

# NATURAL RESOURCES AND ENVIRONMENTAL MANAGEMENT, PH.D.

Natural Resources Institute

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**Academic Staff:** Please refer to the NRI website (<https://umanitoba.ca/environment-earth-resources/faculty-staff/>) for academic staff information.

## Natural Resources Management Ph.D. Program Information

The Doctor of Philosophy program is aimed at developing independent researchers in the areas of natural resources and the environment.

### Admission Information

#### Admission to the Faculty of Graduate Studies

Application and Admission Procedures are found in the Academic Guide (<https://catalog.umanitoba.ca/graduate-studies/academic-guide/application-admission-registration-policies/>).

Admission requirements for doctoral students are found in the Doctor of Philosophy General Regulations (<https://catalog.umanitoba.ca/graduate-studies/academic-guide/doctor-philosophy-general-regulations/>) section of the Guide.

#### Natural Resources Management Ph.D. Admission Requirements

An applicant should have a high academic standing in previous university work, a Master's degree in a related discipline, as determined by the NRI Selection Committee, and an area of research interest that may be supported by an NRI faculty member. Students must be accepted by an advisor prior to submitting an application to enter the program. A 3.5 GPA (or equivalent) in their most recent 60 credit hours of coursework and evidence of scholarly ability are required.

### Application Information

Students should complete and submit their online application with supporting documentation by the date indicated on the Natural Resources Management Ph.D. program of study (<https://umanitoba.ca/explore/programs-of-study/natural-resources-and-environmental-management-phd/>) page.

### Degree Requirements

#### Program Requirements

PhD students entering with a Master's degree may take up to 21 credit hours in total. Students must take NRI 7310 Ph.D. Thesis Research Seminar (3). A minimum of 6 credit hours of courses must be completed

within the Natural Resources Institute. The remaining 9 credit hours of 7000 level NRI electives will usually include one of:

- NRI 7222 Human Dimensions of Natural Resources and Environmental Management (3)
- NRI 7232 Ecological Dimensions of Resource and Environmental Management (3)
- NRI 7182 Sustainability, Economics, and Natural Resources (3)

unless credit has already been received for one of the three courses above.

Individual programs of study will vary from student to student depending on each student's research interest and the recommendations of each student's advisor and Ph.D. advisory committee. Students will be encouraged to use the pool of Natural Resources Institute required and elective courses as well as appropriate graduate courses available outside of the Natural Resources Institute in order to select the best set of courses to complement their programs.

Student academic progress will be reported annually to the Faculty of Graduate Studies. A minimum Grade Point Average of 3.0, with no grade below C+, must be maintained in order to continue in the program.

**Expected Time to Graduate:** 4 years

#### Progression Chart

| Course   | Title  | Hours |
|--|--|-------|
| <b>Year 1</b>  |  |       |
| GRAD 7300  | Research Integrity Tutorial  | 0     |
| GRAD 7500  | Academic Integrity Tutorial  | 0     |
| Select a minimum of 6 credit hours of NRI courses and select a minimum of 12 and maximum of 21 credit hours of the following or other U of M courses at the 7000 level or above: |  | 12-21 |
| NRI 7310   | Ph.D. Thesis Research Seminar (Required)                           |       |
| NRI 7070   | Readings in Natural Resources Management 1                         |       |
| NRI 7080   | Readings in Natural Resources Management 2                         |       |
| NRI 7110   | Field Seminar  |       |
| NRI 7160   | Projects in Natural Resources Management 1                         |       |
| NRI 7170   | Projects in Natural Resources Management 2                         |       |
| NRI 7180   | Sustainable Development and Natural Resources                      |       |
| NRI 7182   | Sustainability, Economics, and Natural Resources                   |       |
| NRI 7190   | Natural Resources Administration and Law                           |       |
| NRI 7200   | The Role of Information Management in Sustainable Resource Use     |       |
| NRI 7222   | Human Dimensions of Natural Resources and Environmental Management |       |
| NRI 7232   | Ecological Dimensions of Resource and Environmental Management     |       |
| NRI 7242   | Resource and Environmental Management Policy                       |       |
| NRI 7252   | Environmental Management Practice                                  |       |
| NRI 7290   | Environmental Impact Assessment                                    |       |

|                    |   |              |
|--------------------|---|--------------|
| NRI 7302           | Conservation Biology and Biodiversity Management                                    |              |
| NRI 7320           | Environmental Risk and Hazards  |              |
| NRI 7330           | Water Resources: Analysis, Planning and Management                                  |              |
| NRI 7340           | Environmental Justice and Ecosystem Health  |              |
| NRI 7350           | Study Design and Quantitative Methods for Resource and Environmental Management     |              |
| NRI 7360           | Qualitative Field Methods for Community-based Resource and Environmental Management |              |
| NRI 7370           | Sustainable Livelihoods, Food Resources and Community Food Security                 |              |
| <b>Hours</b>       |   | <b>12-21</b> |
| <b>Year 2</b>      |   |              |
| Doctoral Thesis    |   | 0            |
| GRAD 8010          | Doctoral Candidacy Examination  | 0            |
| GRAD 8020          | Doctoral Re-registration  | 0            |
| <b>Hours</b>       |   | <b>0</b>     |
| <b>Total Hours</b> |   | <b>12-21</b> |

The proposal, Candidacy Exam, first draft and oral defence meetings are required. The proposal meeting is held in year 1 followed by data collection, analysis and writing. The Candidacy exam takes place during the second year. For more information on the thesis process, please refer to the PhD student Handbook at the Natural Resources Institute.

## Registration Information

Students should familiarize themselves with the Faculty of Graduate Studies 'GRAD' courses applicable to their program (<https://catalog.umanitoba.ca/graduate-studies/registration-information/>). If you have questions about which GRAD course(s) to register in, please consult your home department/unit.

All returning and newly admitted students to the Natural Resources Institute are required to see their faculty advisor to complete their Degree Requirement form prior to attempting to register. Appointments can be made by calling the general office. Only courses that have been approved by the faculty advisor will be credited to a student's program.

## Regulations

Students must meet the requirements as outlined in both Supplementary Regulation and BFAR documents as approved by Senate.

### Supplementary Regulations

Individual units may require specific requirements above and beyond those of the Faculty of Graduate Studies, and students should consult unit supplementary regulations (<https://umanitoba.ca/graduate-studies/supplementary-regulations/>) for these specific regulations.

### Bona Fide Academic Requirements (BFAR)

Bona Fide Academic Requirements (BFAR) (<https://catalog.umanitoba.ca/graduate-studies/academic-guide/academic-performance-general/#BFAR>) represent the core academic requirements a graduate student must acquire in order to gain, and demonstrate acquisition of, essential knowledge and skills.

All students must successfully complete:

- GRAD 7300 prior to applying to any ethics boards which are appropriate to the student's research or within the student's first year, whichever comes first; and
- GRAD 7500 within the first term of registration;

unless these courses have been completed previously, as per Mandatory Academic Integrity Course (<https://catalog.umanitoba.ca/graduate-studies/academic-guide/academic-performance-general/#GRAD7500>) and Mandatory Research Integrity Online Course (<https://catalog.umanitoba.ca/graduate-studies/academic-guide/academic-performance-general/#GRAD7300>).

Students must also meet additional BFAR requirements (<https://umanitoba.ca/graduate-studies/student-experience/core-academic-requirements/#additional-requirements-by-program>) that may be specified for their program.

## General Regulations

All students must:

- maintain a minimum degree grade point average of 3.0 with no grade below C+;
- meet the minimum and not exceed the maximum course requirements, and
- meet the minimum and not exceed the maximum time requirements (in terms of time in program and lapse or expiration of credit of courses).