the natural systems they share.

To graduate, an overall grade point average of 2.0 is required in courses taken in the major field and in all courses taken at NMSU. In addition, each required course must be passed with a grade of C- or better. The department offers a minor in Fish, Wildlife and Conservation Ecology for students majoring in other disciplines. The minor includes a minimum of 18 credit hours.

The Wildlife Ecology and Management Concentration is for students who plan to focus on terrestrial organisms.

Students must complete all University degree requirements, which include: General Education requirements, Viewing a Wider World requirements, and elective credits to total at least 120 credits with 48 credits in courses numbered 300 or above. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Area I: Communications		
English Composition - Level 1		
ENGL 1110G	Composition I	4
English Composition - Level 2		
ENGL 2210G	Professional and Technical Communication Honors	3
Oral Communication		
Select one from the following:		3
ACOM 1130G	Effective Leadership and Communication in Agriculture	
COMM 1115G	Introduction to Communication	
COMM 1130G	Public Speaking	
Area II: Mathematics		
MATH 1430G	Applications of Calculus I [1]	3-4
or MATH 1511G	Calculus and Analytic Geometry I	
Area III/IV: Laboratory Sciences and Social/Behavioral Sciences		*11*
ECON 2110G	Macroeconomic Principles	
or ECON 2120G	Principles of Microeconomics	
BIOL 2610G & BIOL 2610L	Principles of Biology: Biodiversity, Ecology, and Evolution and Principles of Biology: Biodiversity, Ecology, and Evolution Laboratory	
Select one from the following:		
PHYS 1115G	Survey of Physics with Lab	
PHYS 1230G & PHYS 1230L	Algebra-Based Physics I and Algebra-Based Physics I Lab	
Area V: Humanities [2]		*3*
Area VI: Creative and Fine Arts [2]		*3*
General Education Elective		
BIOL 2110G & BIOL 2110L	Principles of Biology: Cellular and Molecular Biology and Principles of Biology: Cellular and Molecular Biology Laboratory	4
Viewing a Wider World [3]		**3**
The second VWW requirment (3 credits) may be filled with the 9-credit hour rule. Please see your advisor for more information.		
Departmental/College Requirements		
Departmental Core Courses (29 credits)		
FWCE 1110G	Introduction to Natural Resources Management [4]	4
FWCE 2110	Principles of Fish and Wildlife Management	3
FWCE 301	Wildlife Ecology	3
FWCE 330	Natural History of the Vertebrates	4
FWCE 391	Internship	1
FWCE 393	Professional Experience and Communication	3
FWCE 402	Seminar in Natural Resource Management	1
FWCE 409	Introduction to Population Ecology	3
FWCE 457	Ecological Biometry	3
FWCE 464	Management of Aquatic and Terrestrial Ecosystems	3
Departmental Botany Requirements (9 credits)		
BIOL 312	Plant Taxonomy	3
or RGSC 316	Rangeland Plants	
BIOL 313	Structure and Function of Plants	3
Select one from the following:		3
BIOL 314	Plant Physiology	
RGSC 325	Rangeland Restoration Ecology	
RGSC 357	Grass Taxonomy and Identification	
RGSC 440	Rangeland Resource Ecology	
Departmental Physiology Requirements (3-4 credits)		
Select 3-4 credits from the following:		3-4
ANSC 370	System Physiology of Farm Animals	
BIOL 314	Plant Physiology	
BIOL 381	Animal Physiology	
FWCE 432	Environmental Biology of Fishes	
Concentration Coursework		
Techniques		
FWCE 355	Wildlife Techniques and Analysis	4
Management		
Choose one from the following:		3-4
FWCE 437	Wildlife Damage Management	
FWCE 447	Wildlife Law and Policy	
RGSC 325	Rangeland Restoration Ecology	
Organismal Biology		
Choose one from the following: [5]		3-4
BIOL 484	Animal Communication	
EPWS 303	Economic Entomology	
EPWS 462	Parasitology	
FWCE 430	Avian Field Ecology	
FWCE 431	Mammalogy	
FWCE 467	Herpetology	

Aquatic Ecology and Management Electives [6]		*3-4*
Non-Departmental Requirements (in addition to Gen.Ed/VWW) [7]		
AGRO 305	Principles of Genetics	3
or BIOL 305	Principles of Genetics	
A ST 311	Statistical Applications	3
BIOL 322	Zoology	3
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors	4
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors	4
Select one from the following:		4
GEOL 1110G	Physical Geology	
SOIL 2110 & 2110L	Introduction to Soil Science and Introduction to Soil Science Laboratory	
Second Language: (not required)		
Electives, to bring the total credits to 120 [8]		**4-9**
Total Credits		**120**

1. MATH 1430G Applications of Calculus I or MATH 1511G Calculus and Analytic Geometry I is required for the degree but students may need to take any prerequisites needed to enter MATH 1430G or MATH 1511G first.
2. See General Education (https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/) section of the catalog for a full list of courses.
3. See Viewing a Wider World (https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/#viewingawiderworldtext) section of the catalog for a full list of courses.
   Three credits can be taken inside the College of ACES, but three credits must also be taken outside the College of ACES or 9 credits can be taken within a single department (e.g. Biology) that is outside the College of Aces.
4. Off campus students can take FWCE 1120 Contemporary Issues in Wildlife and Natural Resources Management Distance Education.
5. At least one course chosen must be a vertebrate taxonomy course with FWCE prefix, i.e., one of FWCE 467 Herpetology or FWCE 482 Ichthyology.
6. Aquatic Concentration Electives, at least one course chosen must be a vertebrate taxonomy course with FWCE prefix
   (i.e., one of FWCE 430 Avian Field Ecology, FWCE 431 Mammalogy, or FWCE 467 Herpetology)
7. Students intending to pursue graduate studies should also take CHEM 2115 Survey of Organic Chemistry and Laboratory.
8. Elective credit may vary based on General Education course selection, prerequisites, dual credit, AP credit, double majors, and/or minor coursework. The amount indicated in the requirements list is the amount needed to bring the total to 120 credits and may appear in variable form based on the degree. However students may end up needing to complete more or less on a case-by-case basis and students should discuss elective requirements with their advisor.

Additional Electives

Take additional credits so the total adds up to at least 120 credits including 55 credits 300- and 400-level classes.

Students are encouraged to pursue a minor course of study with a department of their choosing.

Compatible minors include, but are not limited to:

- animal science,
- biology,
- chemistry,
- environmental science,
- forensic sciences,
- geography,
- journalism,
- management,
- and range science.

Notes:

1. No more than 6 credits of Physical Education classes will count towards your degree.
2. Maximum of two grades of 'D' in FWCE classes will count towards a student's degree.

A Suggested Plan of Study for Students

This roadmap assumes student placement in MATH 1430G Applications of Calculus I and ENGL 1110G Composition I. The contents and order of this roadmap may vary depending on initial student placement in mathematics and English. It is only a suggested plan of study for students and is not intended as a contract. Course availability may vary from fall to spring semester and may be subject to modification or change.

First Year		
Semester 1		**Credits**
MATH 1430G	Applications of Calculus I [1]	3
ENGL 1110G	Composition I [1]	4
FWCE 1110G	Introduction to Natural Resources Management	4
Area V: Humanities Course [2]		3
ACES 1120	Freshman Orientation	1
	Credits	**15**
Semester 2		
BIOL 2610G & BIOL 2610L	Principles of Biology: Biodiversity, Ecology, and Evolution and Principles of Biology: Biodiversity, Ecology, and Evolution Laboratory [1]	4
FWCE 2110	Principles of Fish and Wildlife Management	3
ACOM 1130G	Effective Leadership and Communication in Agriculture	3
Area VI: Creative and Fine Arts Course [2]		3
Elective Course		3
	Credits	**16**
Second Year		
Semester 1		
CHEM 1215G	General Chemistry I Lecture and Laboratory for STEM Majors [1]	4
CHEM 1121	General Supplemental Instruction I	1
Choose from one of the following:		3
ECON 2110G	Macroeconomic Principles	
ECON 2120G	Principles of Microeconomics	
PHYS 1115G	Survey of Physics with Lab	4
FWCE 301	Wildlife Ecology [1]	3
	Credits	**15**

Semester 2		
CHEM 1225G	General Chemistry II Lecture and Laboratory for STEM Majors [1]	4
CHEM 1122	General Supplemental Instruction II	1
BIOL 2110G & BIOL 2110L	Principles of Biology: Cellular and Molecular Biology and Principles of Biology: Cellular and Molecular Biology Laboratory	4
BIOL 313	Structure and Function of Plants (Spring Only)	3
Choose from one of the following:		3
FWCE 437	Wildlife Damage Management	
FWCE 447	Wildlife Law and Policy	
RGSC 325	Rangeland Restoration Ecology	
	Credits	**15**
Third Year		
Semester 1		
ENGL 2210G	Professional and Technical Communication Honors	3
BIOL 322	Zoology (Fall Only) [1]	3
A ST 311	Statistical Applications [1]	3
VWW: Viewing a Wider World Course [3]		3
Choose from one of the following:		4
SOIL 2110 & 2110L	Introduction to Soil Science and Introduction to Soil Science Laboratory [1]	
GEOL 1110G	Physical Geology [1]	
	Credits	**16**
Semester 2		
FWCE 330	Natural History of the Vertebrates (Spring Only) [1]	4
FWCE 355	Wildlife Techniques and Analysis (Spring Only in Odd Years) [1]	4
Choose from one of the following:		3-4
BIOL 484	Animal Communication	
EPWS 303	Economic Entomology	
EPWS 462	Parasitology	
FWCE 430	Avian Field Ecology [1]	
FWCE 431	Mammalogy [1]	
FWCE 467	Herpetology [1]	
Elective Course [3]		4
	Credits	**15-16**
Fourth Year		
Semester 1		
FWCE 391	Internship (Fall Only Must be taken with FWCE 393) [1]	1
FWCE 393	Professional Experience and Communication (Fall Only Must be taken with FWCE 391) [1]	3
BIOL 312	Plant Taxonomy (Fall Only) [1]	3
FWCE 402	Seminar in Natural Resource Management	1
FWCE 457	Ecological Biometry (Fall Only) [1]	3
Choose from one of the following:		3
AGRO 305	Principles of Genetics [1]	
BIOL 305	Principles of Genetics [1]	
Elective Course		1
	Credits	**15**
Semester 2		
FWCE 409	Introduction to Population Ecology (Spring Only) [1]	3
FWCE 464	Management of Aquatic and Terrestrial Ecosystems (Spring Only) [1]	3
Elective Course		1
Choose from one of the following:		3
BIOL 314	Plant Physiology [1]	
RGSC 357	Grass Taxonomy and Identification [1]	
RGSC 440	Rangeland Resource Ecology [1]	
Choose one from the following:		3
BIOL 314	Plant Physiology	
RGSC 325	Rangeland Restoration Ecology	
RGSC 357	Grass Taxonomy and Identification	
RGSC 440	Rangeland Resource Ecology	
	Credits	**13**
	Total Credits	**120-121**

1. These courses have prerequisites or co-requisites, and it is the students responsibility for checking and fulfilling all course prerequisites listed for these courses.
2. See the General Education (https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/) section of the catalog for a full list of courses.
3. See the Viewing a Wider World (https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/#viewingawiderworldtext) section of the catalog for a full list of courses.