

New Mexico State University



Water Science and Management

Graduate Student Handbook

Master of Science And Doctor of Philosophy

Drafted 05/02/17 – Updated 9/28/23



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(3170 S. Espina St.)
Las Cruces, NM 88003

Welcome to New Mexico State University's Water Science and Management Graduate Degree Program (WSM). This handbook provides students with information about NMSU's graduate school and WSM program policies. This catalog represents official policy regarding the WSM Degree Program. Listed below are copies of other graduate student resources that are available through the NMSU Graduate School Office:

- Graduate School Catalog <https://catalogs.nmsu.edu/nmsu/graduate-school/#text>
- Graduate Student Handbook https://wsm.nmsu.edu/student-handbook/wsm_graduate_handbook_9_28_23_update.pdf
- Guidelines for Preparing a Thesis or Dissertation <https://gradschool.nmsu.edu/Current%20Students/thesis-and-dissertation.html>

The Water Science and Management program offers an interdisciplinary Master of Science and Doctor of Philosophy degree which is supported by the following departments:

- Agricultural Economics & Agricultural Business <https://aeab.nmsu.edu/index.html>
- Animal & Range Sciences <https://anrs.nmsu.edu>
- Civil Engineering <https://ce.nmsu.edu>
- Geography & Environmental Studies <https://geography.nmsu.edu>
- Plant & Environmental Sciences <https://pes.nmsu.edu/index.html>

The program encourages students to interact and engage with faculty, staff, and other students across many different departments and areas of study. Graduate students are expected to excel in academics but also to enrich their studies with professional development and research. By the end of your graduate experience, you will become an expert in water science and management and hopefully a long-term supporter of Water Science & Management at New Mexico State University.

To help provide you with the highest quality graduate training and experience, the WSM Steering Committee has drafted the following set of guidelines for graduate study. Please read these carefully and clarify any administrative questions with Dr. Alexander "Sam" Fernald or the WSM Student Program Coordinator.

We also suggest that you review the NMSU System Academic Regulations available online by visiting: (<https://catalogs.nmsu.edu/nmsu/regulations-policies/>).

Letter from Director



Dear prospective and continuing students in the Water Science and Management (WSM) degree program,

Water issues are at the forefront of resource challenges facing the world now and in the foreseeable future. This is an exciting time to confront those challenges with multidisciplinary studies and new findings based on research at New Mexico State University. The WSM degree program is designed to confront the myriad dimensions of water with the finest resources that NMSU has to offer. The WSM degree is managed by a team of faculty from five academic departments in three colleges including, in addition to myself, Dr. Frank Ward in Agricultural Economics and Agricultural Business, Dr. K.C. Kenneth Carroll in Plant and Environmental Sciences, Dr. Christopher Brown in Geography, and Dr. Huidae Cho in Civil Engineering. This team helps forge connections to over 60 faculty teachers and researchers at NMSU involved in water. The NMSU water community provides linkages to specialists in water issues in New Mexico and beyond. Along with our accomplished faculty and the other outstanding students engaged in the “water degree”, we welcome you to join us as we discover new ways to understand and solve today’s many water issues.

A handwritten signature in black ink that reads "Alexander Fernald". The signature is written in a cursive, flowing style.

Alexander G. “Sam” Fernald, PhD
Water Science & Management Program Chair

For students seeking further information or assistance, please contact the Water Science and Management Student Program Coordinator:

Water Science and Management

Phone: 575-646-4198 Stucky Hall - Room 111
Fax: 575-646-6418 MSC 3167

Email: wsm@nmsu.edu

Website: wsm.nmsu.edu PO Box 30001
Las Cruces, NM 88003-0001

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Admission Requirements

I. Application

All prospective students must fill out an application for admission to the NMSU Graduate School (gradadmissions.nmsu.edu) and pay any applicable fees.

Prospective students applying to the Water Science and Management program must be accepted by the Water Science and Management Program and must be fully admitted to the NMSU Graduate School.

II. Master of Science (M.S.)

A. **Possession of a Bachelor's Degree** - from an accredited university with a cumulative grade point average of 3.5 or higher on a 4.0 U.S. scale. However, students with grade point averages between 3.0 and 3.5 U.S. equivalent will be given consideration, this degree being preparatory to the Water Science and Management degree.

B. **Three Letters of Recommendation** - must be submitted directly from persons who know the applicant professionally, including a recommendation from the candidate's current employer/sponsor. These letters should provide evidence of professional ability, research experience, and the potential for professional development.

C. **Letter of Intent or Statement of Purpose** - that addresses individual professional and personal goals related to water science and management and discusses how these goals fit within the WSM program at NMSU. It is expected that the candidate will have made contact with prospective advisor(s) at NMSU and speak to how he or she would work with said advisor(s) to advance their research and study. Please include a brief statement on your research interests as it pertains to water research or water issues and how these interests fit with the WSM program at NMSU. The successful applicant is recommended to have made contact with the potential advisor and also speak specifically to how the student's research interests align with the 5 topical areas of research the program and likely faculty advisor supports.

D. **Brief Resume or Curriculum Vitae** - not to exceed five pages that summarizes the candidate's background and qualifications.

III. Doctor of Philosophy (Ph.D.)

A. **Possession of a Master's Degree** - from an accredited university with a grade point average of 3.5 or higher on a 4.0 scale. However, students with grade point averages between 3.0 and 3.5 will be given consideration.

B. **Three Letters of Recommendation** - submitted directly from persons who know the applicant professionally, including a recommendation from the candidate's current employer/sponsor or master's thesis advisor. These letters

should provide evidence of professional ability, research experience, and the potential for professional development.

- C. **Evidence of Research Experience** - applicants to the PhD program should provide evidence of research experience. This could include a master's thesis, a professional paper, peer reviewed manuscripts, consulting reports, or other evidence of experience conducting research.
- D. **Letter of Intent or Statement of Purpose** - that addresses individual professional and personal goals related to water science and management and discusses how these goals fit within the WSM program at NMSU. It is expected that the candidate will have made contact with prospective advisor(s) at NMSU and speak to how he or she would work with said advisor(s) to advance their research and study. Please include a brief statement on your research interests as it pertains to water or water issues and how these interests fit with the WSM program at NMSU. The successful applicant is recommended to have made contact with the potential advisor and also speak specifically to how the student's research interests align with the 5 topical areas of research the program and likely faculty advisor supports.
- E. **Brief Resume or Curriculum Vitae** - not to exceed five pages that summarizes the candidate's background and qualifications.

Degree Requirements

I. General Requirements for the Graduate School

The general New Mexico State University requirements for the Graduate School are described in the Graduate Catalog available through the Dean of the Graduate School or on-line (<https://catalogs.nmsu.edu>). Students should familiarize themselves with these requirements. For information regarding Graduate Student Orientation, contact the Graduate School at (gradinfo@nmsu.edu).

II. Establishment of Advisor and Committee

The selection of a research advisor is a critical aspect of a graduate program. Students are encouraged to seek out and contact potential advisors with which they share common research interests. The faculty advisor should be knowledgeable in the area of research that is the focus of the student's work. If an advisor is not established, an interim advisor will be selected from the WSM Core or Affiliated faculty. The interim advisor is only a temporary assignment lasting at most one semester. During that time, the student and interim advisor will come to an agreement on the assignment of permanent advisor (and possibly the focus of the research), and the interim advisor will transfer the role of advisor to the permanent advisor within the WSM program through documentation with the Student Program Coordinator.

III. Communication among the Committee

The advisor-advisee relationship is similar to any other professional relationship, and clear communication concerning expectations, responsibilities, and obligations is key. The role of the advisor (who is also committee chair) is to direct the thesis or dissertation research. If students require clarification of general expectations, responsibilities, and obligations, or direction on specific technical issues, students should consult directly and promptly with the committee chairperson. If these discussions do not clarify the issues, students are to discuss the matter further with the WSM Management Team by appointment with the Student Program Coordinator. If students are not able to resolve issues at this level, an appeals process exists within the Graduate School; details on this are provided in the Regulation and Procedures section of the Graduate Catalog (<https://catalogs.nmsu.edu>).

IV. Requirements for Master of Science (M.S.)

- A. **Curriculum** – The following classes are required to be completed for the student to graduate from the M.S. program¹:
1. AEEC 575 Advanced Water Resource Management and Policy (3 credits) (Is only available as a half-term course and is not offered regularly)
 2. RGSC 518 Watershed Methods and Management, OR SOIL 456 Irrigation and Drainage (3 credits)
 3. A ST 505 Statistical Inference I² (4 credits)
 4. Seminar³ (1 credit)
 5. Electives for the relevant concentration in consultation with the student's committee (15 credits)
 6. Thesis (6 credits)
- B. **Research Proposal** - Although the thesis chair and committee guide the specifics of a student's research approach and strategy and have the "last word" in this area, it is strongly recommended that students develop, refine, and base their research on a formal, written thesis proposal.
- C. **Program of Study** – As noted in the Graduate School guidelines, all graduate students are expected to complete the "Program of Study for Master's Students" after completing 1 semester. See https://eltnmsu.sharepoint.com/sites/GraduateSchoolForms/Forms/Forms/AllItems.aspx?id=%2Fsites%2FGraduateSchoolForms%2FForms%2FMasters%20Forms%2Fmasters_program_of_study%2Epdf&parent=%2Fsites%2FGraduateSchoolForms%2FForms%2FMasters%20Forms for this form. This form must be signed and filled out by the student and approved by the advisor. The form is then circulated for signatures, by way of the Student Program Coordinator, from the WSM Program Chair, ACES Academic Associate Dean and then submitted to the Graduate School for degree certification.

¹ Students are expected to have a basic foundation in Geographic Information System and Technologies (GIS&T) within a classroom, research, or professional experience. Students without this background are required to take an appropriate GIS class as advised by their advisor such as: [GEOG 578](#) - Fundamentals of Geographic Information System, [FWCE 571](#) - GIS for Natural Resources.

² With the consent of the instructor and the approval of the student's advisor, the following courses may be used to substitute for A ST 505: [C E 582](#) Statistical Hydrology (3.0 credits) or [GEOG 585](#) Spatial Analysis and Modeling (3.0 credits).

³ Seminar credits can be substituted by [WSAM 605](#), [WSAM 610](#) or [GEOG 501](#).

D. Graduate Committee

1. The graduate committee is selected by the student and the student's advisor, with approval of the Program Director.
2. The committee will consist of three or more members, as follows: The chair must be a member of the recognized Water Faculty, and only 2 of 3 can be from the same academic department. The Graduate Dean's representative must be outside of the department in which the chair resides.
3. Success in the graduate program is greatly enhanced by timely and logical selection of a thesis advisor and the assembly of a strong thesis committee. Students are required to select a thesis chair among the WSM Core and Affiliated faculty by the end of the first semester in the program, the second and third members subject to the rule outlined in item D.2 above, no later than the start of the second semester in the Program.
4. The committee normally includes at least three members of the University Graduate Faculty. The third person on the committee shall serve as the Graduate Dean's representative. Selection of committee members should be based on guidance from the thesis committee chair, with the intention of developing the strongest committee possible to guide the student's research.

F. Completion and Defense of the Thesis - As students near completion of their research and the final defense of the thesis, it is important that they coordinate closely with the advisor. Several important milestones of this process are detailed below. Students are expected to complete a thesis. The thesis requires completion of research suitable for publication in a scientific journal. A minimum of 30 semester credits is required, including a minimum of 15 credits numbered 500 or above. Additional requirements are detailed in the NMSU System Academic Regulations and Policies section of the Graduate Catalog. <https://catalogs.nmsu.edu/nmsu/regulations-policies/> The final exam is administered by the student's committee. It is an oral defense of the thesis or research report, and also a general examination on the student's field of study.

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

1. Meet with graduate committee no later than second semester to outline planned coursework and to discuss planned research for thesis.
2. File the "Program of Study for Master's Students" no later than after the completion of 12 credits of graduate work.
3. File the "Masters Final Examination Form" with Graduate School at least 10 working days before exam.
4. Deliver the thesis in hard or digital copy (at the discretion of the Committee Chair) to each committee member 7 business days before final exam.
5. Successfully defend the thesis and pass the accompanying oral exam by the relevant deadlines for the term in which this exam is held.
6. Complete the Master's Thesis Student [Checklist & Procedures](#) on the NMSU Graduate School website.
7. Submit your approved Thesis to ProQuest at <http://www.etdadmin.com/nmsuetd>

V. **Requirements for Doctor of Philosophy (Ph.D.)** - The general university requirements for a Ph.D. degree are described in the Graduate Catalog, available through the Dean of the Graduate School or online at <https://catalogs.nmsu.edu/nmsu/regulations-policies/>

- A. **Doctoral Qualifying Examination**⁴ - The Ph.D. qualifying exam serves three functions:
1. Demonstrates competence in the student's field of concentration.
 2. Guides development of a program of study to complete the dissertation.
 3. Supports a dissertation proposal with acceptable scholarship, value, and utility.

Entering doctoral students are required to meet with their advisor, set up an examination date and pass the qualifying oral examination to further work towards the doctorate. It is recommended that this take place by the end of the second enrollment semester. The following conditions apply to students who wish to take the qualifying examination:

1. For students who enter the Graduate School with little or no previous graduate experience but wish to proceed directly to the doctorate, the qualifying examination should be taken after 12 credits of graduate work
2. For students who enter with a master's degree or equivalent from another university, or another department, the qualifying examination should be taken before completing one semester of graduate work.
3. For students who earn their master's degree at New Mexico State University and will continue in the same department, the department may allow the master's final examination to serve as the doctoral qualifying examination or may require a separate examination.

As arrangements are being made to take the qualifying oral exam, The "Doctoral Qualifying Examination Form" ([Graduate School Operations - doctoral_qualifying_exam_form_updt.pdf - All Documents \(sharepoint.com\)](#)) must be signed and approved by both the student and the advisor. The form must contain all committee members' names, signatures from the WSM Program Chair and ACES Academic Associate Dean and must be submitted to the Graduate School.

In collaboration with their advisor, students will present both of the following areas:

1. Past research (recap of student's master's thesis defense)
2. Student's early ideas on areas of research they will pursue and methods involved in their proposed dissertation research.

Students also discuss the skills and knowledge base their proposed research will require, along with a discussion of what gaps exist in their knowledge base and skill set and how they propose to fill the gaps.

Members of the student's Doctoral Committee can then pose questions to further explore the student's area of research as needed.

⁴ Students who have completed a Master's degree at NMSU may use their previous thesis defense as evidence of past research ability.

The outcomes of the qualifying exam are noted below:

1. Unconditional pass - Student has the background and skill set needed to continue their work to develop a proposal and conduct their research.
2. Conditional pass - Student is allowed to continue their work to develop a proposal and conduct their research, and the student works with his/her committee to develop a plan that addresses how conditions will be met.
3. Unsatisfactory - Recommendation for student to stop their work in the Program at Master's Degree.

Doctoral students must work with their committee to file exam paperwork 10 business days before the date of the qualifying exam is scheduled.

B. Research Proposal - Although the thesis chair and committee guide the specifics of a student's research approach and strategy and have the "last word" in this area, it is strongly recommended that students develop, refine, and base their research on a formal, written thesis proposal.

C. Curriculum - The following classes are required to be completed for the student to graduate from the Ph.D. program:

1. AEEC 575 Advanced Water Resources Management and Policy (3 credits) (Is only available as a half-term course and is not offered regularly)
2. RGSC 518 Watershed Methods and Management, OR SOIL 456 Irrigation and Drainage (3 credits)
3. CE 557 Water Resources Development (3 credits) (This course is not offered on a regular basis)
4. GEOG 578 Fundamentals of Geographic Information Systems (4 credits) OR GEOG 588 GIS And Water Resources (3 credits)
5. A ST 505 Statistical Inference I⁵ (4 credits)
6. Seminar⁶ (2 credits) in two different departments
7. Electives for the relevant concentration in consultation with the student's committee (38-39 credits)
8. Dissertation (18 credits)

D. Program of Study - As noted in the Graduate School guidelines, all graduate students are expected to complete the "Program of Study and Committee for Doctoral Students" after the completion of 2 semesters. See https://eltnmsu.sharepoint.com/sites/GraduateSchoolForms/Forms/Forms/AllItems.aspx?id=%2Fsites%2FGraduateSchoolForms%2FForms%2FDoctoral%20Forms%2Fdoctoral_program_of_study%2Epdf&parent=%2Fsites%2FGraduateSchoolForms%2FForms%2FDoctoral%20Forms for this form. This form must be signed and filled out by the student and approved by the advisor. The form is then circulated for signatures, by way of the Student Program Coordinator, from the WSM Program Chair, ACES Academic Associate Dean and is then submitted to the Graduate School for processing. This allows degree certification to happen at a later date.

E. Graduate Committee

1. The committee will be composed of at least four members. Two of whom must have an appointment in WSM and one from a related area who may

be the Graduate Dean's representative. See the graduate catalog for rules governing the Graduate Dean's representative. All members will attend the dissertation defense and final, oral exam. The Doctoral Committee guides the candidate in the research, evaluates the merits of the dissertation and verifies satisfactory completion of requirements.

2. The graduate committee is selected by the student and the student's advisor along 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 two other members must be within the WSM Affiliated Faculty or the WSM Management Committee. And at least one member must be from a department other than the advisor and may serve as the Graduate Dean's representative.

Comprehensive Exam - This exam covers all phases of the major and minor fields of study and is given after completion of the agreed-upon course work, and when sufficient progress has been made toward fulfilling "additional" requirements. The examination must contain both oral and written portions. Good practice requires advance planning to allow time for candidates to receive written questions and complete them, and for committee members to grade the written portion before the oral portion. Each student should work with their doctoral committee to define the topical areas to be examined, develop a list of readings, and identify other activities that should be completed to prepare for the Comprehensive Examination. The Graduate School should receive the Program of Study and the Committee for Doctoral Students Form and the Doctoral Qualifying Examination Form.

Students will be admitted to the comprehensive examination only after the following conditions are met:

1. Completion of adequate course work, to the satisfaction of the major department and the Graduate School
2. The graduate committee determines the student is adequately prepared for the examination
3. Successful completion of all language requirements (where applicable)

Generally, there should be a time lapse of at least one year between the comprehensive and final, oral examination (i.e. the dissertation defense). At least 9 credits must be taken after the comprehensive exam. Dissertation credits can only be taken once the comprehensive exam is completed, or in the same semester as the comprehensive exam is completed. In all cases there must be at least one semester between the comprehensive and the final oral exam.

⁵ With the consent of the instructor and the approval of the student's advisor, the following courses may be used to substitute for A ST 505: [CE 582](#) Statistical Hydrology (3.0 credits) or [GEOG 585](#) Spatial Analysis and Modeling (3.0 credits)

⁶ Seminar credits can be substituted by [WSAM 605](#), [WSAM 610](#) or [GEOG 501](#).

Dissertation and Final Exam - A dissertation subject chosen by the candidate in their major field must receive final approval from the Doctoral Committee. Where appropriate, the dissertation proposal is presented to the Doctoral Committee. An example presentation to the committee consists of the following components for each publication:

1. Introduction
2. Literature review
3. Gaps in the literature
4. Objectives to fill gaps, research questions or problem statement
5. Data and methods
6. Anticipated results
7. Relevance of the work
8. Conclusion

The committee will require the candidate to defend the dissertation in a final, oral examination. The presentation of research results is open to the public, while the exam takes place in a closed committee meeting. Original research described in the dissertation must be suitable for publication in a peer-reviewed journal. General guidelines are that the dissertation include content for 3 peer-reviewed publications as a first author. The minimum expectation is that 1 publication is published, 1 publication is accepted, and 1 publication is drafted and ready for submission, or as agreed on by student and advisor. For the final exam, the student must submit a package to the committee that is consistent with the graduate school guidelines.

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

1. Meet with graduate committee no later than second semester to outline planned coursework and to discuss the research plan proposal for dissertation. This normally leads to a formal proposal being written by the student and approved by the Doctoral Committee.
2. File the "Program of Study and Committee for Doctoral Students" no later than after the completion of 12 credits of graduate work.
3. File the "Doctoral Final Examination Form" with Graduate School at least 10 working days before exam.
4. Deliver the thesis in hard or digital copy (at the discretion of the Committee Chair) to each committee member 7 business days before final exam.
5. Successfully defend the dissertation and pass the accompanying oral exam by the relevant deadlines for the term in which this exam is held.
6. Complete the Doctoral Dissertation Student [Checklist & Procedures](#) on the NMSU Graduate School website.

Thesis or Dissertation Research Plan Proposal

The WSM Graduate program recommendation is to develop a Research Plan Proposal. This will be completed during the second semester for MS students and during the end of the second year for PhD students.

Research Plan Proposal Suggestions

Article format: see guidance on how to efficiently format research paper content. <https://www.soils.org/files/publications/style/chapter-01.pdf>

1. **Start with an abstract** – See above PDF document illustrating formatting examples SSSA section Abstract on 1-06.
2. **Typical sections for a paper** – See below for recommended steps or for a fuller description take a look at the SSSA section Research Papers on 1-04:
 - A. **Intro**
 - i. Issue/problem (stakeholder issues)
 - ii. Previous work/lit review
 - iii. Gap and proposed general response
 - iv. End with Study question/hypothesis
 - a. What is the problem you are trying to find a solution for, and what do you think the solution is? The proposed solution will help you form your hypothesis. This should be succinct, and tell your story. You want this to capture your audience on your specific topic. You want to basically provide the system analysis of the dynamics of your problem. For example, one good paper that I found launched right into a description of a conceptual framework for the special link and feedbacks between drylands and hydrology. Your lit review starts here, you will also summarize the most important findings that are relevant to your study (e.g., x has found the drivers for reseeding in drylands, and they are based on y)
 - v. Conduct research on how to formulate a testable hypothesis
 - vi. **For PhD students** – add the three articles that you intend to develop at the end of the intro, either repeat Methods, Results, or Discussion for each paper, or mention the different approaches for the papers. At the end, have one Conclusion.
 - B. **Methods** – Explain how you will test your hypothesis
 - C. **Expected Results** – Explain what your expected results will be upon conclusion of this research
 - D. **Discussion** – Explain how you will analyze your results in the context of other studies. This analysis will continue your lit review using your own results as context (e.g., the most interesting aspects of your research).

E. **Conclusions** - Include the broader implications of your study in relation to your originally stated societal problem in your research summary

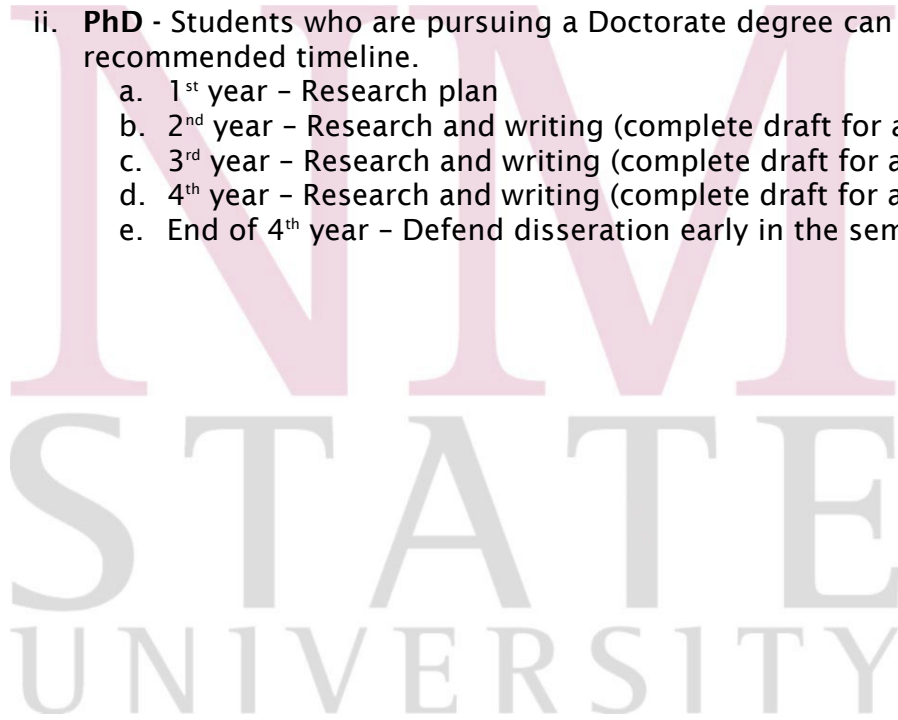
3. **Schedule**

i. **Masters** - Students who are pursuing a Master's degree can refer to the following recommended timeline. This research plan is typically a 2-year process that often becomes a 2 ½ year project:

- a. 1st semester - Research plan
- b. 2nd semester - Research and writing
- c. 3rd semester - Research and writing
- d. 4th semester - Distribute the research draft to your committee early in the semester to discuss publication steps
- e. 5th semester - Defend thesis early in the semester

ii. **PhD** - Students who are pursuing a Doctorate degree can refer to the following recommended timeline.

- a. 1st year - Research plan
- b. 2nd year - Research and writing (complete draft for article 1)
- c. 3rd year - Research and writing (complete draft for article 2)
- d. 4th year - Research and writing (complete draft for article 3)
- e. End of 4th year - Defend dissertation early in the semester



WSM Executive Committee

Dr. Christopher Brown	Geography & Environmental Studies	GIS Applications, Binational & Transboundary Water Research	575-646-1892 brownchr@nmsu.edu
Dr. Kenneth "KC" Carroll	Plant & Environmental Sciences	Groundwater & Contamination	575-646-5929 kccarr@nmsu.edu
Dr. Huidae Cho	Civil Engineering	Water Resources Engineering	575-646-3801 hcho@nmsu.edu
Dr. A.G. "Sam" Fernald	Animal & Range Sciences	Watershed Management, Community Water Systems Science	575-646-1041 afernald@nmsu.edu
Dr. Frank A. Ward	Agricultural Economics & Agricultural Business	Economics & Policy	575-646-1220 fward@nmsu.edu

STATE
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WSM Affiliated Faculty and Researchers

All "646" numbers have a (575) area code

Faculty	Department	Field of Study	Email	Phone
Abdessattar Abdelkefi	Engineering	Biomedical devices, bio-mass sensors, energy harvesters	abdu@nmsu.edu	646-6546
Sangamesh V. Angadi	Plant and Environmental Sciences	Water Efficient Crops	angadis@nmsu.edu	646-3405
A. Salim Bawazir	Civil and Geological Engineering	Evapotranspiration/Irrigation and drainage	abawazir@nmsu.edu	646-6044
Daren Bloomquist	Hotel, Restaurant and Tourism Management	Sustainable facilities management, sustainable management of water resources	dbloomqu@nmsu.edu	646-5987
Wiebke Boeing	Fish, Wildlife and Conservation Ecology	Aquatic ecology	wboeing@nmsu.edu	646-1707
Catherine Brewer	Chemical Engineering	Biomass utilization, wastewater treatment, environmental remediation	cbrewer@nmsu.edu	646-8637
Christopher Brown	Geography & Environmental Studies	GIS applications and binational water research	brownchr@nmsu.edu	646-1892
Huidae Cho	Civil Engineering	Application of GIS to Water Resources Engineering, Climate change, Urban hydrology, Hydroinformatics	hcho@nmsu.edu	646-3801
Kenneth "KC" Carroll	Plant and Environmental Sciences	Hydrology, hydrogeology, water resources, environmental science, soil science, geochemistry, and environmental engineering	kccarr@nmsu.edu	646-5929
Doug Cram	Extension Animal Resources	Forest and Fire Management	dcram@nmsu.edu	646-8130
Murali Darapuneni	Plant and Environmental Sciences	Sustainable solutions, crop rotations, soil-crop water use and irrigation management	dmk07@nmsu.edu	575-461-1620
Shuguang Deng	Chemical Engineering	Water treatment technology	sdeng@nmsu.edu	646-4346
Koffi Djaman	Plant and Environmental Sciences	Soil and water resources, irrigation engineering, smart agriculture, water resources and climate change	kdjaman@nmsu.edu	505-960-7757
Cara Meghan Downes	Economics, Applied Statistics & International Business	Economics, sustainability	cdownes@nmsu.edu	646-6021
David W. DuBois	Plant and Environmental Sciences	Climatology	dwdubois@nmsu.edu	646-2974
Daniel P. Dugas	Geography & Environmental Studies	Geomorphology	ddugas@nmsu.edu	646-1045
Ahmed Elaksher	Engineering Technology and Surveying Engineering	Water surveying and hydrography	elaksher@nmsu.edu	646-6107
Willis M. Fedio	Food Safety Laboratory & Assoc.	Pathogenic bacteria in Chile, rapid detection and isolation of bacterial pathogens	wfedio@nmsu.edu	646-7352
A.G. "Sam" Fernald	Animal and Range Sciences	Water quality hydrology	aferald@nmsu.edu	646-1041
Rolando Flores	Agricultural, Consumer & Environmental Sciences	Food Science and Technology	agdean@nmsu.edu	646-3748
Hatim Geli	Animal and Range Sciences	Hydrology and remote sensing	hgeli@nmsu.edu	646-1640
Rachel Gioannini	Plant and Environmental Sciences	Horticulture & Landscape design, sustainable management of water resources	rachelgi@nmsu.edu	646-3638
Ryan M. Goss	Plant and Environmental Sciences	Irrigation of Urban Landscapes and Turfgrasses	ryangoss@nmsu.edu	646-2397
Richard Heerema	Extension Plant Sciences	Extension plant sciences, sustainable management of water resources	rjheerem@nmsu.edu	646-2921

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Hongmei Luo	Chemical Engineering	Related water science research, Photocatalyst for water splitting and removal of emerging contaminants	hluo@nmsu.edu	646-4204
H. Curtis Monger	Plant and Environmental Sciences	Water/wastewater treatment and reuse	cmonger@nmsu.edu	646-1910
Lambis Papelis	Civil Engineering	Aquatic chemistry, water quality, physiochemical water treatment processes	lpapelis@nmsu.edu	575-234-5555
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Caiti M. Steele	Jornada Exper Range Headquarters	Remote Sensing, Snow Hydrology, Agriculture & Climate Change	caiti@nmsu.edu	646-4144
Kenny Stevens	Engineering Technology	Solar water distillation and groundwater hydrology	kstevens@nmsu.edu	646-2491
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Jacob Urquidi	Physics	Physics of molecular liquids (water in particular) and amorphous materials	jurquidi@nmsu.edu	646-5199
Frank A. Ward	Ag Economics and Ag Business	Economics and policy	fward@nmsu.edu	646-1220
Nicolas Webb	Jornada Exper Range Headquarters	Rangeland management, Land degradation processes and climate-management interactions, Spatiotemporal patterns and drivers of wind and water erosion, Climate change impacts and adaptation in socio-ecological systems	nwebb@nmsu.edu	646-3584
Benjamin Widner	Economics and International Business	Urban and regional economics	bwidner@nmsu.edu	646-5989

Pei Xu	Civil Engineering	Water and wastewater engineering; membrane processes; desalination; potable and non-potable water reuse; produced water treatment; advanced oxidation and disinfection; biological and bioelectrochemical processes; removal of emerging contaminants; membrane fouling	pxu@nmsu.edu	646-5870
Jinfa Zhang	Plant and Environmental Sciences	Sustainable crop production, sustainable management of water resources	jinzhang@nmsu.edu	646-3438



WSM Program Contact Information

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Financial Assistance

I. University Student Financial Aid

Financial support may be available for graduate students in the form of assistantships, fellowships, scholarships, and loans, however admission to the program does not equate to any offer or guarantee of financial assistance. Departmental assistantships and university fellowships are generally limited and are awarded on a competitive basis. As a research assistant (RA) or teaching assistant (TA), graduate students pay resident (in-state) tuition, and are committed to work at least 10 hours per week.

The financial aid office (<http://fa.nmsu.edu>) helps new graduate students apply for many types of financial support. Perkins Loans (national direct student loans), Stafford Loans (GSL), and college work-study are all available to graduate students. The amount of aid awarded will be based on the financial need of the student.

The granting of either a Teaching Assistantship (TA) and or a Research Assistantship (RA) is based on the applicant's qualifications and available funding. The allocation of a TA or RA is based primarily on teaching or research needs in the department that is providing funding, not on a students' desire for the type of work they wish to do. Continuation of funding is contingent upon students adequately fulfilling their TA or RA duties, making adequate progress in their coursework and making sufficient progress on their thesis or dissertation research. WSM will withdraw funding if any of these criteria are not met. Students working as TAs are primarily responsible to the department head or faculty advisor in the department providing the funding. Students working as RAs are primarily responsible to the faculty advisor who is funding the research on which the students are working. In either case, the supervising faculty advisor evaluates whether or not the TA or RA is adequately fulfilling their duties. "Adequate Progress" in coursework is defined as maintaining a 3.0 grade point average in all graduate work and "Sufficient Progress on Research" depends upon meeting the research goals in a timely manner. Graduate students wishing to apply for any of the above types of financial aid must maintain a GPA of 3.0 and must be enrolled for at least 9 graduate credits in a regular semester (fall and spring).

II. Teaching Assistantship (TA)

Each year founding departments (Agricultural Economics & Agricultural Business, Animal & Range Sciences, Civil & Geological Engineering, Geography & Environmental Studies, and Plant & Environmental Sciences) and the WSM Program are issued a limited number of Teaching Assistantships through the Graduate School as well as relevant colleges and academic departments. If a student wants to be considered for a teaching assistantship, the student should be sure to include this interest in their application and make the request through their advisor. The PhD students are eligible for TA support up to six semesters and MS students for four semesters, subject to available funding and students making adequate progress towards their degree. All new TAs must attend the New Graduate Student Orientation presented by the Graduate School at the beginning of the fall semester. New international students must pass the NMSU International Teaching Assistant (ITA) Screening administered by the Department of Communications. If they do not pass the ITA Screening, a student must attend courses offered through the Department of Communications to ensure that they have command of English and will be able to teach.

Teaching assistantships start at the beginning of the semester in August (on or around August 16) and run through the end of the spring semester in May (on or around May 15). Each year assistantships are reassigned. Continuation of TA support will be based in part on course evaluation forms associated with the course(s) taught by the student and on the needs of the department; therefore, a student receiving a teaching assistantship one year is not guaranteed an assistantship the next year. Available assistantships are assigned in July and December. Teaching assistants are paid twice per month (the 15th and last working day). Internal Revenue Service tax withholding guidelines require NMSU graduate students to maintain three (3) credit hours of course work for summer sessions to be eligible for the student FICA tax exception. Student employees who do not meet this requirement during any given pay period will be subject to Social Security taxes and Medicare taxes.

III. Research Assistantship (RA)

A research assistant is responsible for working on research programs under the direction of a faculty advisor. Duties vary among research programs but can include fieldwork, data recording and analysis, lab analysis, report writing, and other assignments as necessary to perform the research.

A research assistantship is granted by an individual professor, and contracts are renewed on timelines that match the funding source schedule. A full research assistant is required to work 20 hours per week. Half-time research assistantships (10 hours per week) may also be available. Research assistants are paid twice per month (the 15th and last working day). Payroll deduction for tuition also applies to research assistants.

IV. Payroll Deduction

All graduate assistants will pay tuition. Graduate students on a half-time (10 hours per week) assistantship or more per week will be eligible for the New

Mexico resident tuition rate during the first 12 months of tenure. If New Mexico resident status (an application is available from the Registrar's Office) has not been established by the time of reappointment, the graduate student may be subject to the non-resident tuition rate. Contact the Registrar's Office for further details. Tuition payments can be deducted from the student's paycheck by the University Bursar's Office. When enrolling, if a student has signed a contract for an assistantship, the graduate school will supply a payroll deduction card.

Graduate Assistantship

I. **Mandatory Orientation and Training**

The NMSU Graduate School requires that all first time Graduate Assistants (GA), attend a virtual or "face-to-face" mandatory orientation and training. In accordance with NMSU policy 5.45.20.j and at the beginning of each semester the WSM Department Head or WSM Program will send the graduate school all new GAs' name, Aggie ID number and NMSU email to ensure participation in GA orientation. For more information, please visit, <https://gradschool.nmsu.edu/ga-and-union/Graduate%20Assistant%20Resources.html> or call 575-646-5746.

II. **Termination**

The WSM faculty may need to terminate an appointment of a student's graduate assistantship. Ordinarily, termination of an appointment for unsatisfactory performance will not occur without a probationary period, during which time the student will be given the opportunity to improve performance. The WSM Admissions Committee reserves the right, however, to terminate an appointment without such a probationary period if such an action is needed to protect the integrity of the WSM program. Receipt of an assistantship requires that the student then maintain a 3.0 cumulative grade point average, and maintain full-time enrollment (9 graded graduate credit hours during an academic semester with no more than one class below level 450) to be and remain eligible for an assistantship. Student in a PhD program, who has successfully completed their coursework and competency exams, and who are in their second to last semester may file a request for waiver permitting them to take six (6) credit hours rather than nine (9) credit hours. Master of Science and PhD students who are on their last semester may file a request for waiver permitting them to take one (1) credit hour rather than nine (9) credit hours. If end up not being the second to the last semester or the last semester, the graduate school will charge the graduate student the difference to complete the nine (9) credits for a full-time student. The Graduate School will not allow reappointment of TAs or RAs who are no longer in good academic standing. 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, disciplinary actions will be taken. Prior to implementing disciplinary actions, the student will be provided a notice of a predetermination meeting. The purpose is to provide the student an opportunity

to respond to the charges and is not an evidentiary hearing. Disciplinary actions will be based on just cause and include written reprimands, suspension without pay, and discharge/termination before the end of student assistantship contract. Disciplinary action will be issued in writing to the student.

Graduate Assistantship Duties and Handbook Information

As briefly mentioned under the Financial Assistance section, GAs are required to attend a mandatory orientation in the fall semester. In addition, GAs must familiarize themselves with the Graduate Assistantship Handbook.

Information regarding general rules and regulations, detailed responsibilities, preparation and organization, presentation techniques, testing and grading, all may be found by visiting the Graduate School's website (<http://gradschool.nmsu.edu>). https://wsm.nmsu.edu/student-handbook/wsm_graduate_handbook_9_28_23_update.pdf

Most graduate assistants are contracted under what is termed a half-time assistantship (0.50 FTE), 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, and does not include courses taken and own research. 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. A student appointed at 0.50 FTE will not normally be expected to work more than 20 hours per week on a continual basis. However, the average number of hours per week over the course of a full appointment period is an estimate rather than an exact time specification.

International Students

The NMSU International Student & Scholar Services (ISSS) is the focal point for the University's international activities (<http://iss.nmsu.edu>). ISSS provides services and advisement to international students who come from approximately 72 countries. ISSS also cooperates with international student associations and community organizations to organize socio-cultural activities for international students and their families. ISSS offers several international scholarships to students seeking additional funding. Student can contact ISSS for additional information. International students must have a current Social Security number in order to be employed at NMSU. ISSS can also be reached at 575-646-2834 or via email at (iss@nmsu.edu).

WSMGSO (Water Science & Management Graduate Student Organization)

The WSM GSO is a fellowship of graduate students primarily in the WSM program. The mission of the WSM 1193

GSO is to provide students with resources to further their studies and careers while providing services and education to the community. Its purpose is to create fellowship among WSM students and provide them with valuable resources and information related to the program and field of water resources. In addition, to provide professional development activities to further WSM students' career goals and to provide public service and education to the community. One of the main goals of the WSM GSO is to secure funding for the WSM graduate students, which is extremely important and will benefit students greatly as you complete your graduate degree.

Student Resources

NMSU Graduate School and Catalog - For contact information and additional services provided through the graduate school, please visit, (<http://gradschool.nmsu.edu/>), call 575-646-5746 or e-mail (gradinfo@nmsu.edu). The online graduate catalog can be viewed at, (<http://catalogs.nmsu.edu/>).

“myNMSU” Student Portal – Once a prospective student is admitted to NMSU, students are required to create their username and password by accessing, <https://my.nmsu.edu> in order to establish their NMSU emails, gain access to registration, class search, student records, student account, tuition payments, financial aid, degree audit and schedule of classes.

Academic Calendar – The NMSU academic calendar provides information on dates of instruction, exam week, deadlines, holidays and commencement. For detailed information please access, <https://records.nmsu.edu/faculty-and-staff/academic-calendar.html> .

Tuition and Fees – Each year NMSU updates its assessment of tuition and fees for all students. Depending on how the student was first admitted to NMSU, the tuition and fees will be charged to a student's account depending on their residency, the number of credits registered for and their classification. Please see Tuition and Fees chart for further explanation, (<http://uar.nmsu.edu/tuition-fees/tuition-rates/>). University Accounts Receivable contact information is as follows, (<http://uar.nmsu.edu>), (uar@nmsu.edu), or call 575-646-4911.

University Student Records Office – Provides services to all current and former students. Services include residency information, registration, enrollment verification, STAR degree audit, transcripts (official/unofficial), FERPA, graduation and degree application deadlines. Contact information is as follows, (<http://records.nmsu.edu/>), (records@nmsu.edu), or call 575-646-3411.

Housing & Residential Life – Finding a place to live at NMSU is convenient. This department offers housing to just about any walk of life. Housing communities include residential, apartment, family, living and learning, theme, graduate and international housing. Contact information is as follows, (<http://housing.nmsu.edu/>), (housing@nmsu.edu), or call 575-646-3202

Career Services – The NMSU Career Services office provides a variety of services all current students and alumni. Services include establishing the Aggie Career Manager, co-op/internships, financial literacy, career fairs, professional development workshops on campus and connecting with employers. Contact information is as follows, <https://advising.nmsu.edu/career.html> , (hireNMSU@nmsu.edu), or call 575-646-1631.

Writing Center - The NMSU Writing Center values the work of student writers. It strives to help students become more knowledgeable, practiced, and confident writers through collaborative, dialogue-centered consultations. The center works with all students at any level of experience and can assist with assignment directions and revising final drafts. Contact information is as follows, <https://writingcenter.nmsu.edu>

Activity Center – The NMSU Activity Center offers programs and services for all of the NMSU community. Students are encouraged to get involved with intramural sports, outdoor recreation or simply utilize the facilities such as the weight room, basketball courts, indoor track, climbing wall, aquatic center and rent equipment. Contact information is as follows, (<http://recsports.nmsu.edu/>), (aggiefit@nmsu.edu), or call 575-646-2885.

Campus Health Center – The NMSU Campus Health Center provides non-emergency services to all students and staff. The Fees for Health Services are typically included in the tuition bill for full-time students. Part-time students may have to pay additional fees depending on your registration status. Services include clinic services, self-care, routine office visits and travel and immunization. Contact information is as follows, <https://wellness.nmsu.edu> , (campus_health@nmsu.edu), or call 575-646-1512.

