



Master of Natural Resources Management

Practicum Stream Process

2020/2021



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Master of Natural Resources Management

Practicum Stream Process

1.0 The Practicum

The Natural Resources Institute is a unit of the Clayton H. Riddell Faculty of Earth, Environment, and Resources at the University of Manitoba. It provides interdisciplinary education at the Master's and Ph.D. levels through courses and field experiences in the theory and practice of Natural Resources and Environmental Management. At the Master's level, the Master of Natural Resources Management degree can be obtained through either the Thesis or Practicum streams. Both have the same coursework requirements with the difference being the type of field research experience undertaken as part of the degree.

The MNRM practicum stream includes 27 credit hours of course work and an independent, creative work whose scope, span, and rigour are similar to that of a thesis. It differs from the MNRM thesis stream in that it is an exercise in the practical application of knowledge and skill to a problem or issue in natural resources and/or environmental management. Practicum refers to both the process of developing a proposal to undertake an applied project, the undertaking of the project and the document that is produced as an outcome. The practicum demonstrates the candidate's competence (knowledge & skills) to formulate and complete an applied project.

In general, the overall goal of the practicum is to build the knowledge and skills to work in a professional environment by working with a partner to complete a project. Therefore, the practicum will be based on the application of knowledge and skills to a problem, opportunity or challenge identified by a partner who requires this knowledge for their organization.

The purpose of the practicum is: (1) to develop the student's skills and abilities to apply knowledge through a project undertaken with a partner in a work context; (2) to develop expertise in preparing a Project Plan, a deliverable, and a record of the practicum (Practicum Document) consisting of the project plan, deliverable, and a critical reflection; and, (3) experience in producing a deliverable consistent with a project plan and target dates for phased completion.

Students will work closely with a faculty member to identify a partner with whom they will work at the beginning of their programme. They will work with a faculty member and project partner to develop a project plan, secure financial support, produce a deliverable, and a record of the practicum.

2.0 The MNRM Practicum Process

The practicum has five distinct stages as outlined below. Please note that timing of the five stages may differ from candidate to candidate but it is anticipated that the student will present their practicum for adjudication in June of their second year allowing for completion within a two-year period. Although the student is expected to consult on a regular basis with the advisor and partner, the following meetings are required during the process:

- Project Charter Agreement (Advisor, Partner)
- Draft Project Plan Meeting (Advisor, Partner)
- Project Plan Approval (Advisor, Partner, FGS Member)
- Review of Deliverable Outline (Advisor, Partner)
- Review of Draft Deliverable (Advisor, Partner)
- Approval of Practicum Document for Adjudication (Advisor, Partner, FGS Member)

STAGE 1 *Project Plan Development*

During this stage, a number of activities take place: students participate in the required seminar NRI 7380, Project Management in NREM (fall of year of entry), other required courses and courses that will develop the student's knowledge base. During the project management in NREM seminar the student will work with a faculty advisor to identify a partner and develop a project plan. In the winter semester the student will undertake further courses to build their knowledge and skills base and refine the project plan developed during the fall. The faculty advisor and partner will meet with the student to provide input as needed leading to a formal meeting to approve the project plan prior to the end of the student's first year. The project plan must be approved by the faculty advisor, partner and one other faculty who is a member of the Faculty of Graduate Studies (FGS) before proceeding to Stage 2. Once the proposal is approved, the candidate must secure Animal Care and/or Human Ethics approval as necessary.

Required Meetings during this Stage:

- *Project Charter Agreement (Advisor, Partner)*
- *Draft Project Plan Meeting (Advisor, Partner)*
- *Project Plan Approval (Advisor, Partner, FGS Member)*

STAGE 2 *Practicum Implementation*

During this phase, students will work independently to compile information and data necessary for the practicum project. This will require close coordination and regular check-ins with the advisor and the partner to implement the project plan. The student may work on-site with the partner organization, at a field location or at the university depending upon the requirements of the project plan. The student will be responsible to ensure that work undertaken is consistent with their human ethics/animal care protocols if they were required.

STAGE 3 *Development of Deliverable*

A deliverable will be developed as outlined in the project plan. Development of the deliverable may occur at the work site of the partner or at the university depending upon the needs of the project. The first step will be for student to develop a deliverable outline (e.g., storyboard, mock-up, etc.) through their work with partner and submit to advisor and partner for comment and approval. The student will then develop a draft of the deliverable for review by the faculty advisor and partner allowing time for assessment and changes to be made prior to the adjudication event.

Required Meetings during this Stage:

- *Review of Deliverable Outline (Advisor, Partner)*
- *Review of Draft Deliverable (Advisor, Partner)*

STAGE 4 *Approval of Practicum Document for Adjudication*

The student will provide a document that includes the Project Plan, Deliverable, and a Critical Reflection on the practicum project as required components. This document will be provided to the faculty advisor, partner and other FGS member of committee for review and approval of the Practicum Document to proceed to adjudication.

Required Meetings during this Stage:

- *Approval of Practicum Document for Adjudication (Advisor, Partner, FGS Member)*

STAGE 5 *Adjudication*

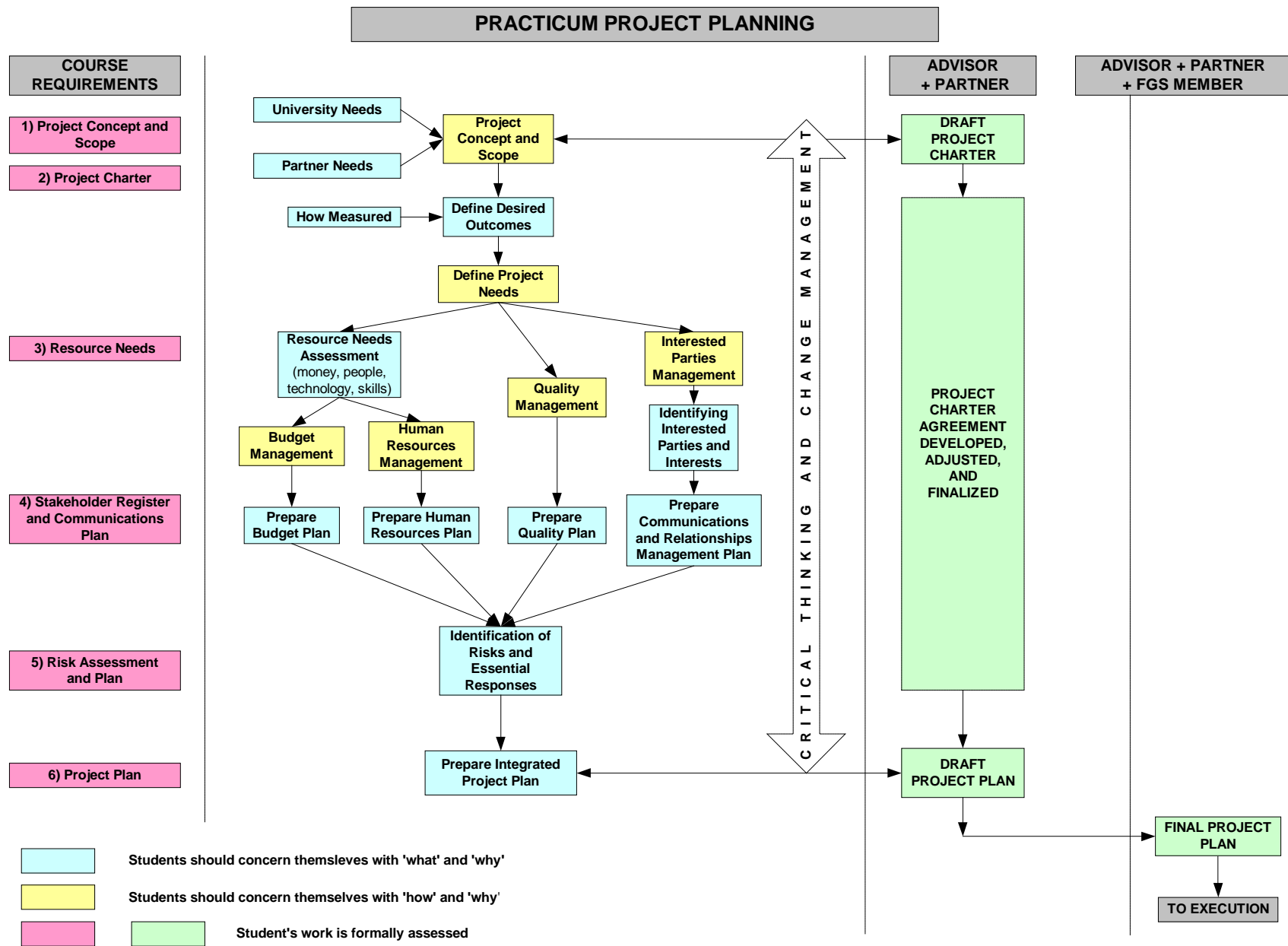
The Practicum Document consisting of the project plan, deliverable and critical reflection prepared by the student will be presented at an adjudication event to be scheduled by the Director at least once per academic year. [Note: If needed a second event will be held for practicums which do not pass the first adjudication event]. At the adjudication event the student will present the deliverable developed as part of their practicum and provide an oral overview of the deliverable and their critical reflection. The presentation will be 20 minutes in length and followed by up to 40 minutes of questions.

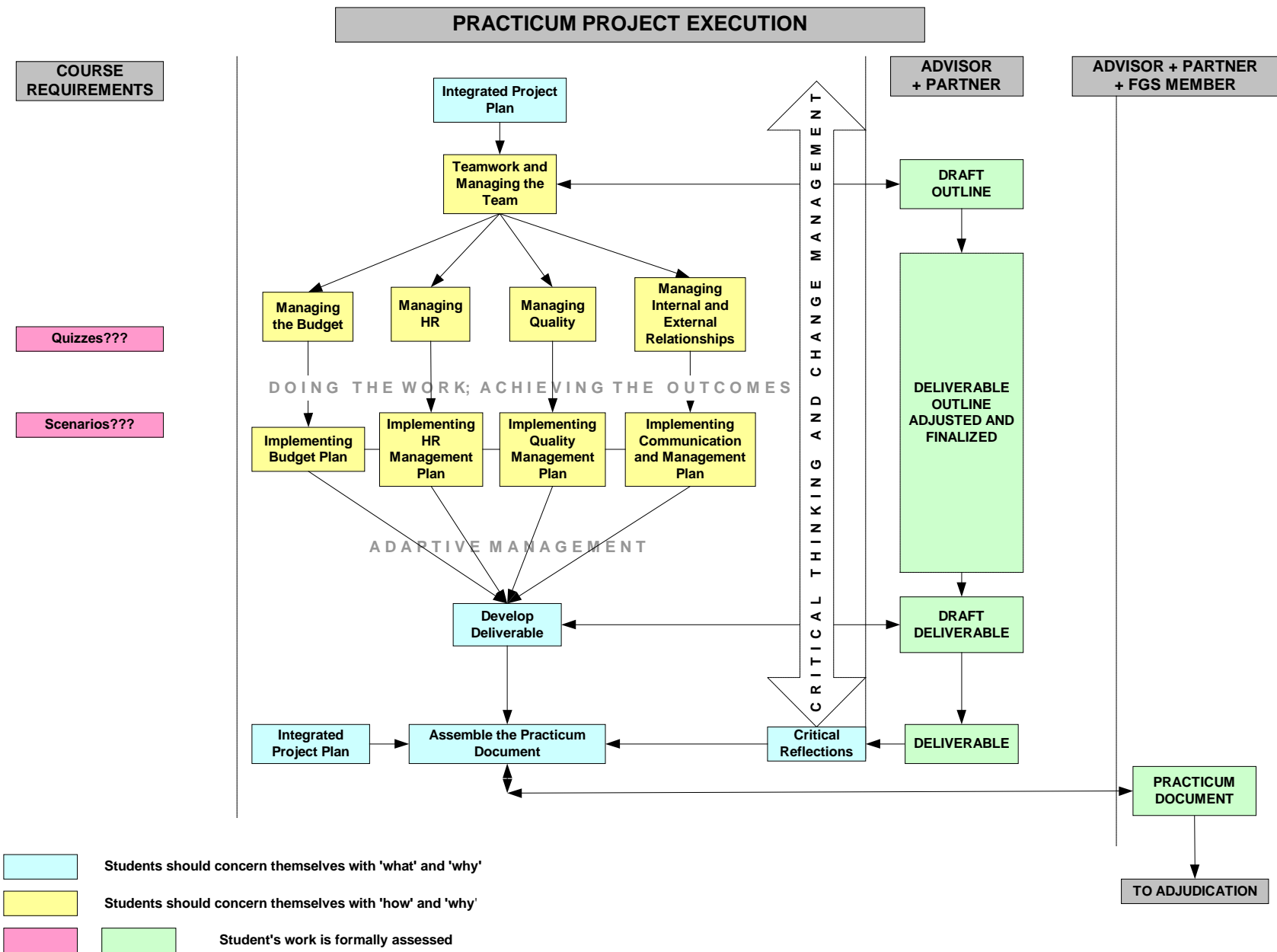
An adjudication panel made up of the faculty advisor, partner and one other FGS member will assess the Practicum Document and its oral presentation. The adjudication panel will meet following the event and provide an evaluation that will consist of a pass, pass with modifications or fail. If the product is passed changes will be suggested prior to submission to the Faculty of Graduate Studies (Acceptable, without modification or with minor revision(s)). If passed with modifications, the evaluation committee will indicate the changes required for a pass and plans for further desk review by the committee in order to issue a pass after revisions (Acceptable, subject to modification and/or revision(s)). Or, the committee could require substantive changes requiring the

student to work further on the Practicum Document and present at the next adjudication event (Not acceptable).

Each of the preceding stages is described more fully in the material that follows.

3.0 Summary of Stages of Practicum Progression				
Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
Project Plan Development	Practicum Implementation	Development of Deliverable	Completion of Practicum Document for Adjudication	Adjudication
Timeline				
Fall Year 1	Winter / Spring Year 1	Summer Year 1	Fall / Winter Year 2	Summer Year 2
Activities				
1.1 Meet with advisor to indicate interest in practicum stream 1.2 Register in NRI 7380 (Project Management in NREM) 1.3 NRI Coursework	2.1 Finalize Project Charter with partner 2.2 Complete Project Plan 2.3 Develop knowledge and skills for project 2.4 NRI coursework	3.1 Work with partner to complete deliverable	4.1 Develop draft Practicum Document 4.2 Submit final Practicum Document 4.3 Develop adjudication presentation 4.4 NRI coursework as needed	5.1 Present Practicum Document at Adjudication Event 5.2 Complete revisions of Practicum Document as required 5.3 Submit Practicum Document to Faculty of Graduate Studies
Required Meetings & Participants (A [Advisor]; P [Partner]; FGSM [2 nd FGS Member])				
Project Charter Agreement (A/P)		Review of Deliverable outline (A/P)	Approval of Practicum Document for adjudication (A/P/FGSM)	Adjudication (A/P/FGSM)
Draft Project Plan Meeting (A/P)		Review of draft Deliverable (A/P)		
Project Plan Approval (A/P/FGSM)				
Outcomes Contributing to Practicum Progression				
Identify Project & Partner	Project Charter	Deliverable	Draft Practicum Document	Adjudication Event
Develop Draft Project Charter	Project Plan		Practicum Document submitted for adjudication	
Develop Draft Project Plan			Adjudication presentation	
			Coursework completed	





4.0 Detailed Stages of Practicum Progression

STAGE 1 ***Project Plan Development***

The student will develop a draft project plan during the Project Management in NREM seminar and in consultation with their faculty advisor and partner as the first step in the practicum process at the NRI.

The process begins by developing a Project Concept document that will identify the importance of project to partner, include a preliminary statement of project objectives and outcomes, develop a rough estimation of costs and timeframe and identify the internal and external stakeholders of the project. During the course the student will then develop a Project Charter with partner and stakeholders to develop a draft description of the project followed by initial scoping of project stakeholders who can help with the development of the project plan. The student will be provided with tools to further refine the project that identify the resources and needs of the project, develop project timelines, assess project risks and a plan to manage risks, and determine the need for a quality management plan. This work will then be drawn upon and compiled to produce a draft Project Plan that will guide the work and allow the student to identify gaps in their knowledge and skills that will need to be developed to undertake the project. It will also include a plan to manage communications with internal and external stakeholders during project implementation.

Details of the process for developing the draft Project Plan are provided in the syllabus of NRI 7380, Project Management in NREM. The project plan for the practicum will generally have the following format:

Project Charter

-initial statement of a project purpose and agreement of partner

Stakeholder Register

-identification of who should be involved in project from partner organization and outside the organization if any

Project Scope

-identify project deliverable and what is doable and not doable

Communications Plan

-who can provide the information needed and who needs to be kept informed

Resource Needs Assessment

-skills and resources inventory

-materials, supplies, equipment

-cost estimates

-procurement plan

-budget estimate

Activity Scheduling

-activities

-milestones

Risk Assessment and Risk Management Plan

Quality Management Plan

-quality standards

-quality criteria

Knowledge and Skills Development Plan

The Project Plan, first draft of Practicum Document, and final Practicum Document should have a proper title page as displayed in Appendix A.

Developing Knowledge and Skills for Practicum

As you complete the draft of your project plan during NRI 7380 you will identify knowledge and skills that you may lack to undertake your project and produce a deliverable. This will allow you to identify courses that may help you fill that gap or reading that you will need to review for your project. You may also find that you will need to find ways to develop skills related to techniques, tools or software. As you undertake your assessment of resources and skills needed for the project you will need to determine how to scope the project to a deliverable that meets your capabilities. In some cases, gaps may be filled with specialized expertise but these should be limited to specific tasks for which you direct the person providing the specialized expertise. A summary of the knowledge and skills developed during your practicum will be included in the critical reflection section of your practicum document using proper citation and supported by a bibliography at the end of the document. It is expected that most knowledge and skills will be obtained during the fall and winter semesters although this may be complemented by some specialized training needed as part of the implementation of the practicum. If so, these should be identified in the final Project Plan approved by the advisor, partner and an FGS member.

The Advisor and Partner

The student's advisor will identify projects and partners with whom the student may work or a student may have a project and partner that they identify. Partners will identify problems, opportunities or challenges that they would like addressed through a practicum and they will work with the advisor and student to develop a draft project plan during the fall semester as part of NRI 7380. The student will refine this project plan during the winter semester in close communication with the advisor and partner. The advisor and partner will also guide the student in developing a plan to develop the knowledge and skills needed for the practicum project based upon the assessment included in the draft Project Plan. It is expected that the student will begin to fill their knowledge and skill gap during the winter semester and present their Project Plan for approval by June of their first year.

The Institute faculty advisor is formally appointed by the Director based on the student's stated interests. The faculty advisor provides on-going guidance to the student, maintains communication with partners and facilitates meetings with the student and partner. The advisor will chair formal meetings at which the draft project plan is discussed with the partner and the formal approval of the project plan. In addition, the faculty advisor and the student are responsible for ensuring that all forms required by the Natural Resources Institute and the faculty of Graduate Studies are duly and accurately completed.

Each student, working in close consultation with their faculty advisor, is responsible for co-ordinating meetings and for ensuring that the partner is informed by the NRI, in writing, of meeting dates, time and location. Submission

of documents to the advisor and partner must occur **at least two weeks** prior to any meeting. Students should consider the schedules of their advisor and partner in arranging meeting dates. Once the student has identified an appropriate date and time, the faculty advisor and General Office should be notified two weeks in advance using the appropriate form so that proper arrangements for the Project Plan meeting can be made (confirmation e-mails and seminar room booking).

If a student wishes to change faculty advisors at any time, written request for such a change must be provided to the Director, or Associate Head if the Director is the faculty advisor. If a student wants to switch from the MNRM practicum stream to the thesis stream, this is possible with the permission of the Director and Advisor. If a student chooses to switch they must complete all the requirements of the thesis stream.

Ethics Review Process

Ethical conduct related to research activities at the University is governed by Policy #1406. All students who carry out “human research” must consult this Policy, complete the Course on Research Ethics (CORE), and complete a “Human Subject Research Ethics Protocol Submission Form”. The Policy and forms can be obtained from the [Office of Research Ethics Compliance](#). Submission forms should indicate that the protocol is to be submitted to the Joint-Faculty REB. Ethics protocol forms can only be submitted once the practicum proposal has been approved by the advisory committee.

Policy #1406 defines human research as: any project that involves the collection of specimens, data or information from persons, through intervention or otherwise. Included are procedures that have a low degree of invasiveness (e.g. surveys, interviews, naturalistic observation, exercise or psychometric testing, examination of patient records), as well as more invasive procedures (e.g. blood sampling, administration of a substance). A subject in human research is defined as “a person, who by virtue of his/her involvement in a data gathering situation or activity is a source of primary data or information”.

The full ethics review procedures can be obtained from the Office of Research Services. Forms and guidelines are available from http://umanitoba.ca/research/orec/ethics/human_ethics_REB_forms_guidelines.html.

Animal Care and Use Review Process

The Natural Resources Institute adheres to the University of Manitoba Policy and Procedures on the Care and Use of Animals for research and teaching. The use of animals is governed by the Senate Animal Care Policy Committee, which recommends policy for the entire University. All NRI projects involving animals must be reviewed and approved by a Protocol Management and Review Committee prior to beginning data collection. It is the responsibility of those

needing to use animals to provide sufficient information to the Committee in order that an informed ethical decision can be made regarding their request to use animals. Approval is granted only after the proposed usage and care of the animals, i.e., the protocol of procedures, has been carefully examined.

Animal Use Protocol Forms are available from the Office of Research Services Home Page at

http://umanitoba.ca/research/orec/animal_care/animal_care_forms.html

STAGE 2 *Practicum Implementation*

Once the Project Plan for the practicum has been approved by the advisor, partner, and FGS member, and ethics and/or animal care clearance obtained, the job of implementing the project can begin. The implementation plan will be specified in the Project Plan for the practicum. The work may take place at the university, and/or with the partner at their office or field site. It is critical that the student follows the Project Plan to develop the deliverable and consults with advisor and partner regarding substantive changes. Regular updates to the advisor and partner are recommended and a meeting to review the proposed deliverable outline is required. Updates and the required meeting will allow advisor, partner and student to assess if the project is on track for completion according to the timelines of the Project Plan.

STAGE 3 *Development of Deliverable*

The goal of each practicum will be to produce a deliverable that meets a need of the partner and is completed through the implementation of the Project Plan. The deliverable will be identified early in the formulation of the project in the Project Charter. It will be progressively refined through the process of developing the Project Plan. While the student may obtain specialized knowledge and skills from the partner at the beginning of the implementation of the practicum, it is expected that following the approval of the project plan the main focus will be on producing the deliverable. As the deliverable can vary widely due to such things as student capability and partner needs there is no one type of format that is required. As such, the specification of the deliverable that will meet the needs of the project partner is required in the Project Plan. The final deliverable will be provided to the faculty advisor and partner for review and approval with sufficient time for required changes to be made prior to the adjudication event.

Deliverable Outline and Approval of Deliverable for Adjudication

Students, advisor and partner must organize two meetings to ensure that the student receives feedback on the deliverable. The first should occur early in project implementation when the student provides to the advisor and partner a detailed outline, or mock-up, of the deliverable. The advisor and partner will review the proposed deliverable. They will then suggest that the student proceed as planned or recommend changes. The student, advisor and partner will also organize a meeting to review a draft of the deliverable. If the deliverable is

considered ready for adjudication the advisor and partner will approve proceeding to the next stage of developing the Practicum Document.

STAGE 4 *Presentation of Practicum Document for Adjudication*

Upon completion of the deliverable the student will prepare a Practicum Document that will be submitted for adjudication. The Project Plan will be provided at the beginning of the document. As a deliverable may be produced on various types of media this component may be the full text of a deliverable (e.g., report; trail maps and interpretive text) or a written description of the deliverable if not a text document (e.g., movie). The Critical Reflection will include two central themes: (1) a review of the literature and other sources utilized by the student to build their knowledge and skills necessary for the preparation of the deliverable; and, (2) a critical reflection on what they learned through the production of the deliverable about project management in the context of resources and environmental management.

The Practicum Document will be presented to the advisor, partner and FSG member of their advisory committee allowing time for review and changes prior to the adjudication event. At this meeting (Approval of Practicum Document for Adjudication) students should look to the advisor, partner and FGS member to constructively suggest necessary changes to the document prior to its submission for adjudication. They should also discuss a plan for how they will present their deliverable at the adjudication event.

Each student is responsible for completing necessary revisions as suggested by the advisor, partner and FGS member at the Approval of Practicum Document for Adjudication meeting. Upon completing the required changes the advisor will review the final Practicum Document to be submitted for adjudication and decide whether it is ready and can be presented at the adjudication event. This document must include Figures, Tables and Maps in their final form as well as an Abstract and Acknowledgements. Proper bibliographic referencing should be used according to the appropriate style guide. The onus is on each student to complete a detailed final editing (grammar, punctuation, spelling and other mechanics) prior to submission for adjudication. In other words, the advisor will review a document that the student considers ready to proceed to adjudication.

The student must submit the Practicum Document to the Chair of the adjudication event for distribution to the adjudication panel at least two weeks prior to the adjudication event.

Suggested Practicum Document Format

While there may be many types of deliverables produced as part of a practicum there are three main components: (1) Project Plan; (2) Deliverable; and, (3) Critical Reflection.

A format that meets FGS and NRI regulations for the practicum is as follows:

Title Page
Faculty of Graduate Studies Copyright Page
Signature Page (to be included in one unbound copy given to the FGS)
Abstract
Acknowledgements
Dedication (optional)
Table of Contents
List of Tables
List of Figures
List of Copyrighted Material for which Permission was Obtained
Chapter One: Project Plan
Chapter Two: Deliverable (Can be printed reproduction of deliverable product, printed documentation of the exhibit, attached CD or hyperlink to web archive, for example. Formats will need to be those that can be accepted by MSpace)
Chapter Three: Critical Reflection (including summary of knowledge and skills developed with appropriate citation and bibliography)
Bibliography
Appendices

If the practicum includes copyrighted material, permission must be obtained from the copyright holder. A sample copyright permission letter is available from the [Copyright Office website](#). Other forms are acceptable including electronic permission.

STAGE 5 *Adjudication*

As deliverables can vary widely, the student may present their work using a variety of presentation types, for example, a poster, exhibit panels, photo essay, video short or other form of communication that allows the student to present the deliverable in 20 minutes. In addition to presenting the deliverable, the student must also provide the committee with an overview of their critical reflection. Around 40 minutes will be allowed for questions and discussion and may focus on the deliverable or the critical reflection.

At the event the advisor, partner and the FGS member will form the examination committee. Following the event, each student's practicum document and oral presentation of deliverable will be assessed as a pass (no revisions, or minor revisions, minor corrections) or not acceptable (major corrections).

At the adjudication event the practicum and presentation of the deliverable shall be evaluated using the following standards:

- Does the Practicum Document meet the goals set out for the practicum in the Project Plan. Is the deliverable of an acceptable standard to meet professional practice and Faculty of Graduate Studies standards?

- Has the student demonstrated their knowledge and skills in the production of a deliverable within the field or NREM?
- Has the student demonstrated the ability to produce a deliverable for professional practice?

The adjudication will normally be held at the University of Manitoba and normally be open to the public and members of the University community. The event is organized and curated by a member of the NRI faculty who will also chair the adjudication panel for the event. Each student will be responsible to provide the Chair with a presentation proposal as to how they will present the deliverable from their practicum along with what they will need for the presentation one month prior to the scheduled event. The Chair will ensure that necessary equipment is available for the adjudication event such as poster boards and video players although exhibit panels, or other standing displays, will be the responsibility of the student themselves. Time prior to the adjudication event will be available for the student to set up standing presentations and load presentations onto a computer. The panel will establish a schedule for presentations and an order of proceedings for the adjudication committee. Students will have 20 minutes to provide a presentation of their Practicum Document and should be prepared for 40 minutes of discussion based on questions of the adjudication committee. The Chair may exercise discretion in allowing informal discussion of the presentation by members of the public following completion of the question period of the adjudication committee. The adjudication event will have the following general order of proceedings:

- Set-up period.
- The adjudication panel chair opens the presentation period and invites the first candidate to present their deliverable to the adjudication committee and guests.
- Following the 20 minute presentation the adjudication committee will be provided with 40 minutes for questions.
- This process will be followed for each student candidate.
- Following the presentations, the adjudication committee will meet and make a decision on the acceptability of each candidate's Practicum Document. The student is informed of the final decision by the chair in writing within one week of the event. The recommendations of the committee can include:

(1) Pass / (Acceptable, without modification or with minor revision(s));

(2) Pass / (Acceptable, subject to modification and/or revision(s));

(3) Not acceptable.

- (1) When the committee recommendation is to pass the Practicum Document with no changes, the chair, advisor, partner and FSG member of adjudication committee assigned to examine the Practicum Document will sign the final practicum report, signifying that the document is acceptable in substance.
- (2) When minor revisions or corrections to the Practicum Document are required they will be specified by the committee. The student will make the necessary changes. The advisor, and if required the members of the examining committee, will undertake a desk review of the changes. Members will sign the final practicum report once the changes have been made.
- (3) When the Practicum Document is not considered acceptable the student is required to correct the specified deficiencies and is allowed to re-present at the next adjudication event. A second attempt is allowed.
- The Director or a designate will ensure that the required time limits for completion of revisions, the necessity of a second adjudication, and other such matters are carried out.
- The student is recommended for graduation after submitting the final copy to the NRI General Office **one week** prior to the Faculty of Graduate Studies deadline. Copy submission is as follows:

Unbound copies:

One copy, single-sided, black and white for Graduate Studies

Digital version:

One digital version submitted on the [MSpace website](#)

One digital version for each committee member

One digital version for the Advisor

One digital version for the NRI General Office

- Students are required to submit the digital version to the Graduate Secretary of the Natural Resources Institute in person, and complete the necessary documentation prior to graduation.
- Upon completion and approval of the practicum by the examining committee, the student completes a [Thesis/Practicum Copyright License Declaration](#).

Costs for duplicating and binding are the student's responsibility. As of 2015, the NRI no longer requires or stores hard copies of theses.

Authorship of Publications

Students are encouraged to publish the results of their practicum. Deliverables may be published as videos, booklets, books or other forms relevant to the deliverable produced. The right of first authorship rests with the student for a period of one year from the date of the adjudication

event. Secondary authors should also be agreed upon prior to publication.

After the expiration of the one-year period identified above, or in cases where a practicum is not completed, the faculty advisor and/or partner may initiate discussion with the student involved respecting waiver of publication rights. Any dispute respecting publication rights shall be referred, in the first instance, to the Director or the Associate Head, by any party involved.

Electronic submission of Publication

The electronic version must be submitted in Portable Document Format (PDF), which can be done at one of the Library labs on campus. Students can request the Library to do the conversion for them at no charge. Once the practicum has been converted to PDF, students contact the Library to receive authorization to submit the file to MSpace (wendy.prystenski@umanitoba.ca, ph: 474-7895).

To submit an Electronic Dissertation and Thesis (EDT) or learn more about EDTs visit the [MSpace website](#).

Appendix A – Sample Title Page

An Interpretive Trail Plan for Moose Lake Conservation Reserve

Jane Doe

A Practicum submitted to the Faculty of Graduate Studies of

The University of Manitoba

in partial fulfilment of the requirements of the degree of

MASTER OF NATURAL RESOURCES MANAGEMENT

Clayton H. Riddell Faculty of Environment, Earth, and Resources

Natural Resources Institute

University of Manitoba

Winnipeg

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