MEEd Student Handbook

Note: The student, Advisor, and Director of Graduate Studies are jointly responsible for knowing the program requirements and processes and ensuring completion of them in a timely fashion.

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Resources for Newly Admitted Students

- UMD Graduate Student Handbook (Please note important information regarding topics such as initiating your email/internet account, your university ID card, health insurance, parking, registration, tuition and billing, housing, etc. You will find it helpful to skim through these topics *prior* to arriving on campus!)

MEEd Degree Requirements

**Note: information within these sections applies to both Plan B and C students unless otherwise noted.*

Courses, Credits, and Registration Requirements

Plans and Coursework

Two plans are available to MEEd students; both plans are 32 credits and can be completed in 2 years. Students in both plans take core coursework (foundations, a research methods course, and coursework on applications and/or teaching strategies). Plan B entails a research project (a "thesis"). Plan C entails only coursework (no research project, but additional elective credits, with an option to develop curriculum as an independent study). You will work with your advisor to determine which plan may be most appropriate for your career and educational goals. Current catalog year program requirements can be accessed through the UMD official course catalog of program requirements.

If you begin the program in **Fall 2025**, see Appendix A for a summary course list by plan. See Appendix B for a sample schedule.

*(*If you began the program in **Fall 2024 (or Spring 2025),** see this document for your official program requirements and/or this planning sheet that outlines course requirements.)*

*(*If you began the program in* **Fall 2023***, see this document for your official program requirements and/or this planning sheet that outlines course requirements.*

A change to these course requirements must be approved by email by your Advisor and the Director of Graduate Studies (DGS, Dr. Ernst) prior to enrollment (otherwise you may end up taking a course that can't or won't count toward meeting program requirements). A maximum of 9 credits at the 4000-level can be used toward your degree, upon advisor consultation, and only if the 4000-level courses can be taken at the "for graduate credit" level. A maximum of 11 credits of S/N coursework may be used to meet degree requirements (if a course is only offered S/N, than it does not count agains this limit).

Also note that through the selection of your elective credits and the focus of your final research project (if applicable), you can further specialize your degree in an area such as education for sustainability, early childhood environmental education, Indigenous learning and environmental education, citizen science, outdoor/adventure programming, etc.

GPAS (Graduate Planning & Audit System)

Once you and your advisor have discussed and decided upon which plan (B or C), please email the Director of Graduate Studies indicating your decision. This email will prompt the

submission of a form (Department Masters Programs Sub-Plan and Requirement Term Update Request) by the Graduate Office, which "sets your plan type" in the academic records system, so that it properly appears in your GPAS report. You do not need to do this immediately, but it does need to be done before your program requirements populate correctly in GPAS. Also, it is useful to do this prior to registering for your second semester of courses, as requirements differ by plan.

GPAS allows graduate students to plan future coursework and view student degree progress. The GPAS *planner* is for students to map out future coursework within Student Center in MyU (appears in MyU as a link called GPAS). In the GPAS, you only need to add coursework that you plan on taking beyond the requirements because the audit (advisement report) will already track completed coursework and requirements. The GPAS planner is also useful for documenting an advising conversation and for review of degree requirements between the student and advisor. If used, the planner is approved by the advisor and Director of Graduate Studies (DGS); during review of the GPAS planner, advisor or DGS can add or remove coursework from the planner. Student instructions for submitting the planner are on the UMD One Stop site. **At this point, the use of the GPAS planner is optional.*

Note: any UMD/UM course deviations from the program requirements as shown in the catalog (or GPAS) must have advisor and DGS approval, documented via email, prior to enrollment in course.

Transfer Coursework

Graduate-level coursework taken from other institutions or earned before admission to this program may be approved and used toward meeting the MEEd requirements. Per University policy, at least 20 credits program requirements must be taken while enrolled in the MEEd program. Coursework applied to an undergraduate degree cannot be used toward meeting MEEd requirements, nor can coursework that was taken before having earned your undergraduate degree. If you would like to use graduate coursework from other institutions, official transcripts for transfer coursework must be submitted to the Graduate Office, if not previously submitted to Graduate Admissions during the application and admission process. Once official transcripts are received, the DGS will work with you and your advisor to determine appropriate substitutions for program requirements. Then these substitutions will be submitted to the Graduate Program Coordinator who will work within GPAS so that the substitutions are recorded and that progress toward meeting program requirements is updated to reflect these substitutions.

Coursework from another UM Campus

To register for a course on a different UM campus, you'll need to submit an application for multi-institutional registration. The deadline to apply is generally one month before classes start. If you have questions about tuition implications, email umdgrad@d.umn.edu for assistance. Also, it is important that you work with the UMD graduate office to request the

Twin Cities “DMS” tuition rate after enrollment and prior to the start of the course, otherwise you will be billed at a higher Twin Cities “GRAD” tuition rate. (Note: UMTC credit can be applied to meet MEEd program requirements, but as noted prior, approval from your advisor and DGS must be obtained and documented via email prior to enrollment. In GPAS, this UMTC coursework is not considered transfer credit but instead handled as a “GPAS exception,” with a modification to the number of degree credits along with a notation of the course name, term taken, and number of credits.)

General Registration Information

Six graduate credits are considered full-time for graduate students, yet often students take more than six credits/term (although occasionally a student may decide to register for less than 6 credits). New graduate students will receive registration instructions with their admission letter, including account initiation information and suggested courses (see Appendix B for a suggested schedule by plan & year of entry. Registration at UMD is administered online. The UMD class schedule is also accessible online. All students, new and returning, must register before the term-specific, University-wide registration deadline. When exceptions to these registration deadlines are needed (to add a course or drop a course after the deadline, for example), there is an online Registration Exception Request petition form, which you initiate electronically. To avoid a late registration fee, you must register before the first day of the term. Also, if a course shows “instructor consent” is needed for registering, you may email the instructor of the course and request that you be added to the “permission list” for that particular course; please include your student ID number when doing so.

Active Status (Continuous Enrollment)

To maintain active status in the MEEd Program, you must register every fall and spring term until your degree is officially conferred. You need to be enrolled in regular coursework, EnEd/Educ 5990, or GRAD 999 (see below) by the end of the second week of the semester or you will be discontinued/deactivated from the program. Deactivated students may not register for courses, take examinations, submit degree program or project proposal forms, file for graduation, or otherwise participate in the University community as Graduate School students. If you become discontinued, re-entry into the MEEd program requires a new application, application fee, and new Graduate Degree Plan/GPAS. If readmitted, you must register for the term of readmission to regain your active status. For more information, visit the Graduate School's registration requirements page.

GRAD 999 is a zero-credit, zero-tuition registration option to maintain active status intended for graduate students who have completed all the coursework and EnEd/Educ 5990 credits AND are not actively working on their 5990 projects. For example, if you plan on graduating/completing all degree requirements in December, but didn’t get all required documents submitted for December degree clearance, then you would register for GRAD 999

for spring term (if your degree was officially cleared and conferred by the end of December, then you would not need to register for spring term).

To enroll in GRAD 999, the student emails the Advisor; the Advisor forwards the email to Lynn McGraw noting his/her approval. Lynn McGraw works with the Director of Graduate Studies, Julie Ernst, to ensure eligibility requirements are met, and then Lynn McGraw adds the student to the permission list for GRAD 999 and notifies the student that he/she is able to register. The student can then register online (after having been added to the list, a permission number is not needed for the student to register). *Note: If you are working with your Advisor on your thesis/field project, you need to enroll in EnEd/EDUC 5990, not GRAD 999.

Other Registration Requirements

Graduate students holding appointments as teaching or research assistants must be registered for a minimum of 6 credits each term of their appointment; this applies to appointments of any percentage or any number of hours. Graduate students may not have assistantships while in GRAD 999 enrollment. Graduate assistants or international students who need to be certified as full-time students but have fewer than six required credits remaining may be eligible for a special registration category that allows them to be considered full-time students when registered for one credit. Refer to the UMD Graduate Student Handbook for more information.

Students receiving other types of financial aid from the University or other agencies, international students with certain types of visas, and students who wish to use various University services and facilities may have specific registration requirements; these students are responsible for obtaining information about such requirements from the appropriate offices.

Advisor and Committee Requirements

Advisor and Committee Roles

Upon acceptance into the MEEd Program, you will be assigned a temporary Advisor who will guide you in selecting your first-semester classes and in selecting a permanent Advisor (also referred to as your Chair). Once you and your temporary advisor have determined your permanent Advisor, please email Lynn McGraw (copying your temporary and permanent advisors) so that this can be recorded. Your Advisor guides you in your decision regarding Plan B v. Plan C, as well as in the coursework you will take. Your advisor also provides career/professional mentoring and administers the final oral examination. If you are in Plan B, your Advisor along with your two Committee Members will also guide you in the processes that are involved in the 5990 Plan B project (see Appendix E). Plan B Committee Members

also participate in the final oral examination. Students in Plan C do not formulate a committee but instead, work primarily with their advisor. *(*Note: a decision regarding your permanent advisor and which plan you are pursuing should be determined during the first semester of your first year.)*

Committee Membership (for Plan B students only)

The MEEd Graduate Committee (for Plan B students) consists of one Advisor (Chair) and two members. The Advisor needs to be a Faculty with Graduate Responsibilities in the MEEd program (to date, Julie Ernst, Elizabeth Boileau, Amy Smallwood, Jennifer Frisch). The members of a Committee can be MEEd faculty members (including MEEd faculty members with "reviewer"/"member" status). Committee members can also be Faculty with Graduate Responsibilities in other graduate programs from throughout the UM system and/or professionals external to the UM system (searchable list by program and faculty) (also more information provided regarding Eligibility to Serve on Graduate Examination Committees policy). At least one Committee member must be from outside the student's major field (a faculty member who does not have graduate responsibilities in the MEEd program or is not serving in the role of MEEd graduate faculty). Details regarding criteria and processes relating to graduate committee service are included in the document, Faculty with Graduate Responsibilities in the MEEd Program: Criteria and Processes Relating to Graduate Committee Service.

The UM system database contains a list of Faculty with Graduate Responsibilities for each graduate program (those with Adjunct status are included in this database). The UMD Graduate Office maintains a list of Faculty with Graduate Responsibilities whose responsibilities are limited to non-chairing roles (Adjunct Graduate Program Faculty status), as well as the MEEd Criteria and Processes Relating to Graduate Committee Service.

After you have selected a permanent Advisor, your Advisor will guide you in the selection of your Committee, as well as in ensuring that your Committee membership meets the necessary requirements. When you have finalized the two members of your committee, email Lynn McGraw, copying your Advisor and Committee members. With the Director of Graduate Studies' approval, the request will be forwarded to the Graduate Office for Graduate School Approval. Once approved, your Advisor and Committee Membership are recorded and imaged in the Graduate Office, with a copy of the approval maintained in your academic file in the MEED office. **Note: It is recommended you work on forming your committee in your first semester, so that they can guide you over the course of your degree (course planning, plan selection, potential 5990 research direction if applicable, etc). You do not need to officially "file" your committee during your first term but aim to file your committee by the start of your second year at the latest.*

Changes in Committee Membership (for Plan B students only)

Changes in Committee membership may be made after filing if approved by the Advisor, Director of Graduate Studies, and UMD Graduate Office. Changes will be recorded by the MEEd Graduate Program Office and the UMD Graduate Office. This process uses the same student-initiated process that was used to initially indicate your Committee membership (see prior section).

Substitutions on the examining Committee may be necessitated by such circumstances as a faculty member's temporary absence or leave from the University. The Advisor or the Director of Graduate Studies must request the UMD Graduate School's approval of such substitutions well in advance of the examination. Requests are done through email to grad@d.umn.edu. Substitutions for an oral examination that are necessitated by emergency situations must also be approved in advance, to the degree possible. In such cases, the Advisor should consult with the UMD Graduate Office staff before the start of the examination (as soon as possible) for guidance.

Performance Standards

Annual Review

The Graduate School defines good academic standing as a) making timely progress toward degree completion as required by the program and by this policy; b) maintaining a GPA at or above the minimum set by the program and by this policy; and c) passing all appropriate examinations within the time frame specified by the program. When performance is unsatisfactory in terms of grades or normal progress toward the student's degree, graduate student status may be terminated. Students who do not register every fall and spring term are considered to have withdrawn; their Graduate School records are deactivated.

The MEEd Program is responsible for reviewing the progress of each student annually. Students deemed not to be in good standing will be informed of the results of the review in writing. This process is defined in the Annual Review and Graduate Student Development Plan for MEEd Students.

Time Limit for Earning the Master's Degree

All requirements for the MEEd degree must be completed and the degree awarded within five calendar years after initial enrollment in the graduate program. If you cannot complete it within five years due to extraordinary circumstances, you may petition for an extension of up to 12 months. You must obtain approval from your Advisor and Director of Graduate Studies and submit the Master's Degree: Request for Extension to the Maximum Time Limit to the UMD Graduate Office at least 6 months prior to the expiration of your current time limit. If the petition is approved, you will be notified in writing of the expectations for progress and completion of the degree. If the petition is denied, you will be notified in writing that you will

be terminated upon expiration of the time limit. In this case, you may apply for readmission to the program, but readmission is not guaranteed. The Committee may set any readmission conditions on your resumption of work toward the degree.

Minimum Grade Requirements

To remain in good academic standing, you must maintain a minimum cumulative GPA of 2.80 for courses included in the Graduate Degree Plan. Students falling below this minimum requirement may be terminated from the program.

Student Conduct Code

All graduate students are responsible for complying with the University's Student Conduct Code.

Grievance Procedures

While it is preferable to settle, in an informal manner, disputes involving your rights as a student and/or graduate assistant, the UMD Graduate School Statement on Conflict Resolution outlines procedures for guiding the resolution of disputes or conflicts (see Appendix A in the UMD Graduate Student Handbook).

Degree Completion Requirements

Application for a Degree and Commencement RSVP

The application for a degree is an online form. You will access the form in your MyU portal (Access path: MyU portal --> Academics --> Degree Progress tab --> "Apply to Graduate" link). You must provide a diploma name and address (you should enter this under the "My Info" tab *before* using the 'apply to graduate' link). Please note that you must be in active status before you can apply to graduate. Students who have been discontinued for non-enrollment or other reasons must be readmitted to their programs before they will be able to access the link.

You should submit this application for a degree (your application to graduate) no more than 1 month in advance of when you expect to be completely finished with degree requirements. You will be able to select only a term of graduation (fall, spring, summer). The timing of your submitted application within the selected term will determine the graduation month. For example, if the student plans to finish all program requirements in August, s/he should apply to graduate between July 2 and August 1. Information on this new timeline will be provided to students after they log in to access their graduation request. You can only submit your application for your degree once. If you need to request a change in your expected graduation

term or month after you have applied, or if you have not met all the requirements by the end of the month for which you applied, you should email the Graduate Office (umdgrad@d.umn.edu). For additional information, see the application for a degree on the graduate school website. For additional information, see the application for a degree section of the graduate school website.

All students are asked to complete the Commencement Attendance RSVP, whether or not they plan to participate in Commencement. The deadline to submit this form is March 1st. Graduate students can only participate in one ceremony. If you do not participate in the ceremony for which you are scheduled, you will not be allowed to participate in any subsequent ceremony. Consult with your Advisor regarding participation if you will not have completed all degree requirements prior to Commencement. MEEd students are not eligible to participate in Commencement if they do not have a signed project proposal on file in the MEEd office.

Final Examination

Note: The final oral examination applies to both Plans B and C. Please follow the instructions specific to your plan, which are outlined below.

Plan B students:

> The "Final Examination Committee" is synonymous with the Committee that advises students regarding coursework, career paths, and the 5990 research project for those students in Plan B. This Committee, as noted in the Advisor and Committee Requirements section, must consist of at least three members total (including the advisor); one of these members must be from a program (or have responsibilities) other than environmental education.
>
> You should work with your Advisor and Committee members to determine a date, time, and location for their final exam (plan for a two-hour time block for the exam). At least three weeks prior to the final exam, the Advisor emails Lynn McGraw regarding the Graduate School's Examination Report for Master's Degree form. Prior to the release of this form to the student from the UMD Graduate School, your GPAS is reviewed to ensure requirements have been met and that you are enrolled and have maintained active status. After Lynn notifies the UMD Graduate Office that the Examination Report Master's Degree form can be released, the UMD Graduate Office emails the form to you (and copies Lynn). You are responsible for emailing this final examination report to their advisor prior to their final examination meeting. If the meeting will be in person, the student should print this form in color and bring it form to the final exam.

All members of the Committee must be present at the final examination ("present" may include attendance in person or virtually, as long as all can hear one another and all materials used during the exam are available to all involved). This examination is not open to the public (Plan B students present their work to the public through a presentation during EnEd 5998 Seminar, which is separate from the final oral exam; see Appendix E for more details regarding Plan B 5990 requirements, including additional processes and forms associated with Plan B).

This exam a) serves as the “defense” of the Plan B project; b) assesses program outcomes that do not have a course-embedded assessment, and c) provides an opportunity to synthesize and reflect on program outcomes and learning overall. The exam begins with the student presenting a formal ppt presentation of the Plan B project (about 15 minutes), followed by questions that pertain to the 5990 research project (such as literature grounding the project, methods used, results, and implications). The exam will also include questions that pertain to the program outcomes, and the exam may also include reflective questions, asking students to articulate, for example, how this degree/project aligned with their original goals for graduate study and/or plans for disseminating their work. You may find it helpful to review the question prompts on the MEEd Final Examination rubric (see Appendix C) in preparation for the exam.

The examination is graded on a pass/not pass basis, with each Committee member, including the Advisor, recording his/her vote on the Graduate School’s Final Examination Report. A passing grade indicates the student's responses to examination questions, along with the Plan B project, are at or above proficiency and reflective of advanced practitioner/graduate-level work. A majority vote of the Committee is required to pass the final examination. The vote is recorded on the Examination Report Master's Degree form. After the examination, the Advisor emails (or brings) the completed examination form to Lynn McGraw, along with the completed MEEd final examination rubric. A copy of these forms are retained in the MEED office. The Final Examination Report is forwarded to the UMD Graduate Office for electronic imaging, and the MEEd Final Examination rubric is forwarded to the DGS for program assessment purposes.

Plan C students:

You should work with your Advisor to determine a date, time, and location for their final exam (plan for a one-hour time block for the exam). Please plan ahead so that there is ample time to find a time/date for this exam prior to your intended date of degree completion.

This exam serves to assess program outcomes that do not have a course-embedded assessment, as well as to provide an opportunity to synthesize and reflect on program outcomes and learning overall. Students may find it helpful to review the question prompts on the MEEd Final Examination rubric (see Appendix C) in preparation for the exam. The examination is graded on a pass/not pass basis, with the Advisor regarding the grade on the Plan C Final Examination Report (see Appendix D). A passing grade indicates the student's responses to examination questions are at or above proficiency and reflective of advanced practitioner/graduate-level work. After the Examination, the Advisor emails (or brings) the completed examination form to Lynn McGraw, along with the completed MEEd final examination rubric. A copy of these forms are retained in the MEED office. The final exam report is forwarded to the UMD Graduate Office for electronic imaging by the graduate program coordinator, and the MEEd Final Examination rubric is forwarded to the DGS for program assessment purposes.

Degree Clearance and Conferral

Once all requirements are met, our MEEd program requests degree clearance from the Registrar's Office. If you received financial aid, the Financial Aid Office requires an exit interview prior to your degree being cleared and conferred. Degrees are posted to University transcripts within 2-3 weeks of the official conferral date (the last business day of each month). Diplomas are mailed within 4-6 weeks of the conferral date. If needed for employment or other purposes, you can print an enrollment/degree verification letter from your MyU account or request an enrollment/degree verification letter from One Stop once your degree has been posted. Your transcript showing a confer date also provides proof of your degree.

Commencement Ceremony

The UMD Graduate School commencement ceremony is held in May. You are encouraged, but not required, to attend. Your cap, gown, hood, and tassel can be purchased at the Lower Level of UMD Stores. To ensure your name appears in the program distributed at the ceremony, you must submit the Commencement Attendance RSVP by March 1st. Students can only participate in one ceremony. If you do not participate in the ceremony for which you are scheduled, you are unable to participate in any subsequent ceremony in the following years. Undergraduate and graduate commencement ceremonies are combined and held in the AMSOIL Arena. For the most recent information, see the Commencement website and the Graduate Program Commencement page.

Appendices

Appendix A: Fall 2025 Course Requirements

Core (22 cr)

- EnEd 5100 Research Design Methods (3 cr) *(offered every Fall)*
- EnEd 5165 Theories and Models in EE (3 cr) *(offered Fall of odd years)*
- EnEd 5325 Investigating Sustainability Issues & Educating for Change (3 cr) (*offered Fall odd years*)
- EnEd 5600 Place-Based Education (2 cr) *(offered every Spring)*
- EnEd 5850 EE Methods and Classroom Applications (3 cr) *(offered Fall even years)*
- EnEd 5625 Program Dev and Eval (3 cr) *(offered Spring of even years)*
- EnEd 5855 Programming with Schools and Communities (3 cr) *(offered Spring odd years)*
- EnEd 5998 EE Research and Professional Development Seminar (1 cr taken both spring terms) (2 cr total) *(offered every spring term)*

Plan B (10 additional cr)

- EnEd or Educ 5990 Research Project (**6** cr) *(offered every term)*
- A minimum of **4** cr from below:
  - *o* EDUC5230 - Indigenous Peoples & the Env (3cr.) OR TRES5100 - Foundations of Indigenous and Western Environmental Systems and Worldviews
  - *o* EnEd 5315 Program Planning and Administration (3 cr) *(offered every Fall term starting F26)*
  - o EnEd 5163 Outdoor Ed Methods (3 cr) *(offered every Fall term)*
  - o EnEd 5343 Advanced Field Interp Techniques (3cr) *(tentatively offered Spring 27)*
  - o EnEd 5500 ECH Nature Exp and Pedagogies (3 cr) *(offered Spring even years; Note offered Fall 2025)*
  - o EnEd 5991 Independent Study (1-3 cr) *(every term, instructor consent needed)*
  - o EnEd 5992 Readings (1-3 cr) *(every term, instructor consent needed)*
  - o EnEd 5997 Practicum (1-6 cr) *(consult with DGS, JErnst)*
  - o MPS 8501 Community Engagement Seminar (4 cr)
  - o Xxxx-5000, Xxxx 7000 *(*advisor and DGS, Dr. Ernst, approval **before** registration)*

Plan C (10 additional cr)

A minimum of **10** credits from:

- EDUC5230 - Indigenous Peoples and the Environment (3cr.) OR TRES5100 - Foundations of Indigenous and Western Environmental Systems and Worldviews
- EnEd 5315 Program Planning and Administration (3 cr) *(offered every Fall term starting F26)*
- EnEd 5163 Outdoor Ed Methods (3 cr) *(offered every Fall term)*
- EnEd 5343 Advanced Field Interp Techniques (3cr) *(tentatively offered Spring 27)*
- EnEd 5500 ECH Nature Exp and Pedagogies (3 cr) *(offered Spring even years; Note offered Fall 2025)*
- EnEd 5991 Independent Study (1-3 cr) *(every term, instructor consent needed)*
- EnEd 5992 Readings (1-3 cr) *(every term, instructor consent needed)*
- EnEd 5997 Practicum (1-6 cr) *(consult with DGS, Julie Ernst)*
- MPS 8501 Community Engagement Seminar (4 cr)
- Xxxx-5000, Xxxx 7000, Xxxx 8000 (*with advisor and DGS Julie Ernst approval **before** registration)

Total for degree: 32 credits

Appendix B: Sample Schedules

**Notes: 6 credits is considered full-time for graduate students but students often take more than 6 credits/term. MEEd (and UMD courses in general) are primarily offered in the academic year, with limited summer options. EnEd 5990 and 5997 can be taken in the summer, but that is typically the only summer offerings for MEEd students. When you are working with your advisor on your research project (Plan B), you must be enrolled in EnEd/Educ 5990. If you have completed all 6 5990 credits and if your project isn't completed, then enroll in 5991 for 1 credit.*

Sample Plan for Plan B Students (32 cr)			
If starting in ODD year fall in Plan B:		*If starting in EVEN year fall in Plan B:*	
Year 1 Fall (odd) 5100, 5165, 5325, 5990 (1cr)	**Year 1 Spring (even)** 5600, 5625, 5998, 5990 (1cr)	**Year 1 Fall (even)** 5100, 5230, 5850, 5990 (1cr)	**Year 1 Spring (odd)** 5600, 5855, 5998, 5990 (1cr)
Year 2 Fall (even) 5230, 5850, elective (or in spring), 5990 (2cr)	**Year 2 Spring (odd)** 5855, 5998, elective (if not in fall), 5990 2(cr)	**Year 2 Fall (odd)** 5165, 5325, elective, 5990 (2 cr)	**Year 2 Spring (even)** 5625, 5998, 5990 (2 cr) elective

Sample Plan for **Plan C** Students *(32 cr)*			
If starting in ODD year fall in Plan C:		*If starting in EVEN year fall in Plan C*	
Year 1 Fall (odd) 5100, 5165, 5325	**Year 1 Spring (even)** 5600, 5625, 5998, elective	**Year 1 Fall (even)** 5100, 5230, 5850	**Year 1 Spring (odd)** 5600, 5855, 5998, elective
Year 2 Fall (even) 5230, 5850, elective	**Year 2 Spring (odd)** 5855, 5998, elective	**Year 2 Fall (odd)** 5165, 5325, elective	**Year 2 Spring (even)** 5625, 5998, elective

Appendix C: Final Examination Rubric (Plan B and C)

The final oral examination applies to Plan B and Plan C students. This rubric guides the assessment of program outcomes that do not have course-embedded assessments. Please note that the final exam is broader than this component, and additionally provides an opportunity to synthesize and reflect on program outcomes and learning overall. (And for Plan B students, the exam also includes the "defense" of the Plan B project, including the formal presentation of the Plan B project and questions that pertain to the 5990 research project). Also note that the overall examination is graded on a pass/not pass basis, with the Advisor regarding the grade on the examination report (see the Degree Completion section for further details, as there is a different examination report form based on Plan B or C). An examination report that shows the student has passed the exam indicates the student's responses to examination questions overall are at or above proficiency and reflective of advanced practitioner/graduate-level work.

The rubric below is used to assess these four program outcomes:

- 2A. Describe the fundamental characteristics and goals of environmental education and the evolution of the field and convey a recognition that environmental education takes place in a variety of settings and that sources of support, program requirements, and other factors vary from context to context.
- 3A. Recognize their responsibility for exemplary environmental education practice, including a commitment to place-conscious education, the incorporation of Indigenous worldviews and perspectives, and an emphasis on education rather than advocacy when practicing environmental education.
- 3B. Use reflective learning and participate in professional activities to further their knowledge and skills related to EE.
- 3C. Partner with local organizations and constituents in ways that are meaningful, relevant, and respectful and extend collaborations when appropriate into regional, national, and global contexts.

Students: Please be prepared to respond to the following questions during the oral examination (but again, note that there will be other questions based on which plan you are in; see above and see the handbook for final examination details). You may address the rubric prompts/questions through a verbal response/description, or you may bring and show evidence that demonstrates your proficiency in the outcome at hand and respond to the question prompts by showing and describing that evidence (for example from a related course assignment or professional experience).

Faculty Advisors: Using the following questions during the final oral examination, record your scoring directly on the rubric and submit it to Lynn when you turn in the final oral examination report form (the same rubric is used for Plan B v. C, but the examination report is different based on which plan). This scoring rubric is an *internal, program-level f*orm, with the data needed for UMD campus assessment and NAAEE accreditation. Responses on these items can contribute toward your decision regarding passing the final exam, but the final exam is broader than the questions below. The final examination report form is the official/formal document that goes forward to the Graduate School (via Lynn).

Question prompts	Unacceptable (Moving toward Proficiency)	Acceptable (Proficient)	Target (Advanced/Beyond Proficiency)
What are the major goals and/or objectives of EE?	Student is unable to list the major aims or lists them in an incomplete way (few v. the majority).	Student lists the majority of established goals/objectives and references a founding document OR identifies the major components of environmental literacy and references the NAAEE framework for assessing environmental literacy	Student's response goes beyond listing objectives or components and includes descriptions of each or an explanation of how the objectives or components can be integrated into comprehensive EE programs or describes relationships among the objectives or components
What are some guiding principles or defining characteristics of EE?	Student provides limited principles or characteristics (several, or vaguely lists, or lists irrelevant principles)	Student describes/explains major guiding principles from Tbilisi (such as broad view of "environment," incorporation of concepts such as systems, interdependence, interactions; interdisciplinary; culturally relevant; active learning; lifelong learning; participatory; frequent and sustained learning experiences; accurate and balanced; instructionally sound; further critical thinking v a single course of action; place-conscious; collaborative and oriented toward diversity, equity and inclusion, etc.)	Student demonstrates in-depth knowledge of guiding principles, references sources/guiding documents for these guiding principles, or describes/gives examples of programs that exhibit these guiding principles; or references more in-depth characteristics from coursework

Describe how the field of EE has evolved over time and how it continues to change.	Student describes evolution of the field in an incomplete manner or describes the historical evolution but is unable to describe how it continues to change or current directions for the field	Student describes major antecedent "eras" such as nature study, conservation education, outdoor education, environmental education and the recent directions (such as education for sustainability or the influence of social marketing or conservation psychology or the direction for the field)	Student additionally either includes parallel movements in formal education or analyzes or critiques the influences multiple educational movements have had, or goes into greater depth on future directions for EE
Describe settings in which EE takes place and how program requirements, sources of support and other factors vary across these settings (how does EE differ across these settings)	Student lists only one setting or multiple settings but unable to describe how EE differs across those settings	Student describes multiple settings (formal, nonformal, informal/free choice) and describes how EE varies across those settings	Student describes variations across settings in a way that communicates in-depth and meaningful understanding of differences
Provide an example or evidence that shows your recognition of responsibility for exemplary environmental education practice	Student cannot provide an example or evidence; or student provides example/evidence that doesn't demonstrate a recognition of one's responsibility for exemplary practice	Student provides an example or evidence indicates that he/she understands what exemplary EE practice is and as well as his/her responsibility for exemplary EE practice	Student provides strong evidence or multiple examples and/or an expressed intention or commitment to exemplary practice into the future. Evidence includes a commitment to place-conscious education, the incorporation of Indigenous worldviews and perspectives, and an emphasis on education rather than advocacy when practicing environmental education.

Provide an example of your participation in a professional activity to further your knowledge and skills related to EE (or an example of how you used reflective learning to further your knowledge/skills).	Student cannot provide a relevant example	Student provides an example of a professional development activity and how they learned from it or how they applied what they learned OR they provide an example of reflective practice (such as receiving and responding to feedback; self-evaluating their effectiveness after instruction; analyzing their practice using some formal tool or prompt)	Student's response includes a recognition of the value of professional learning and reflective practice OR student conveys intention toward lifelong/future professional learning and/or reflective practice
Provide an example of partnering with local organizations and constituents in ways that are meaningful, relevant, and respectful (and if applicable, how that collaboration did or could extend into regional, national and global contexts).	Student cannot provide a relevant example	Student provides an example that partially illustrates this outcome.	Student provides an example that exemplifies this outcome.

Appendix D: Plan C Final Examination Report Form

This form is to be completed by the advisor at the conclusion of the Plan C student's final oral examination. The form is returned to the Graduate Program Coordinator, Lynn McGraw, who will retain a copy for our program records and then forward it to the UMD Graduate Office for imaging. *Note: A screenshot of the form is below.*

UNIVERSITY OF MINNESOTA DULUTH

MASTER'S Plan C
FINAL EXAM REPORT FORM

DIRECTIONS—Complete this form at the conclusion of the student's final oral examination. The student's advisor must sign this form.

RETURN FORM TO:
MEEd Graduate Program Coordinator
IN PERSON ON CAMPUS TO:
110 Sports and Health Center

For MEED Records Retention and for forwarding to UMD Graduate Office for imaging

SECTION A. Student degree information		
University ID		
Last	First	Middle or former
Degree sought Master's	Major field Environmental Education	Plan/track Plan C
SECTION B. Final Oral Examination Results		
( ) Pass ( ) Not Pass		
Signature and Printed Name of Advisor		Date of Exam

MEED jae 11/22

Appendix E: Plan B Research Project Requirements

Purpose

Your Plan B Research Project (EnEd/Educ 5990) serves the primary purpose of learning scholarly inquiry and clarity of expression under the direction of graduate faculty members. Not only does it document your abilities in systematic inquiry, analysis, and writing, but it also adds to knowledge in the field of environmental education and related fields and serves as a contribution to future scholars and researchers. Because it has your name as well as the University of Minnesota Duluth's name, it represents the instructional and scholarly functions of this University and the Master of Environmental Education program to the outside world. Thus, this project should be of the highest quality. While your Committee provides guidance throughout the process, the student assumes ultimate responsibility for the academic integrity and completion of the thesis or project.

Scholarly Criteria

The Plan B Research Project (EnEd/Educ 5990) involves conducting an inquiry-based study, which results in an academic paper that follows the conventional thesis five-chapter format (see the section below on Formatting). A variety of methodologies and research designs may be used in this scholarly inquiry, including but not limited to quantitative, qualitative, mixed methods, action research, PRISMA-guided systematic reviews, emergent methodologies, and Indigenous methodologies. Regardless of the design and methodology, this project is to be a systematic investigation or exploration, typically involving data collection and analysis, designed to develop or contribute to knowledge (which could be, but does not need to be, generalizable). The written paper is deposited into the University's Digital Conservancy, which makes it accessible to the public. Students are encouraged to work with their advisors to publish their projects or present their work at conferences. While students may pursue their own topic of interest with consultation and guidance from their advisor, students are also invited to pursue their advisors' line of research, working alongside the faculty advisor, for this Plan B project.

The following are the minimum scholarly criteria for the Plan B research project:

- Guided by a problem, purpose statement, or research questions and information that establishes the rationale and/or significance of the work;
- Demonstrates the use of literature to provide context and rationale for the topic, synthesize what is known, and/or to inform the method, process, or product (extensiveness of use of literature and how the use of literature is demonstrated will vary based on the topic/project);
- Involves a systematic process that typically includes data collection and analysis;

- Demonstrates an ability to present ideas, evidence, and/or arguments in a logical, systematic, and coherent fashion;
- Represents sufficient effort to serve as a capstone (6 graduate level credits)
- Makes a meaningful contribution to environmental education (locally or more broadly); and
- Follows the University of Minnesota (UMN) Graduate School formatting and submission guidelines and the MEEd Plan B Research Project Chapter Guidelines (see Appendix F) and is written in APA style (see the Publication Manual of the American Psychological Association).

**Adapted from O'Mullane (2005), Storey & Maughan (2014), and Rueda (2013)*

Note: In addition to Plan B 5990 research projects, the MEEd program values scholarly projects that are not inquiry-based research, but produce products or projects that are in response to a need and are informed by existing research, evidence, and/or other knowledge bases appropriate to the context at hand. These projects (such as curriculum development, literature review, field project, strategic planning, etc.) can be carried out within the context of EnEd 5991 Independent Study registration. This is typically under the supervision of your advisor. The range of projects carried out by MEEd alumni illustrates the breadth of scholarship undertaken through the program. Please note, though, that in Plan C, the focus is on coursework; a project in the context of 5991 is optional!

EnEd/Educ 5990 Registration

You may register for/enroll in 5990 credits at any time during your graduate studies, with the guidance and approval of your Advisor (your Advisor needs to add you to the permission list in order for you to register for 5990). A total of six 5990 credits are needed to meet degree requirements. You must be enrolled in a minimum of one 5990 credit (or 5991 credit if you have used up your 5990 credits) while working with your Advisor on your project. Also, note that Advisors vary in their summer availability; you may or may not have the option of registering for 5990 credits with your Advisor during the summer. The active status registration code, GRAD 999, is not to be used while a student is actively working with his/her Advisor on Plan B projects.

Required Components

- **Colloquium:** As you are developing your proposal (see next bullet point), you are required to share your proposed project through a colloquium presentation during the EnEd 5998 Seminar. You will work with your Advisor to schedule this colloquium (Colloquium Guidelines and Colloquium Example 1 and Colloquium Example 2). The purpose of this presentation is to share your research purpose, an overview of the

literature, and your proposed methodology, with the aim of getting feedback from your peers, committee members, and/or faculty. Ideally, your committee members attend this colloquium. If they are unable to attend, you can present a shortened version of the colloquium presentation at the start of the committee meeting where the proposal is reviewed and approved.

- **Proposal:** A written proposal describing the planned project must be developed and approved by your Committee before the project is started. Approval is indicated on the MEEd Plan B Research Project Proposal Form (see Appendix G). This form, along with the proposal (Chapters 1-3 and References; see the Plan B Project Chapter Guidelines in Appendix F), must be filed in the MEEd Graduate Program Office prior to submitting an application to the Institutional Review Board (for permission to collect/use data from "human subjects") and prior to data collection. (*Note that before you can submit an application to conduct research for approval by IRB, you must complete the CITI training requirement relating to the protection of human subjects.)

- **Formal Written Document:** Projects must follow the formatting guidelines specified by UMD Graduate School (see Formatting and Submission Guidelines), and the Plan B Project Chapter Guidelines (see Appendix F) specified by the MEEd Program (these MEEd program guidelines indicate what goes within each chapter). Note the order and pagination of the introductory matter on pg. 2 of the Formatting and Submission Guidelines.

- **Seminar Presentation:** You are also required to share your final project when it is completed, or nearly completed, as a part of EnEd 5998 Seminar. You must have your Advisor's approval before scheduling your final seminar. This is a public presentation of your work, as others can attend (beyond the MEEd students, such as your committee, other faculty, other interested members of the campus community, and potentially others you wish to invite or that have an interest in your work). (Final Seminar PPt Example 1, Final Seminar PPt Example 2, Final Seminar PPt Example 3)

- **Oral Defense:** Your finished project is presented to and approved by your Committee as part of the final examination process. All Committee members must receive your finished project at least two weeks before the final examination. Prior to the examination, every Committee member must indicate, by email to the Advisor, that the project is ready for defense. If it is not ready, the final exam must be rescheduled. The final exam begins with a short presentation of your completed project, followed by questions from your committee about your project (Your project is graded on an S/N grading basis. You will receive an Incomplete (I) for 5990 credits until your final project has been signed (certified).

- **Submission of Project:** After the Committee has approved your project (through a passing vote at your final examination and by indicating the project is complete and

satisfactory in all respects), your Advisor will certify project completion by signing the Plan B Research Project Signature (Certification) Form. (This is a form you need to prepare and provide to your Advisor, either hard copy or via email; see Appendix H.) By signing this form, the Advisor is indicating that your project is complete and satisfactory in all respects and that any and all revisions required by the final examining committee have been made. Please note that this signature form is where the Advisor signs; the Advisor does not sign the title page of your project, nor does the committee. You should email your signature form (signed by your Advisor), along with your completed final project (as a pdf file), to Lynn McGraw. Your advisor will email your final examination report directly to Lynn McGraw, once it has been signed by the committee members. Projects from our program, along with projects, theses, and dissertations from all other UM graduate programs, are stored electronically in the UM Library's Digital Conservancy at no cost to the student. After the Director of Graduate Studies has reviewed your completed project and ensured all other MEEd requirements have been met, Lynn McGraw will prompt you to submit your completed project to the Digital Conservancy.

Graduate Student Travel for Presenting Plan B Research Project

Students are encouraged to work with their advisor and/or committee to publish and/or present their work. There may be travel funding available from the Graduate School for graduate students to present at conferences. Funding is limited, and ideally, the request for Graduate School funding is accompanied by department or college-level funding. (Consult with your advisor regarding the process for requesting department level – Applied Human Sciences – funding.) A request can be made using the graduate student travel request form. This form is submitted via an email attachment to the MEEd Director of Graduate Studies. The request if approved by the MEEd Graduate Program Coordinator is forwarded to the Graduate School, which then notifies the student as to the outcome of the request. For international travel, please refer to the U of M International Travel Policy.

Appendix F: Plan B Research Project Chapter Guidelines

Master of Environmental Education
Chapter Guidelines for Plan B Research Projects

Formatting Notes:

- Use Section 1 of the University of Minnesota Graduate School's "Preparing the Thesis/Design Project: Formatting, Submitting, Publishing" document for formatting guidance (margins, fonts, pagination, spacing, title, and signature pages, etc.): see Formatting and Submission Guidelines. For style and formatting matters not included in this document, follow APA, using the most recent edition of the Publication Manual of the American Psychological Association.
- Your proposal is the first three chapters with references, which get revised and added to as needed for your completed manuscript.
- Regarding verb tense: The proposal is written in present and/or future tense (proposing what you will be doing), with the exception of Ch. 2, which is written in the past tense ("Smith showed…") or present perfect tense ("Researchers have shown…"). The tense for the completed manuscript is typically past, with the exception of your research questions, the definition of terms, and Ch. 5, which are generally in the present tense. When in doubt regarding tense, be consistent and/or consult with your Chair.

Signature Page

- The Chair and Committee members must sign the signature page to confirm seeing and approving the final version of the EHS 5990 project.
- A template for the signature page is available at the website noted above; you will need to update the signature lines to reflect your committee members.

Title Page

- Use the guidelines and template noted above; the name listed on the title page must be the official name on record with the Office of Registrar.
- Title is generally less than 12 words (Wilkinson, 1991).
- Title should contain key words (major variables, nature of research, target population) to give a clear, concise description of the topic, scope, and nature of the study (Van Dalen, 1979, in Creswell, 2009);
- Eliminate unnecessary words such as "An Approach to…" or "A Study of…" and most articles and prepositions (Wilkinson, 1991).
- The title of the thesis must not contain chemical or mathematical formulas, symbols, superscripts, subscripts, Greek letters, or other nonstandard characters; words must be substituted.

Copyright Page

- Use guidelines and template noted above. Your official name on record with the Office of the Registrar, the year of graduation, and a copyright symbol © or the word "copyright" are required.
- The copyright page, which is a separate page from the title page, is not numbered or counted; it is required to protect your original work.

Acknowledgments Page

- Optional, but if included, it is numbered in lower-case Roman numerals and counted.

Dedication Page

- Optional, but if included, it is numbered in lower-case Roman numerals and counted.

Abstract

- The abstract provides a summary of your work and is typically about 150 words.
- This page is numbered in lower-case Roman numerals and counted.

Table of Contents

- The table of contents must include the corresponding page number referencing each section.
- These pages are numbered in lower-case Roman numerals and counted.

List of Tables

- A page with a list of tables is required if tables are included in the manuscript.
- The list must include the table number, title, and corresponding page number for each table.
- The list of tables must be represented in the table of contents.
- This page(s) is/are numbered in lower-case Roman numerals and counted.

List of Figures

- A list of figures page is required if figures are included in the manuscript.
- The list must include the figure number, title, and page number for each figure.
- The list of figures must be represented in the table of contents.
- This page is numbered in lower-case Roman numerals and counted.

Chapter 1

Introduction

Note: Chapter 1 in the proposal is written in the present and/or future tense. The tense is later revised to past for the completed manuscript.

Background

- Sets the stage for the entire study, providing the reader with the background information for

placing the study into a context of related research and justifying to the reader that a study is needed (Wiersma, 1995).

- Typically includes (Creswell, 2009):
    - a "hook" to create interest in the study
    - description of the problem or issue leading to the study (should be documented, not just your opinion that a problem exists)
    - a brief discussion of the literature about the problem and/or deficiencies in past literature, placing the study within the larger context of the research literature or within the ongoing scholarly dialogue (not as in-depth as in Ch. 2 and often by referencing groups of studies)
    - discussion of the significance of the study for a specific audience (note: this could be a separate section at the very end of this chapter)
- This section could include conceptual underpinnings, such as the conceptual framework or theoretical base from which your topic evolved (a rational/theoretical/research-based model from which your topic emerged). Depending on the audience for the future publication of your work, the conceptual or theoretical framework can be very important; reviewers may look for and expect a clearly and succinctly identified framework that undergirds your study (Pajares, 2007).
- See Creswell (2009, p. 97-109) for additional guidance, particularly for distinctions among introductions in qualitative, quantitative, and mixed methods studies.

Purpose Statement

- While the Background section focuses on the problem leading to the study, the purpose statement establishes the direction for the research and conveys the overall intent of the study (Creswell, 2003); thus, it sets forth the *purpose* of the study, not the problem or issue leading to the need for the study. It is also not the research questions, but instead sets the intent or major idea of the study, as well as identifies the general approach to your study. Think of this as a bridge between the need (the problem) from the prior section and the specific research questions that will follow in the next section.
- Start with "The purpose (or intent) of this study is…."
- The purpose statement can also incorporate the rationale for the study, alluding to the significance of your study; or this rationale can be part of the background and/or significance sections (Pajares, 2007).
- See Creswell (2009, p. 112-125) for distinctions among purpose statements in qualitative, quantitative, and mixed methods studies.

Research Questions, Hypotheses, or Objectives

- Questions, objectives, and hypotheses clarify the purpose statement. From the broad, general purpose statement, the researcher narrows the focus to specific questions to be answered, objectives to be accomplished, or predictions to be tested based on the hypotheses proposed.
- Qualitative studies often use research questions ("grand tour" questions) rather than objectives or hypotheses; often one or two open-ended central questions with several sub-questions following each central question; questions convey an emerging or open design (see Creswell, 2009, p. 130).
- For quantitative studies, select one (either questions or objectives or hypotheses, but not a combination of them); see Creswell (2009, p. 132-137) for additional information.
    - *Research question:* inquire about the relationships among variables in the form of a

question that is phrased as a question (Krathwohl, 1988 in Creswell, 2009).
    - *Research Objective:* stating the research question in declarative form (Krathwohl, 1988 in Creswell, 2009); tend to be used less in social science research, but more in proposals for funding.
    - *Hypothesis:* declarative statement of the predicted or expected relationship between 2 or more variables (Mason & Bramble, 1989 in Creswell, 2009); typically used in true experimental designs.
- For mixed methods studies, see Creswell (2009, p. 138-142).
- As you write your questions, check them using these criteria: feasible, clear, significant, and ethical.

Definition of Terms

- An introductory sentence(s) can be used to transition from the prior section to this section. For example: **"**The following section defines how key terms will be used in this study. The terms are defined using the process for specification of concepts outlined in Babbie (2011) and Creswell (2009). A nominal definition for each term is provided, and when relevant, an operational definition that specifies how the concept will be measured is also provided."
- Definitions add precision to your study, helping your readers know how certain terms are being used in the study.
- Define terms that someone outside the field may not understand and terms that have multiple meanings; consider defining terms introduced in your title, introduction, purpose statement, and research questions.
- Definitions should be grounded in the literature (citation used) unless the term is "commonly understood" or if you have no source, but then re-consider if it should be a term you define (Theobald, 1991).
- Terms should be defined in one or more complete sentences, not phrases (Theobald, 1991).
- When defining terms that represent constructs that you will be measuring, indicate how you will be "operationalizing" them by stating the observable measure of those constructs; in other words, include an operational definition with your nominal definition. For example: "Critical thinking is the process of purposeful, self-regulatory judgment that drives problem-solving and decision-making (APA, 1990). For the purpose of this study, students' scores on the Cornell Critical Thinking Test, Level X (Ennis, Millman, & Tomko, 1985) will serve as the observable measure of this construct."

Limitations, Delimitations, and Assumptions

- These can be combined into one section, in paragraph form, or as separate sections with bulleted lists. This section can be in Chapter 1 or at the end of Chapter 3.
- Limitations identify potential weaknesses or limitations in the design or methods (for example, convenience sampling limiting the generalizability of the results, threats to internal validity, the nature of self-report, etc.). In this section, limitations are summarized. They may be described in greater detail and discussed further in another appropriate section (usually Ch. 5, in the context of interpreting the results).
- Delimitations address how the scope of the study will be narrowed. Think of these as setting boundaries around something, such as delimiting the population to outreach practitioners in Duluth, MN. This is where you explain what you are not doing, but limit your delimitations to the things that a reader might reasonably expect you to do but that you, for clearly explained reasons, have decided not to do (Parjares, 2007).

- Assumptions are what you are taking for granted (Theobald, 1991). If you can support your 'assumption' through your literature review, then it is not an assumption. Assumptions are propositions that you cannot prove, but are readily accepted by your readers.

Significance

- This can be included within the Background section, instead of as a separate section.
- Aim for a clear and compelling rationale for the study; how/why is your study significant and important?
- Who (what individuals or groups) can use this new knowledge or information yielded by the research to change or improve the present situation? How will the study contribute to the improvement of the profession? To future research? To policy or practice improvements?
- Can include the documented arguments of others (expert opinion) who call for an investigation of the problem.

Chapter 2

Review of Literature

- The literature review is typically written in the past tense ("Smith showed…") or present perfect tense ("Researchers have shown…"). Consistency in tense within a paragraph and throughout the chapter is important. In most cases, use only last names for persons/authors/researchers noted in your literature review; do not use position or academic titles (Theobald, 1991). Avoid overuse of directly quoted material, aiming to paraphrase and cite rather than directly quote (Theobald, 1991). Also aim to avoid citing studies referenced in other studies; instead, find and and cite the direct source. For example, not "Johnson (1999), as cited in (Smith, 2001);" instead "Johnson (1999) found…"
- This chapter often begins with a brief introduction to remind readers of the background and purpose you presented in Chapter 1, followed by a description of the form of this chapter in terms of purpose, scope, and sequence/organization (Theobald, 1991). Often this is done through an overview of the sections your literature review will contain and their relevance to the research question. Chapter 2 often concludes with a summary, synthesizing and highlighting the key points of your literature review.
- The body of Chapter 2 expands on the Background section from Chapter 1, further describing and framing the need for the proposed research (does this project fill in some gaps in knowledge, test a theory, replicate the research, etc.). In addition, the literature review provides a review as to what is known regarding your topic and alternative points of view regarding your topic. Think of the literature as accomplishing the following things:
    - Sharing results of other studies closely related to your study;
    - Relating your study to the larger, ongoing dialogue in the literature about a topic (Marshall & Rossman, 1989); and
    - Providing a framework for establishing the importance of the study, as well as a benchmark for comparing the results of the study (Pajares, 2007).
- If not included in Chapter 1, Chapter 2 could include conceptual underpinnings, such as the conceptual framework or theoretical base from which your topic evolved (a rational/theoretical/research-based model from which your topic emerged). Depending on the audience for the future publication of your work, the conceptual or theoretical framework can

be very important; reviewers may look for and expect a clearly and succinctly identified framework that undergirds your study (Pajares, 2007). Some refer to this as an analytical framework or a lens through which the research study is viewed; it has implications for the subsequent methodology choices.

- Chapter 2 reports on the literature, but more importantly, is written to analyze what is found in the literature (comparing and contrasting findings, for example). Aim to communicate to the reader that you have a comprehensive grasp of the field and are aware of important and recent substantive and methodological developments relating to your topic (Parjares, 2007). Avoid statements that imply little has been done, little is known, or that what has been done is too extensive to summarize, as this implies that you are not really familiar with the literature (Parjares, 2007).
- Keep in mind that much of what you find as you review the literature and write Chapter 2 will be relevant to other chapters, such as Chapter 1 (Background), Chapter 3, and Chapter 5 (as comparisons are made between your results and those from studies in your literature, and as you interpret what you found in the context of prior research) (Theobald, 1991).
- See Creswell (2009) for further guidance and for distinguishing between the way literature is used in a quantitative study and the way it is used in a qualitative study.

Chapter 3

Methodology

Notes:

- *The methodology for the proposal is typically written in the future tense. When describing the methods after they have been completed for your completed manuscript, this section is revised and written in the past tense.*
- *Chapter 3 should be detailed enough to allow replication (Wiersma, 1993). For studies with more than one research question, multiple designs and/or data collection methods may be needed; to address each design that will be used.*
- *Depending on the type of study, the ordering and content of the sections in this chapter vary. Thus, guidance for this chapter is organized around the following three methodologies: survey research; experimental research; and qualitative research. For mixed methods research, refer to Creswell (2009) Chapter 10. The complexity and breadth of mixed-methods procedures require detail beyond the scope of this document. The following sections draw primarily from Creswell (2009); you will find it useful to use this text for more in-depth guidance for writing your proposal. This text, however, is not meant to serve as a research methods (how to conduct research) text. Note the data analysis section at the end of this chapter applies to the three methodologies outlined below.*

Methodology for Survey Research (adapted from Creswell, 2009)

Introduction

- Chapter 3 begins with an introduction, where you briefly remind the reader of the purpose of the study and the research questions/objectives/hypotheses. This introduction can be used to describe the overall design/paradigm and rationale for it (qualitative, quantitative, or mixed methods), as well as to describe the overarching research purpose (exploratory, descriptive, or explanatory).

Design

- Introduce readers to the purpose of survey research and the rationale for its selection for your proposed study.
- This section should indicate if the survey will be cross-sectional or longitudinal, and should also indicate the specific form of data collection (self-administered questionnaire; in-person or telephone interview; structured observation; web-based self-administered questionnaire; etc.) A rationale for the form specified should be included. See Creswell (2009, p. 146) for additional information.

Population and Sample

- Indicate the population (size, characteristics, etc.) and accessible population and sampling frame if applicable.
- Describe the sampling design (single or multi-stage) and selection process (random or non-random), and if stratification will be used. Indicate the number of people in the sample and how that number was calculated (see applicable research texts for sampling methods and sample size formulas and tables).
- After the study is completed, additional descriptive information (sometimes in the form of tables) on respondents is included here, or this information could be presented in Chapter 4.

Instrumentation

- Describe in detail the actual survey instrument (was it developed for this study, modified, or an intact instrument?). See Creswell (2009, p. 149) for considerations regarding modifying or using existing instruments. Describe the major sections of the instrument, including the instructions, items, and response scales. Consider creating a table of specifications to align research questions, constructs, dimensions, and items. Consider including sample items so readers get a sense of the actual items used; the complete instrument could be included as an appendix if the instrument was self-developed, and potentially included as an appendix depending upon permission/copyright issues for intact instruments. Indicate if the instrument will be analyzed at the item level, subscales, etc. (or include this in the Data Analysis section)
- Indicate how validity and reliability will be (or have been) established/demonstrated. Keep in mind that modifying an instrument alters its validity; reestablishing validity and reliability in the data analysis is important.
- Describe plans for pilot or field testing of a self-developed or modified instrument. Indicate how results from this testing will translate into instrument revisions.
- Describe steps for administering the survey and ensuring the desired response rate (this could be in a separate section Data Collection Procedures). See survey research texts for survey administration processes designed to ensure a high response rate.

Data Collection Procedures

- Discuss a step-by-step approach for administering the survey and collecting the data, including who will administer the data collection instruments and when.
- Include how permission to conduct research will be attained, and include assent scripts and consent forms as appendices.

Data Analysis

- Tell the reader about the specific type of analysis that will be used to answer your research question(s). Include analytical tools/software that you plan to use. Remember that your data

analysis is based on your research questions and the design of your study.
- For statistical analyses, describe the descriptive and inferential tests that will be conducted, indicated why these tests will be employed, and as relevant, the level of significance selected and why. As needed, provide citations for tests or procedures.
- See Creswell (2009, p. 151-152) for this section in survey research.

Methodology for Experimental Research (adapted from Creswell, 2009)

Introduction
- Chapter 3 begins with an introduction, where you briefly remind the reader of the purpose of the study and the research questions/objectives/hypotheses. This introduction can be used to describe the overall paradigm/design and rationale for it (qualitative, quantitative, or mixed methods), as well as to describe the overarching research purpose (exploratory, descriptive, or explanatory).

Participants
- Describe the selection process for participants (random v. non-random selection), as well as the process for assigning participants to treatment and control groups. If random assignment or matching will be used, describe how this will occur. Describe the process for determining how many participants were selected to participate (was a power analysis used to identify group sample size).
- Describe the participants in each group (treatment and control groups) in terms of how many and in terms of other relevant demographic characteristics.

Design
- Identify the design to be used in the study (pre-experimental, quasi-experimental, or experimental), and specify the specific research design used (pretest-posttest nonequivalent control group design, posttest only with nonequivalent groups, etc.). Identify the independent and dependent variables in your design. Provide a rationale as to your design choice. See a research methods text for design options.
- Identify and describe potential threats to validity, explaining the potential issue they present to your study. Discuss how you plan to address the threats through your design. (These threats can be summarized in Chapter 1, particularly when you do not have a way to mitigate a specific threat to internal validity. Here they are described in more detail, along with how you plan to address these threats.). See Creswell (2009, p. 162), as well as research methods texts for further discussion of threats to validity and types of validity relating to research design.

Treatment
- Identify and describe the treatment (independent variable) for your study. Describe in sufficient detail for a reader to gain an understanding of the treatment involved, in terms of content, duration, sequencing, method, activities, materials, etc.
- Indicate if the treatment was an existing treatment/program/intervention, or if the treatment was developed for this study.

Instrument
- Describe in detail the instrument used to measure the dependent variable (was it developed for this study, modified, or an intact instrument?). See Creswell (2009, p. 149) for

considerations regarding modifying or using existing instruments. Describe the major sections of the instrument, including the instructions, items, and response scales. The complete instrument could be included as an appendix if the instrument was self-developed, and potentially included as an appendix depending upon permission/copyright issues if the instrument was an intact instrument. Indicate if the instrument will be analyzed at the item level, subscales, etc. (or include this in the Data Analysis section)

- Indicate how validity and reliability will be (or have been) established/demonstrated. Keep in mind that modifying an instrument alters its validity; reestablishing validity and reliability in the data analysis is important.
- Describe plans for pilot or field testing of a self-developed or modified instrument. Indicate how results from this testing will translate into instrument revisions.

Data Collection Procedures

- Discuss a step-by-step approach for conducting the experiment and collecting the data, including who will administer the data collection instruments and when.
- Include how permission to conduct research will be attained, and include assent scripts and consent forms as appendices.

Data Analysis

- Tell the reader about the specific type of analysis that will be used to answer your research question(s). Include analytical tools/software that you plan to use. Remember that your data analysis is based on your research questions and the design of your study.
- For statistical analyses, describe the descriptive and inferential tests that will be conducted, indicated why these tests will be employed, and as relevant, the level of significance selected and why. As needed, provide citations for tests or procedures. See Creswell (2009, p. 166-167) for experimental studies.

Methodology for Qualitative Research (adapted from Creswell, 2009)

Introduction

- Chapter 3 begins with an introduction, where you briefly remind the reader of the purpose of the study and the research questions/objectives/hypotheses. This introduction can be used to describe the overarching design/paradigm (qualitative, quantitative, or mixed-methods) and rationale for it (why a qualitative approach is best suited for your study), as well as to describe the overarching research purpose (exploratory, descriptive, or explanatory).

Strategy of Inquiry

- Indicate what qualitative strategy you will be using (such as phenomenology, ethnography, case study, grounded theory, etc.).
- Provide background regarding that particular strategy (Creswell suggests the origin of the strategy, a definition of it, and its applications of it).
- Describe why that strategy is appropriate for your research study, and indicate how it will shape your overall approach to your data collection and analysis.

Participants

- Describe the "who" and "where" of the research, along with a rationale for those choices.
- The "where" (setting) could be a separate section, but often the setting provides the context for understanding the participants, which is why the setting might be included within a Participants section.

Researcher's Role

- This section allows the researcher to describe his/her role in the study, as well as the relationship he/she has to the participants, context, or phenomenon being studied.
- This section serves to provide readers insight into how your own background, values, and biases may shape your interpretations formed during the study. It provides the researcher an opportunity to explain how/if the researcher will "bracket" or filter out potential assumptions and biases derived from his/her lived experiences.
- This section also identifies how you gained entry into a research site and permission to conduct research, as well as potential ethical issues that might arise and your plans to address them.
- See Creswell (2009, p. 177) for areas to include in this section.

Data Collection Procedures

- Indicate the data collection method(s) (observations, interviews, documents, etc.). Include your rationale for your selection, as well as the strengths and weaknesses of that data collection method.
- Establish a protocol for recording information (see Creswell, 2009, p. 181). This is similar to a data collection instrument in other forms of research.
- Explain how the information/data will be managed throughout the study.

Data Analysis

- For qualitative analyses, describe in detail, providing citations to ground your analysis procedures. If coding procedures are used, describe them in reasonable detail. If triangulating data or using mixed methods, explain how you will go about synthesizing the data and results from multiple sources and/or methods, citing your procedures/processes as appropriate. See Creswell (2009, p. 183-193) for qualitative analyses and Creswell (2009, p. 218-220) for mixed methods studies.

Chapter 4

Results

- This chapter is usually written in the past tense.
- This chapter may begin with a brief review of the purpose of the study and research questions, followed by an overview of how the data will be organized and presented (by research question? By survey question? By themes that emerged? etc.). Often data regarding participants (demographic characteristics) is presented first, followed by the results for each of the research questions. If the data analysis process differed across research questions, a brief description of the data analysis process conducted for each research question could precede the presentation of results for that research question. The research design, along with your research purpose and questions, should guide how this section is organized.
- This chapter is a presentation of the results (what you learned through your data analysis). No

conclusions or implications should appear in this chapter, and for the most part, discussion of the findings is also reserved for Chapter 5. Depending on the length and complexity of this chapter, you may want to conclude Chapter 4 with a summary of the results.

- For further guidance, see Creswell (2009); note that he combines data analysis procedures with the presentation and interpretation of results in his text, whereas, in this format, these are three separate sections. For survey research, see p. 152-153; for experimental research, see p. 166-167; for qualitative research, see p. 193-200 (note that strategies for writing qualitative results are quite diverse); and for mixed methods research, see p. 220).

Chapter 5

Discussion

- This chapter is usually written in the present tense.
- Chapter 5 often begins with a summary of the study's purpose and results. It also includes a Discussion section (interpretation and discussion of results, as well as a synthesis guided by the overarching research questions and purpose). Results are typically summarized and discussed in the same sequence as in Chapter 4. Discussion of your results should connect back to your review of literature, limitations, and, if applicable, to your theoretical framework. Also discuss your results in the context of generalizability, if applicable. In this section, as well as throughout this chapter, be careful to interchange the discussion of findings with conjecture; conjecture can be appropriate as long as it is clearly noted as such.
- Following the discussion of results, Chapter 5 usually includes an Implications section. Implications are the practical suggestions as to what should be done and how in light of the issues that have been raised through your research (implications should flow from your literature review and your results; they need to be relevant and connected to your study!). Think about what the results mean to practitioners and researchers. What are the implications of your results to programs, methods, educational interventions, or policy decisions? It may be useful to revisit your significance section from Chapter 1. The quantity of implications is less important than the quality of thought behind the implications (Theobald, 1991).
- Following the implications, there is generally a Recommendations for Future Research section, along with a rationale for why the additional research should be done (Theobald, 1991). As with implications, recommendations need to be connected to your study, not recommendations for research in general.
- Finally, your chapter should end with a Conclusion section, based on the research purpose and questions from Chapter 1. Your conclusion should be grounded in the results of your study and your literature. This last section brings your research full circle (Theobald, 1991).

References

- Follow APA guidelines regarding the use of references in text and in the reference list. Only references cited in your text are included in the reference list (otherwise it is called a bibliography) (Pajares, 2007).

Appendices

- The following are examples appropriate for this section: assent script; consent forms; cover

letters of permission to conduct research; data collection instrument (if copyrighted, permission in writing to reproduce the instrument or proof of purchase of the instrument); etc.

Appendix G: Plan B Research Project Proposal Form

Note: Copy and paste the text below into a new google document or word document, filling in the applicable information and saving it as a pdf. Once the form is completed and signed, return it to Lynn McGraw. (This form can be completed electronically or in hard copy.)

Master of Environmental Education Program
College of Education and Human Service Professions, UMD Graduate School

Plan B Research Project Proposal Form

Name:_____ ID: _____ Email:_____

**Submission of IRB application and data collection cannot begin until this form, accompanied by the proposal, is signed and filed with the MEEd Graduate Program Office.*

**Plan B project proposal (Ch. 1-3 with a Reference list) must be attached to this form.*

Research Project Title:_____

I have read the attached proposal and approve this proposed project.

_____ _____
Chair Date

_____ _____
Committee Member Date

_____ _____
Committee Member Date

11/1/22 je

Appendix H: Plan B Research Project Signature Form

Note: Copy and paste the text below into a new google document or word document, filling in the applicable information, and saving as a pdf. Once signed by your advisor, it is submitted by email along with your completed Plan B project to Lynn McGraw.

UNIVERSITY OF MINNESOTA

This is to certify that I have examined this copy of the Plan B Research Project by

[Student's official name on record with the University of Minnesota]

and have found that it is complete and satisfactory in all respects,
and that any and all revisions required by the final
examining committee have been made.

_____

Name of Faculty Adviser

_____

Signature of Faculty Adviser

_____

Date