

SAMPLE APPENDICES REFERENCED IN TABLE 4

Appendix 1-A Issues Investigation Rubric

Write a paper and prepare a presentation that focuses on the investigation of a sustainability-related issue. Demonstrate:

Knowledge about environmental and sustainability processes and systems including:

- The Earth as a physical system
- The natural environment and ecosystems
- How humans adapt to and change their environment
- Interdependence of life
- Social dynamics of community decision making
- How society, economy, and the environment are interconnected

Appropriate skills associated with environmental and sustainability education including:

- Basic modes of inquiry
- Gather and organize information
- Interpret and synthesize information from a variety of sources and perspectives
- Effectively communicates their ideas based on evidence

Identify initial thoughts and preconceived ideas, explore multiple resources and perspectives on their own, and develop options and course of action. Articulate, evaluate, and adjust their thinking, tracking their understanding of the concepts and issues change and deepen over time.

Demonstrate a motivation and sense of responsibility to act on their own informed conclusions about environmental and sustainability issues, as well as an understanding of the impact of what they do as individuals and collectively regarding the issue at hand.

Issues Investigation Rubric

Criteria	Unacceptable (Not yet proficient)	Acceptable (Proficient)	Target (Beyond proficiency)
<p>Knowledge about environmental and sustainability processes and systems including:</p> <ul style="list-style-type: none"> ▪ The Earth as a physical system ▪ The natural environmental and ecosystems ▪ How humans adapt to and change their environment ▪ Interdependence of life ▪ Social dynamics of community decision making ▪ How society, economy, and the environment are interconnected 	<p>Lack of skills demonstrated or incomplete demonstration of set of skills in written paper</p>	<p>All skills demonstrated at an acceptable level in the written paper</p>	<p>Skills demonstrated at an advanced level in the written paper</p>
<p>Appropriate skills associated with environmental and sustainability education including:</p> <ul style="list-style-type: none"> ▪ Basic modes of inquiry ▪ Gather and organize information ▪ Interpret and synthesize information from a variety of sources and perspectives ▪ Effectively communicates their ideas based on evidence 	<p>Lack of skills demonstrated or incomplete demonstration of set of skills in written paper</p>	<p>All skills demonstrated at an acceptable level in the written paper</p>	<p>Skills demonstrated at an advanced level in the written paper</p>
<p>Identify initial thoughts and preconceived ideas, explore multiple resources and perspectives on their own, and develop options and course of action</p>	<p>Written paper suggests a lack of ability to do so (missing, incomplete)</p>	<p>Skills demonstrated at an acceptable level in the written paper</p>	<p>Skills demonstrated at an advanced level in the written paper</p>

<p>Articulate, evaluate, and adjust their thinking, tracking their understanding of the concepts and issues change and deepen over time</p>	<p>Reponses during the final oral class presentation and discussion suggest a partial ability or lack of ability to do so</p>	<p>Responses during the final oral class presentation or discussion suggest adequate/acceptable ability to do so</p>	<p>Responses during final oral presentation or discussion suggest a depth or complexity or advanced level of articulation, evaluation, and/or reflection on their understanding</p>
<p>A motivation and sense of responsibility to act on their own informed conclusions about environmental and sustainability issues, as well as an understanding of the impact of what they do as individuals and collectively regarding the issue at hand</p>	<p>Paper and/or oral discussion responses do not suggest learner has the motivation, sense of responsibility, and understanding of consequences of action/inaction</p>	<p>Paper and/or oral discussion responses suggest learner has the motivation, sense of responsibility, and understanding of consequences of action/inaction</p>	<p>Paper and/or oral discussion responses indicate learner can articulate a plan for next steps/action or that the learner has an intention to act in a manner grounded in their study of the issue</p>

Appendix 1-B
Ecosystem Project Tour

Conduct an ecosystem tour with an assigned group. Be sure that the tour addresses all the ecosystem components studied in this class. Use excellent interpretive skills and clearly show interconnections between ecosystem components and give insights into the larger ecosystem dynamics.

Ecosystem Tour Rubric		
Organized	Proficiency: The presentation had a clear introduction, content and conclusion with <i>identifiable theme and structure</i>	20%
Expertise	Proficiency: The presenter showed expert knowledge of the content they were presenting	30%
Pedagogy	Proficiency: The presenter engaged the group with questions and participation in creative ways. The presenter spoke clearly and used understandable language (defined new terms). The Instructor made eye contact with the group and responded to their questions and interests.	30%
Synthesis and Reflection	Proficiency: Presenter shows interconnections between ecosystem components and gives insights into the larger ecosystem dynamics	20%

Appendix 1-C Paper and Class Facilitation Rubric

Students research an environmental issue and then present in a seminar format. The research paper is clear, well-organized, and outlines the situation with thoroughness regarding both depth and breadth and includes multiple defensible perspectives.

The presentation:

- Provides background information that presents diverse and accurate information permitting a thorough exploration of the issue and supported by current citations of primary research directly related to the issue.
- Provides well-reasoned and creative actions that could lessen the impact of the issue or potentially lead to a solution.
- Provides written materials that are succinct, accurate, and well-researched to provoke a productive discussion.
- Frames the discussion well and provides probing questions that lead to a spirited, insightful and profitable discussion.

Rubric for research paper and facilitation of class discussion

	No Pass	Low Pass	Pass	High Pass
Presentation of the environmental issue	Presentation of environmental issue in the research paper fails to outline the situation clearly and thoroughly and includes a single or no defensible perspective.	Presentation of environmental issue in the research paper outlines the situation clearly although lacking breadth and depth at several points and includes no more than two defensible perspectives.	Presentation of environmental issue in the research paper outlines the situation clearly although lacking either the breadth or depth at some point but permitting an insightful understanding of the issue. Multiple defensible perspectives are presented.	Presentation of environmental issue in the research paper clear and well-organized, outlines the situation with thoroughness regarding both depth and breadth and includes multiple defensible perspectives.

	No Pass	Low Pass	Pass	High Pass
Background research contributes to an understanding of the issue and offers the opportunity for further investigation	Background information presents limited and sometimes inaccurate information permitting only a superficial exploration of the issue. Citations are limited in number (<15) and/or not current or directly relevant to the issue.	Background information presents limited but accurate information permitting a less than a thorough exploration of the issue and supported by 15-20 citations where most but not all of which are current or bear directly upon the issue.	Background information presents diverse and accurate information permitting a thorough exploration of the issue and supported by 15-20 current citations of primary research related directly to the issue.	Background information presents diverse and accurate information permitting a thorough exploration of the issue and supported by 20 or more current citations of primary research directly related to the issue.
Actions and potential actions are explored that contribute to a solution(s)	Few actions are proposed that would contribute to a solution and of those that are proposed not all are reasonable.	Four or more well-reasoned actions are proposed that would lessen the impact of the issue or potentially lead to a solution.	Six or more well-reasoned and creative actions are proposed that would lessen the impact of the issue or potentially lead to a solution	Ten or more well-reasoned and creative actions are proposed that could lessen the impact of the issue or potentially lead to a solution

	No Pass	Low Pass	Pass	High Pass
Facilitation of class discussion	Written materials presented to the class lacking in several respects including accuracy, breadth, and depth. Material not well-designed to promote productive discussion. Discussion lags. Few probing questions are offered, and few meaningful comments elicited from the class.	Written materials presented to the class are succinct, mostly accurate, but do not span the full breadth and depth of the issue. Productive discussion likely but not ensured. Student frames the discussion reasonably well but probing questions are not sufficient to generate a sustained discussion.	Written materials presented to the class are succinct, accurate, complete, and provide the basis for a productive discussion. Student frames the discussion sufficiently to generate meaningful discussion and provides probing questions leading to a generally productive discussion.	Written materials presented to the class are succinct, accurate, well-researched to provide new information and well-chosen to provoke a productive discussion. Student frames the discussion well and provides probing questions that lead to a spirited, insightful and profitable discussion.

Appendix 1-D

Environmental Community Action Project Assignment and Rubric

Assignment: Criteria V - Community Partnership Project - 20 hours

The Community Partnership Project provides candidates with the opportunity to lead a partnership that will have a positive and lasting effect on the community* and that will increase environmental awareness and understanding.

* A community can be defined as a group of persons with common characteristics such as geographic, professional, cultural, racial, religious or socio-economic similarities; communities can be defined by location, race, ethnicity, age, occupation, interest in particular problems or outcomes, or other common bonds. It also gives the candidate practical experience applying what they have learned as an environmental educator.

This component of the certification process should include the following key elements:

Leadership - you are the primary coordinator, planner and leader of the project.

Partnership - you must work with at least one community partner other than your own school, agency or workplace.

Community Need - you must identify a need that your project will address.

Community Participation - your effort should engage members of a community and produce a project, event or program that will benefit that community and that will increase environmental awareness and understanding.

Relationship to the Objectives of Environmental Education your project should address at least one of the five main objectives of environmental education: awareness, knowledge, attitudes, skills, participation. (Refer to the Tbilisi Declaration in the Basics of EE – Independent Study.)

*Note: While the partnership project can be located at your place of work, it must be a project that goes beyond your assigned duties, job description and/or work plan. Also, you must initiate and manage the partnership project.

You are required to contact the office before beginning your project to make sure it meets all the program criteria.

Examples of successful Community Partnership Projects:

A parent volunteer learned from teachers at a local elementary school that there was interest

in integrating environmental education into their lesson plans using an outdoor area. The parent worked with PTA members and with an environmental educator at a nearby nature center to develop a manual and workshop to help those teachers use their schoolyard as an outdoor classroom. The parent worked with the environmental educator to conduct the workshop for the school's teachers.

The candidate met with the neighborhood association to identify an environmental need in their community. They determined that the neighborhood had a problem with residents using the storm drains for dumping trash, paint and other polluting substances. The candidate partnered with the neighborhood association to stencil neighborhood storm drains with an educational message and distribute materials to residents explaining the project and its purpose.

The candidate contacted a city park near their home and found out that the park had a trail that needed restoration and signage. The candidate worked with a local Boy Scout troop and the park ranger to restore a section of trails and install interpretive signs at the park. The candidate worked with the local community to publicize the newly restored trails.

Rubric:

- Completed action project accepted by the State Department of EE and meets all state objectives.

Appendix 2-A Final Examination Scoring Rubric

The final examination is used to assess these program outcomes (but is not limited to assessing these specific outcomes, as a broader set of questions tailored to the student's thesis, graduate degree plan, and career direction are part of assessing the passing or failing of the final exam program requirement):

- 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.
- Recognize their responsibility for exemplary environmental education practice.
- Use reflective learning and participate in professional activities to further their knowledge and skills related to environmental education.

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

Question prompts	Unacceptable (Moving toward Proficiency)	Acceptable (Proficient)	Target (Advanced/Beyond Proficiency)
<p>What are some guiding principles or defining characteristics of EE?</p>	<p>Student provides limited principles or characteristics (several, or vaguely lists, or lists irrelevant principles)</p>	<p>Student describes 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; etc.)</p>	<p>Student demonstrates in-depth knowledge of guiding principles, or 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 a variety of guiding documents/research)</p>
<p>Describe how the field of EE has evolved over time and how it continues to change.</p>	<p>Student describes evolution of the field in an incomplete manner or describes the historical evolution but is unable to</p>	<p>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</p>	<p>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</p>

Question prompts	Unacceptable (Moving toward Proficiency)	Acceptable (Proficient)	Target (Advanced/Beyond Proficiency)
	describe how it continues to change or current directions for the field	psychology or the direction for the field)	
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	Student cannot provide an example or evidence; or student provides example/evidence that doesn't demonstrate a	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

Question prompts	Unacceptable (Moving toward Proficiency)	Acceptable (Proficient)	Target (Advanced/Beyond Proficiency)
education practice	recognition of one's responsibility for exemplary practice		
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

Appendix 2-B Scoring Guide for Program Analysis

Assignment: Student writes analysis of an at least 3 programs from a variety of setting by creating logic models, articulating and analyzing the program. Include sources of support, program requirements, school policies or mandates and funding sources. Specifics are in the scoring guide below.

Student Score and Comments	Possible Score	Criteria
	10	<p>Logic model (visual/graphic representation) of program); see logic model visual; <i>*I'm looking for a typed, professional-looking graphic that depicts your program and that you've included all the components of the logic model (described above) and that you understand the meaning of these components (output v. outcome for ex); should be in graphic format, not paragraph or bulleted list format</i></p>
	15	<p>Written articulation and analysis of the program and the likelihood of the program achieving its goals, based on what you know about both learning and EE theories; Written summary of recommendations to increase the likelihood of achieving desired outcomes or recommendations for program improvement. <i>*I'm looking for approximately 5 pages: Include sources of support, program requirements, school policies or mandates and funding sources. What assumptions is your program making based on the program components and the program outcomes, and are these assumptions sound based on the theories we've studied? Based on what you learned in class, is it likely the program will achieve its goals? Why or why not? What could be improved, based on what you learned from class that would help make the program more likely to reach its goals? Your score will reflect the depth and application of course content! *This critique and recommendations need to be backed by research - by the theories and research you've just learned about. Thus, I'm not looking for your opinions here, unless</i></p>

		<p><i>they are supported by research!</i></p> <p><i>*Quality of writing (grammar, writing mechanics, spelling, organization, flow, works cited according to APA format, etc.)</i></p>
	5	<p>Share your analysis with the class;</p> <p><i>*I'm looking for a 5-10 minute, informal sharing of your analysis, where you describe your programs, show your logic model, share your analysis and recommendations. You'll be scored on your preparedness in sharing your project and the seriousness in which you approach this sharing. It would be helpful to have a handout or visual of your logic model to show the class as you talk about your program and analysis.</i></p>

Appendix 2-C
Evolution of the Field of Environmental Education Assignment and Scoring Guide

The purpose of this assignment is for you to become more familiar with the evolution of environmental education, understanding its origins and communicating that to others. You will draw on course readings and discussions, as well as additional literature, to create a timeline of environmental education. You will share your timeline electronically—through Prezi, PowerPoint, screencasting, or some other method. You will share your timeline by responding to the indicated discussion thread on eePRO.

	5 points	3 points	0 points
Influential people	Key individuals are identified, including their specific contribution to the field	Key individuals are vaguely identified	Key individuals are not identified
Influential policy	Key policies are identified, including their specific contribution to the field	Key policies are vaguely identified	Key policies are not identified
	3 points	1.5 points	0 points
References	In-text citations provide support for ideas; citations also indicated in reference list; references from both in class readings and out of class	Partially complete reference list or use of in-text citations	References not cited in text, no reference list
Design (including grammar and spelling)	Visually appealing, a pleasure to view, clearly a final copy with no grammatical or spelling errors	Visually appealing, several grammatical or spelling errors	Not appealing, numerous grammatical or spelling errors

Appendix 3-A
Environmental Issue Investigation and Action Plan Assignment and Rubric

Assignment: Students will develop a unit plan for their grade level which involves investigation of a local environmental issue and leads their students into taking action related to this issue. Specifics are in the scoring guide below.

Components
1) Organization – Follows required format & is focused on the central organizer. Flows in a logical manner a) Includes grade level, theme/topic, and length of daily instructional period. b) Central Organizer – defines problem, issues, or questions; relates to real life/ is meaningful to students. c) Regional or local issue overview—2-3 paragraph summary of the natural and human systems involved in the issue being investigated. d) Address standards. Non-formal educators address NAAEE Guidelines for Learning. e) Essential Questions (3 – 6) (keyed to Standards listed above) - identifies essential learning; concentrates on manageable number of standards f) Includes a pre-assessment to determine learners’ prior knowledge g) Curriculum Alignment--Explain how this unit could be used within your existing curriculum
30 points
2) Materials / Resource List – a) A list of all the materials including quantity needed for the instructional sequence b) A list of at least 10 resources that can be used by teachers and students throughout the unit, including technology (multiple forms), web sites, objects, and text in an accepted bibliographic format
30 points
3) Culminating Performance a) Student handout that describes a meaningful action related to the environmental issue and includes a detailed Scoring Guide. The performance/product should allow for diverse ways of demonstrating knowledge (verbal, written, artistic, etc.) b) The performance requires some sort of action be taken by students.
40 points

Instructional Planning Chart--Includes overviews of the lesson plans (instructional periods) each lesson is unique. The unit must be at least 5 days in length

- a) Essential Questions are keyed to each lesson
- b) Standards are keyed to each lesson

- c) Objectives are clear and measurable

- d) Instructional strategies for each lesson are clearly identified

- e) Includes a variety of formative assessments

- f) Includes differentiation strategies appropriate for the teachers' classroom population.

60 points

3) Miscellaneous

- a) Surface Features--Grammar, spelling, etc., neat & legible
- b) Submitted electronically and in hard copy with a scoring guide attached
- c) Submitted on time

10 points

4) Presentation—Describes

- a) the regional/local environmental issue
- b) the instructional sequence
- c) student action plan
- d) stays within 10 minute time limit

30 points

Appendix 3-B Curriculum Review Assignment and Rubric

Assignment: Students will review existing EE curriculum using the NAAEE Environmental Education Materials Guidelines focusing on the Guideline #1 Fairness and Accuracy.

Guideline #1 Fairness and accuracy: EE materials should be fair and accurate in describing environmental problems, issues, and conditions, and in reflecting the diversity of perspectives on them.

- 1.1 Factual accuracy
- 1.2 Balanced presentation of differing viewpoints and theories.
- 1.3 Openness to inquiry
- 1.4 Reflection of diversity.

Students complete the following

Please complete this worksheet and hand it in during the next class period.

Brief description of curriculum:

Assessment based on each of the subcategories from the NAAEE Guidelines:

Rubric for Curriculum Review Assignment

	Unacceptable	Acceptable	Target
EE Curriculum Reviewed	Curriculum selected is not easily available to teachers in any form and/or very outdated.	Curriculum selected is available to teachers via workshops, etc. May be older versions.	Curriculum selected is up to date and available to teachers via internet or other sources such as workshops, etc.
Guideline 1.1 Factual accuracy	Curriculum review is vague and/or includes not examples.	Curriculum is reviewed and includes at least one example of the category listed.	Curriculum is thoroughly reviewed with several specific examples of the category listed.
Guideline 1.2 Balanced Presentation of differing viewpoints and theories	Curriculum review is vague and/or includes not examples.	Curriculum is reviewed and includes at least one example of the category listed.	Curriculum is thoroughly reviewed with several specific examples of the category listed.

<p>Guideline 1.3 Openness to inquiry</p>	<p>Curriculum review is vague and/or includes not examples.</p>	<p>Curriculum is reviewed and includes at least one example of the category listed.</p>	<p>Curriculum is thoroughly reviewed with several specific examples of the category listed.</p>
<p>Guideline 1.4 Reflection of diversity</p>	<p>Curriculum review is vague and/or includes not examples.</p>	<p>Curriculum is reviewed and includes at least one example of the category listed.</p>	<p>Curriculum is thoroughly reviewed with several specific examples of the category listed.</p>

Appendix 3-C (highlighted section only)
Oral Final Exam Scoring Rubric

The final examination is used to assess these program outcomes (but is not limited to assessing these specific outcomes, as a broader set of questions tailored to the student’s thesis, graduate degree plan, and career direction are part of assessing the passing or failing of the final exam program requirement):

1. 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.
2. Recognize their responsibility for exemplary environmental education practice.
3. Use reflective learning and participate in professional activities to further their knowledge and skills related to environmental education.

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 major guiding principles from Tbilisi (such as broad view of “environment,” incorporation of concepts such as systems, interdependence, interactions;	Student demonstrates in-depth knowledge of guiding principles, or references sources/guiding documents for these guiding principles,; or

		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; etc.)	describes/gives examples of programs that exhibit these guiding principles; or references more in-depth characteristics from EnEd 5625 Quality EE (from a variety of guiding documents/research)
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

<p>Provide an example or evidence that shows your recognition of responsibility for exemplary environmental education practice</p>	<p>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</p>	<p>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</p>	<p>Student provides strong evidence or multiple examples and/or an expressed intention or commitment to exemplary practice into the future</p>
<p>Question prompts</p>	<p>Unacceptable (Moving toward Proficiency)</p>	<p>Acceptable (Proficient)</p>	<p>Target (Advanced/Beyond Proficiency)</p>
<p>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/s skills).</p>	<p>Student cannot provide a relevant example</p>	<p>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)</p>	<p>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</p>

Appendix 3-D

Environmental Education Professional Growth Plan Template

Assignment: Students are required to use the NAAEE Guidelines for Excellence: Professional Development of Environmental Educators to develop a professional growth plan using the following template

1. Identifying strengths and areas for growth

Use the NAAEE Guidelines for Excellence: Professional Development of Environmental Educators (www.naaee.org).

Specifically address any of the subsets of the six themes below as either strengths or areas of growth:

- 1) Environmental Literacy
- 2) Foundations of Environmental Education
- 3) Professional Responsibilities of the Environmental Educator
- 4) Planning and Implementing Environmental Education
- 5) Fostering Learning and Promoting Inclusivity
- 6) Assessment and Evaluation

Strengths with a brief rationale (3 Minimum):

Example:

Guideline 1.2 Knowledge of environmental processes and systems. Based on my scientific education and experience teaching I feel I have a good basic understanding of ecology and environmental science.

Areas for growth with brief rationale (3 Minimum):

Example:

Guideline 6.4 Assessment as part of instruction. I need to learn effective ways to do this while teaching in the outdoors.

2. Identifying Priority Areas for Growth

From the identified areas for growth, identify three specific priority areas—areas for growth that if address would most improve your ability to facilitate student learning in environmental education

Priority Area 1:

Example:

Guideline 6.4 Assessment that is part of instruction. I'd like to focus on developing formative and summative assessment tools appropriate for our environmental education activities at Maywoods.

Priority Area 2:

Priority Area 3:

Professional Growth Work Plan

Priority Area for Growth 1: Work Plan

Professional Growth Objective:

Example: I will develop formative and summative assessment tools for environmental education programs at my assigned site.

Activities	Timeline	Assistance/Resources Needed
1. <i>Research formative and summative assessment tools used in other programs</i>	<i>Late August 2016</i>	<i>Online research, library</i>
2. <i>Implement several assessments in the programming</i>	<i>Mid Sept - October</i>	

How could progress in addressing this area for growth be assessed?

Growth could be assessed by determining how many assessments were implemented in the Maywoods programming and analyzing the success of those assessments.

Priority Area for Growth 2: Work Plan

Professional Growth Objective:

Activities	Timeline	Assistance/Resources Needed

How could progress in addressing this area for growth be assessed?

Priority Area for Growth 3: Work Plan

Professional Growth Objective:

Activities	Timeline	Assistance/Resources Needed

How could progress in addressing this area for growth be assessed?

Environmental Education Professional Growth Plan Scoring Guide

Identifying Strengths and Areas of Growth

Unacceptable (10 points)	Acceptable (20 points)	Target (30 points)
Only one strengths and one area of growth is identified The NAAEE Guidelines for Professional Development are not clearly referenced.	Only two strengths and two areas of growth are identified The NAAEE Guidelines for Professional Development are referenced.	Three strengths and three areas of growth are clearly identified The NAAEE Guidelines for Professional Development are clearly referenced.

Identifying Priority Areas

Unacceptable (3 points)	Acceptable (7 points)	Target (10 points)
Less than three priority areas are stated. The priority areas are not tied to the NAAEE Guidelines for Professional Growth.	Three priority areas are stated. The priority areas are somewhat tied to the NAAEE Guidelines for Professional Growth.	Three priority areas are stated in detail. The priority areas are clearly tied to the NAAEE Guidelines for Professional Growth.

Work Plan

Unacceptable (10 points)	Acceptable (20 points)	Target (60 points)
Only one priority area is addressed. Professional objectives are poorly stated and/or poorly related directly to a specific priority area Activities, timeline and resources are poorly outlined lacking in detail and/or are not realistic Assessment measures are poorly stated and/or are not realistic.	Only two priority areas are addressed. Professional objectives are stated and are somewhat related directly to a specific priority area Activities, timeline and resources are outlined but some are lacking in detail and/or are not realistic Some assessment measures are lacking in detail and/or are not realistic.	All three priority areas are addressed. Professional objectives are clearly stated and related directly to a specific priority area Activities, timeline and resources are detailed and realistic Assessment measures are detailed and realistic.

Appendix 4-A

Environmental Education Implementation Plan Assignment and Rubric

Students will create an environmental education action plan for implementation in their own professional context (classroom, nature center, etc.) demonstrating integration and understanding of major concepts introduced in the course; including human-nature relationships, cross-curricular integration, locally-based issues, and standards-informed practice.

An implementation plan is more than a lesson plan. It is an authentic performance assessment that gives you an opportunity to demonstrate what you have learned in the course by integrating your learning into your professional practice. Your implementation plan should include a description of:

- The broad, long-term objectives, aims, or goals of your curriculum
- The specific skill, process and/or content goals for this unit
- What you expect students to be able to do by the end of this unit

Implementation Plan Criteria:

- The plan should be easy to follow
- Clear descriptions of student experiences and appropriate learning objectives
- Experiences are engaging, culturally equitable, developmentally-appropriate, use a variety of resources and are based on principles of effective environmental education
- Content is tied to specific standards and is scientifically accurate
- Teaching strategies accommodate diverse learning needs and include accommodations for physical and other disabilities
- Lessons blend learning from a number of curricular areas; including but not limited to language arts, science, math, social studies, or other content areas. Inter-or intra-disciplinary connections need to be highlighted via standards or other specific language
- Lessons require students to use higher-order thinking skills and are scaffolded appropriately. (Refer to Bloom's taxonomy: know, comprehend, apply, analyze, synthesize, evaluate and create)
- Implementation plan includes o
- Both formative and summative assessment strategies. Assessment and evaluation strategies measure the learning outcomes and allow students to demonstrate learning through performance.
- Suggestions for creating a product to demonstrate what the student has learned; or as part of the activity there is a product created which demonstrates learning.
- The experiences are grounded in inquiry-direct, guided, or full inquiry.

Formatting and mechanics:

- Double-spaced, 12-pt format, Times New Roman or other serif font.
- Page numbers in upper right-hand corner
- Document should be entirely free of grammatical and spelling errors
- Include a bibliography in APA format which includes all references used in creation of the plan.

Rubric: <i>EE Implementation Plan Elements</i>	Exemplary	Strong	Developing	Does not meet standards
Instructional Design	The lesson set or unit is complete, deep, and adaptable. It allows for students to develop both depth and breadth of understanding. It offers extensions for more motivated learners and/or adaptations for students with special needs or learning style preferences. The unit is developmentally appropriate for the age of the learner identified.	The unit is complete, goes into depth, but lacks specific examples of adaptations for students with special needs or learning style preferences. With some exceptions, it allows for students to develop both depth and breadth of understanding. The lessons may need some to little modification to be developmentally appropriate for the learner targeted.	The unit is complete, but lacks depth. It does not offer strategies for adaptations to students with special needs or learning style preferences. It does not allow for students to develop depth or breadth of understanding. The unit needs additional attention in order to be developmentally appropriate for the learner targeted.	The unit seems incomplete or sketchy. Lessons are not developmentally appropriate. No accommodations are made for special needs.

Curriculum and Standards	The unit supports core curriculum content appropriate to the targeted student group and is well integrated with a course of study and aligned with curriculum standards. The unit integrates skills and content across the curriculum. Content is scientifically accurate.	The unit provides connections to core curriculum areas with clear references to a course of study and curriculum standards. The unit integrates skills or content from several core curriculum areas. Content is mostly scientifically accurate.	The unit provides some connection to core curriculum with a few references to a course of study and to curriculum standards. The lesson focuses on one curricular area, lacking integration. Content is not scientifically accurate, and care must be taken to correct this.	The unit provides no connection to core curriculum or a standard course of study or to state and/or national curriculum standards. Content is not scientifically accurate and/or creates/reinforces misconceptions.
Best Practices in EE	The unit clearly demonstrates an awareness and implementation of several “best practices” in environmental education, including guided/open inquiry, awareness of appropriate content for the audience, and multidisciplinary approaches.	The unit demonstrates some “best practices” in environmental education, including guided/open inquiry, awareness of appropriate content for the audience, and multidisciplinary approaches. Evidence of understanding of best practices may be weak or incomplete.	Overall, the unit does not address “best practices” in environmental education in any comprehensive way, or only superficial attention is given to best practices.	The unit fails to include any best practices.
Student-Centeredness	The unit is appealing, and it invites students to be creative. It supports student choice and encourages	The unit is appealing, and there is evidence of instructional flexibility or accommodation of students' interests.	The unit is appealing, but student choice and flexibility are limited.	The lessons are flat and uninspiring. There is no evidence of student choice or flexibility in pace, topic or end

	students to take responsibility for their learning by having at least one section that is open-ended.			product.
Thinking skills	Students are required to use higher order thinking skills throughout the unit. The skills of knowledge, comprehension, application, analysis, synthesis, or evaluation are specifically addressed.	Students are required to use higher order thinking skills in parts of the unit. The skills of knowledge, comprehension, application, analysis, synthesis, or evaluation are implied, though not specifically addressed.	Students are not required to use the higher order thinking skills of knowledge, comprehension, application, analysis, synthesis, or evaluation, though some implied opportunities exist.	Students are not required to use the higher order thinking skills.
The role of the teacher	The lesson describes the teacher's specific activities and how he or she is to support and assess student learning. It identifies potential challenges inherent to the lesson and suggests alternative instructional strategies	The lesson describes the teacher's specific activities and how he or she is to support student learning.	The lesson alludes to the teacher's role via general "tips." OR The teacher's role is implicit in the lesson description	The lesson does not describe the teacher's role.
Assessment	Educational objectives are clear, obtainable, and measurable. Multiple, authentic formative assessment	There is adequate identification of educational objectives. Some examples of formative assessment	There is some mention of educational objectives, but inadequate or incomplete references	There is no evidence of connection to educational objectives nor to assessment strategies.

	and summative evaluation strategies are clearly described.	and summative evaluation strategies are included.	to assessment and evaluation.	
Sustainability of plan	The unit is seamlessly integrated into existing curriculum or designed to complement it. Resources (natural or other) listed are definitely available and accessible to the teacher. The unit identifies and directly addresses any barriers to implementation and proposes solutions to ensure success of unit.	The unit is mostly integrated into existing curriculum and in some cases may complement it. Resources (natural or other) listed are likely to be available and accessible to the teacher. The unit may identify and attempt to address barriers to implementation and proposes potential solutions.	The unit is not sufficiently integrated into existing curriculum and serves as more of an “add-on”. Resources (natural or other) listed may not be available or accessible to the teacher, or resources are not specifically identified. The unit may acknowledge, but does not adequately address barriers to implementation.	

Appendix 4-B

Environmental Education Toolkit Assignment and Scoring Guide

This project involves creating an online repository for your collection of EE resources. We collaborate on a shared library, with each user contributing their own favorites. By the end of the course you will have uploaded over a dozen resources (and probably many more than that) and you will also have access to the resources your colleagues are sharing as well. Most students find it helpful to add “pages” to the toolkit throughout the duration of the course rather than going in at the end and adding everything.

You should start with a page in Diigo, linked from our course library, and build your own personal resource list from there. Include links to parks and other EE sites that you’ve evaluated, particularly those which offer programs that you’ve participated in. Include links to resources that you’ve relied on for research, including reputable sources for science content, as well as resources for activities and program support. Every link should have a short summary underneath so your colleagues will know what the resource represents. All links should be “tagged” using the keywords in bold below. There may be some overlap i.e., you may review or evaluate the same site as one of your “urban” environmental ed programs. This is fine, as long as the keywords are inclusive of both categories. This will enable all of us to search and use one another’s toolkit, thereby expanding our own capacity.

By the end of the course, you should have at a minimum:

- Links to at least 3 examples of ‘urban’ environmental ed programs/sites and non-urban EE programs/sites
- Links to at least 2 examples of early childhood nature-based programs, with a short summary of your observations about each
- Links to at least 3 science content resource websites
- Links to 2 resources about inclusion and accommodation in EE
- Links to at least 5 EE organizations or influencing organizations, which you have identified and described in class
- Links to at least 5 lesson plans that include student use of digital technology

Note: This assignment is pass/fail. You must have all the links “live” and available by the end of our course in order to receive credit.

Appendix 4-C

Environmental Issues Pedagogy Paper Assignment and Rubric

Your task is to select a 'controversial' issue in environmental education. You will conduct a search to find at least 5 peer-reviewed articles related to that controversial issue *as it relates to* environmental education. (For example, a student may be interested in how her church views climate change. She might select climate change and find peer-reviewed research related to *teaching about climate change* in faith-based settings.)

The point of this paper is not to make a case for one 'side' or another, nor it is to present solutions. Rather, this paper is a place for you to think deeply about what educators need to know about teaching environmental issues that are perceived by some individuals as controversial. As an environmental educator, you will have many opportunities to teach controversial issues, and to do so effectively you must be grounded in a scientifically accurate understanding of the issue as well as sensitivity to your audience. This is not a lesson plan; it's a reflective assignment that challenges you to consider your own approach to teaching controversial issues. As you write, you may wish to consider some of these guiding questions. What makes this issue important to this audience? Why? What are the unique challenges to teaching about this issue? What's at risk if the teaching is not done effectively or doesn't meet the audience's needs? How do you determine the audience's needs?

You are required to use *at least 5* peer-reviewed sources to present research about TEACHING that controversial topic. In other words, the student in our example would not be writing about the issue of climate change, she would be writing about TEACHING about climate change in faith-based settings. Your academic journal searches should include a mix of scientific background on the topic and pedagogy related to that topic. Your environmental issue paper will be 8-10 pages long and must adhere to APA guidelines.

It has three main sections:

Section One: Introducing the Topic

This section presents an overview of the controversial topic, including a summary that includes scientifically accurate information of sufficient depth to provide the reader with a clear understanding of the issue.

Section Two: Controversy and Pedagogy

In this section, explain briefly what makes this issue controversial, and to what audiences specifically it is controversial. Then describe approaches to teaching this issue effectively and with sensitivity to the audience in question. Remember to describe an approach, method, context or format that you think would be effective, and how it reaches the audience you listed. Why did you select the approach you did? What tools, techniques, or special considerations did you refer to when thinking about teaching to this audience?

Section Three: Reflection

Use this final section to wrap up your thinking on the issue. Reflect on why it's important to think critically about pedagogy when it comes to controversial issues in EE.

Environmental Issue Pedagogy paper	Excellent A	Proficient B	Satisfactory C	Insufficient
Part One: topic Introduction	Student exhibits a clear understanding of the assignment and a willingness to reflect on the topic. Approach is thoughtful, reflective, and influenced by course experiences, readings, discussions and assignments. This section presents a clear overview of a controversial topic, with an abundance of scientifically accurate information of	Student exhibits an adequate understanding of the assignment. Approach is influenced by course experiences, readings, discussions and assignments. This section presents a summary of a controversial topic, with an adequate amount of scientifically accurate information in an attempt to provide the reader with a general	Student lacks clarity about the expectations of the assignment. Approach lacks connection to course experiences, readings, discussions and assignments, or connection may be weak. This section may present a summary of a controversial topic, but lacks an adequate amount of scientifically accurate information to provide the reader with	Student does not meet expectations of the assignment. Approach lacks connection to course experiences, readings, discussions and assignments. This section may not present a summary of a controversial topic or it may be scientifically inaccurate. The student demonstrates a lack of understanding of the issue.

	sufficient depth to provide the reader with a clear understanding of the issue.	sense of the issue.	a sense of the issue.	
Part Two: Controversy	Student demonstrates proficient command of the nature of the issue and how it is perceived by a variety of stakeholder groups. Student recognizes and articulates the challenges associated with teaching about this issue in EE settings. Explanations contain many personal examples or connections, and are detailed and reflective.	Student demonstrates a reasonable understanding of the nature of the issue and how it is perceived by one or more of a variety of stakeholder groups. Student recognizes and articulates the challenges associated with teaching about this issue in EE settings.	Student is attempting to develop an understanding of the nature of the issue or struggling to understand what makes it controversial among stakeholder groups. There may be inadequate conclusions drawn from material. Student generally responds to guiding questions, but only meets the minimum standard in this area.	Student overlooks critical details, writing is vague or incomplete. Student is clearly not understanding the challenges of teaching the issue or is demonstrating a lack of awareness of the perception of this issue among any stakeholders.
Part Two: Pedagogy	Student describes multiple approaches to teaching this issue effectively and with sensitivity to the audience in question. Student includes numerous examples of different methods,	Student describes several to few approaches to teaching this issue and demonstrates an appropriate level of sensitivity to the audience in question. Student includes a few	Student describes few to one approach to teaching this issue and attempts to demonstrate sensitivity to the audience in question. Student includes one example of an approach to reach	Student provides inadequate description of an alternative way of addressing the issue, and/or neglects to show sensitivity to the audience in question.

	<p>context, or formats in order to reach different stakeholders, and clearly addresses the strengths and weaknesses of each. Student is able to connect examples to course materials and readings on best practices, and uses additional resources to support his/her assertions. Specific tools, techniques, or special considerations are included in the writing and demonstrate a clear awareness of the needs of multiple stakeholder groups.</p>	<p>to several examples of different methods, context, or formats in order to reach different stakeholders, and attempts to address strengths and weaknesses of each Student connects examples to course materials and readings on best practices.</p>	<p>different stakeholders, but neglects to address strengths and weaknesses of that approach. Student makes few to no connections to course materials and readings on best practices.</p>	
Part Three: Reflection	<p>Student demonstrates a deep level of reflection and authentic concern for this issue, and freely shares thoughts or feelings related to new ideas, challenges to previous paradigms, or discomfort.</p>	<p>Student demonstrates reflection and authentic concern for this issue, and may share some thoughts or feelings related to new ideas, challenges to previous paradigms, or discomfort.</p>	<p>Student demonstrates an adequate level of concern for this issue, but the writing does not include any thoughts or feelings related to new ideas, challenges to previous paradigms, or discomfort.</p>	<p>Student does not demonstrate reflective practice, OR the section is incomplete/absent from the paper</p>

<p>Mechanics and Conventions</p>	<p>The writer demonstrates a good grasp of standard writing conventions (spelling, punctuation, grammar, etc.) and uses conventions effectively to enhance readability. Writer has met all the assignment guidelines and followed APA formatting as directed. All citations are noted and a reference list is included. Errors tend to be so few that just minor touch-ups are necessary.</p>	<p>The writer shows reasonable control over a limited range of standard writing conventions. Conventions are sometimes handled well and enhance readability – other times, errors are distracting and impair readability. Writer has, for the most part, met all the assignment guidelines such as length, APA formatting, and other requirements. There may be a few errors in citations or reference list.</p>	<p>Errors in spelling, punctuation, etc. repeatedly distract the reader and make the text difficult to read. Writer has disregarded many of the guidelines for the assignment.</p>
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Appendix 4-D Teacher Feedback Form

Dear Teacher,

Thank you for sharing your classroom and students with our group. Please take a few minutes to provide our students with some feedback on their lesson and teaching. . Your honest feedback, time and expertise are greatly appreciated!

Goals and Objectives:

Was the purpose of this lesson clear?	Yes	Needs Improvement	No
Were the objectives age appropriate for students?	Yes	Needs Improvement	No
Were the number of objectives appropriate for students?	Yes	Needs Improvement	No
Will these objectives help you meet other classroom objectives/standards?	Yes	Needs Improvement	No

Comments/Suggestions:

Lesson Content and Instruction

Were the activities/instructional methods age-appropriate?	Yes	Needs Improvement	No
Was the depth of content age-appropriate?	Yes	Needs Improvement	No
Were a variety of teaching styles used?	Yes	Needs Improvement	No
Were your students actively engaged or involved in the lesson?	Yes	Needs Improvement	No
Did your students have a chance to think about or apply what they were learning?	Yes	Needs Improvement	No
Was the pacing of the lesson appropriate (not too rushed or too slow)?	Yes	Needs Improvement	No
Were directions for the activities clear? (Did your students know what they were supposed to do?)	Yes	Needs Improvement	No
Were the student teachers flexible and responsive to your students' needs and to how the lesson was going?	Yes	Needs Improvement	No
Did the student teachers foster a positive, inclusive, and collaborative learning environment?	Yes	Needs Improvement	No

Comments and Suggestions:

Outcomes

Was students' learning assessed or were there "checks for student understanding?"	Yes	Needs Improvement	No
Did the lesson accomplish its objectives?	Yes	Needs Improvement	No
Do you think this lesson was a good use of class time?	Yes	Needs Improvement	No
Do you think this lesson contributed to a greater appreciation or understanding of our environment/its resources?	Yes	Needs Improvement	No

Comments and Suggestions:

**Appendix 4-E
Lesson Plan Rubric**

Domain	4	4.5	5	5+	Comments
<p>#1. Planning A teacher must be able to plan and manage instruction. A teacher must organize instructional activities to encourage student learning critical thinking, problem solving, & performance skills.</p>	<p>Lesson is based upon instructional objectives and identifies an academic standard for emphasis. Lesson exhibits a clear structure that includes an introduction, middle, and conclusion.</p>		<p>Lesson clearly identifies instructional objectives and aligns with Minnesota Academic Standards and NAAEE Guidelines for EE. Lesson is clearly part of a planned progression. Introduction, middle, conclusion and transitions are purposeful and time allotments are appropriate.</p>		
<p>#2: Developmental Appropriateness A teacher must understand their audience, including how students learn and develop, and use that understanding to create learning environments that encourage positive social interaction, active engagement in learning, & self-motivation.</p>	<p>Lesson includes instructional strategies that are aligned with the cognitive, social, and emotional developmental needs of students. Lesson describes opportunities for students to engage with the topic.</p>		<p>Lesson includes appropriate instructional strategies and content that is developmentally aligned with cognitive, social and emotional needs of students. Lesson engages students in multiple opportunities to engage with the topic and its relevance to their lives. Lesson helps students make meaning from what they are learning and apply it to their world.</p>		

<p>#3: Differentiation and Inclusion A teacher must understand how students differ in their approaches to learning and create instructional opportunities that are adapted to students with diverse backgrounds. A teacher must be able to foster a positive, inclusive learning environment, as well as a collaborative learning environment when appropriate.</p>	<p>Lesson includes accommodations for learning styles, and multiple levels of student development</p>	<p>Lesson includes multiple accommodations for learning styles, and multiple levels of student development through the use of instructional variety and assessment variety. Lesson supports the opportunity for students to learn in a positive, inclusive and collaborative learning environment.</p>		
<p>#4: EE Methods A teacher of EE must understand how to engage students in interdisciplinary, experiential learning that engages learners in exploring and investigating the world around them. They also must know how to help learners construct meaning from their learning. Environmental educators emphasize education rather than advocacy when practicing environmental education. They need sufficient knowledge of EE materials, resources, and technologies, as well as sufficient knowledge of a range of instructional methodologies and instructional settings, in order to draw from these in their lesson planning and instruction.</p>	<p>Lesson attempts to engage students in the experiential learning cycle. Lesson is or is moving toward being interdisciplinary, and helps students learn about an EE topic through engagement in the world around them. Lesson utilizes materials, strategies, and settings appropriate to the audience and lesson objectives. Lesson is EE v. advocacy</p>	<p>Lesson thoughtfully sequences elements to engage students in each stage of the experiential learning cycle and effectively utilizes opportunities to help students make connections throughout the lesson and across subject areas. Lesson clearly focused on EE rather than advocacy and helping students develop an understanding of an EE topic through experiences and reflection. Lesson utilizes materials, strategies, and settings appropriate to the audience and lesson objectives. Lesson provides opportunity for students to explore and investigate the world around them.</p>		

<p>#5: Assessment A teacher must understand and be able to use formal and informal assessment strategies to evaluate and ensure continuous intellectual, social, and physical development of the student</p>	<p>Lesson includes at least one formal or informal assessment to measure student understanding. Assessment strategy is integrated into the lesson in a way the supports the lesson objectives. The self-assessment portion of the completed lesson plan indicates where changes to the lesson/instruction are needed based on assessment results.</p>	<p>Lesson includes appropriate formal and informal assessments that align with instructional objectives and with unit topic progression. The self-assessment portion of the completed lesson plan clearly describes where changes are needed in the lesson or instruction, based on assessment results.</p>		
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Appendix 4-F

Program Model Assignment and Rubric

Purpose: The purpose of the assignment is to become familiar with a range of more systematic, non-traditional approaches to EE that may be particularly relevant to the context of EE programming for schools. You will be working with one particular approach, learning about it in-depth and then helping your peers learn about it. Your final reflection paper for this course will ask you to describe all six models; thus it is important that you learn in-depth about your assigned model, but also develop a knowledge of the other models via learning from your peers.

1. Environmental Service Learning
2. Issue Investigation (IEEIA)
3. EIC (environment as an integrating context)
4. Expeditionary Learning Outward Bound
5. Place-Based Education
6. Education for Sustainability

Tasks:

1. a.) Develop an in-depth understanding of what it is and benefits/outcomes of your approach; b.) Find examples nationally and regionally
2. Take one example of your approach and either a.) visit the program (if within reasonable distance; there are several examples somewhat locally) or b.) set up a phone interview with someone who works with this program (please make sure you are professional in your contacts/requests for an interview/more info; also make sure you are prepared for either your visit or interview and you follow up appropriately; as grad students, I trust you know how to do this professionally!)
3. Either a.) create a ppt presentation (about 30 minutes) that explains your approach (what it is, how it came to be, examples, research/literature-based outcomes supporting this approach) and summarizes what you did and learned from step 2 OR b.) write an approximately 500 word article that can be submitted to MAEE for their newsletter publication that explains your approach, provides examples, cites supporting literature and evidence of outcomes, and incorporates what you learned first-hand from #2; style is somewhat your choice, but needs to be somewhat scholarly yet still readable and interesting for a practitioner audience); in addition to written article, prepare an informal presentation for the class to accompany your article

Scoring: it is your responsibility to demonstrate to me that you addressed the purpose of the assignment (50 points total)

Student Score and Comments	Possible Score	Criteria
	25	Thorough explanation of the approach/model; explanation includes supporting literature, description of methods and underlying rationale, and evidence of outcomes
	15	Program example was described in detail; it is clear that effort was invested in learning about the model
	5	<i>Quality of writing (grammar, writing mechanics, spelling, organization, flow.) and/or presentation (looking for professionalism, communication of ideas; graduate level work!)</i>
	5	References included (sufficient, relevant) and formatted in APA style

Appendix 5-A

Reflective Journal Assignment and Rubric

During this course, you will be expected to maintain a journal containing field notes, reflections, notes, observations and reflections. From time to time, your instructor will provide you with a prompt to which you should respond in your journal as well.

- Your journal should be a paper notebook, with blank pages or quadrille-lined.
- Your journal should NOT be a digital device. The reason for this is that you are encouraged to include “treasures” from your field visits—anything from ticket stubs to sketches to smears of mud from the banks of the Mississippi. If there is some reason you need to use a digital device please discuss this with your instructor before the class begins.

The purpose of this assignment is to provide a forum in which you can demonstrate your own learning, thinking, wonderings, and mastery of content from the course. It provides a space for your reflection on new material and a place for jotting down ideas for how you will take this learning back to your own classroom. This is a field-based course.

You are expected to make several journal entries each day. You may structure your entries in whatever way is most helpful for you, but each entry should contain—at a minimum-- the following elements:

1. **Descriptive account:** simply an account of where you went, when, with whom, why you went there, what you did, and any special considerations to remember. What will you want to know if you ever visit this site again, particularly with a class or group of students?
2. **Observations and connections to practice:** This will include a summary of your learning, observations about what you did, and reflections on how you can use this new information or experience to inform your own practice going forward. If there was a presentation or lesson, write a summary of the lesson and any “take-aways” you wish to remember.
3. **Environment and Society connections:** Be explicit about the connections you see between the human and cultural intersections or divides that each experience or activity presents. A big part of this class is about exploring those intersections, so be particularly mindful to address them in this section. Be aware that this section should also demonstrate awareness of issues of environmental justice/inequities. How are marginalized communities, in particular, impacted by this issue—either positively or negatively?
4. **New learning and questions that arise:** In this section, jot down any “a-ha” moments that arise from you related to the experience or activity. Add questions that you have. What do you still want to know? What other questions does this raise for you?

Reflective Journal Rubric

Element	Exceptional	Acceptable	Minimal
Descriptive Account	Many relevant details are included. Journal notes are included in an organized and consistent fashion. Date, location, weather conditions, physical characteristics and observation or areas visited. Notes from lecture and field discussions, examinations. Photos/sketches, samples and other realia are included.	Some details are included. Notes may be inconsistent in thoroughness or quality. Relevant details absent, such as names, places, etc. Few additional details beyond "the basics."	Some details are included. Notes may be inconsistent in thoroughness or quality. Relevant details absent, such as names, places, etc. Few additional details beyond "the basics."
Observations and connections to practice	Clear, organized summaries of student learning, activities or experiences described vividly and with details. Many "take home messages" listed throughout to help students make connections to practice.	Summaries may be unclear or disorganized. Description of activities may be superficial or incomplete, but indicate a level of engagement nonetheless. Few connections to practice, several "take-home" messages listed throughout.	Summaries are thin and lack structure. Descriptions are presented as lists or simple phrases and do not indicate student engagement. Few or no connections to practice or "takehome" messages included in each entry.

Element	Exceptional	Acceptable	Minimal
Application/ Env and Society connections	Entries consistently demonstrate both “macro” and “micro” level thinking about the environment/society connections. Student shows clear understanding of the tension between natural/built environment and cultural issues. Student demonstrates a consistent awareness of marginalized communities and the environmental justice issues presented by each activity/experience.	Entries contain several to many examples of “macro” and “micro” level thinking about the env/society connections. Student has a developing understanding of the tensions between nature/built environment. Student has a developing understanding or awareness of environmental justice issues.	Entries fail to demonstrate depth of understanding around issues. Student fails to articulate the tension between natural /built environment. Student may show a lack of sensitivity or awareness of environmental justice issues.
New learnings/ wonderings	Journal contains many insights, questions, and points of interest for student’s later follow-up.	Journal contains several to few insights, questions, and points of interest for student’s later follow-up.	Journal contains few to no insights, questions, and points of interest for student’s later follow-up.

Appendix 5-B

Environmental Issues Pedagogy Paper Assignment and Rubric

Your task is to select a 'controversial' issue in environmental education. You will conduct a search using the Library to find at least 5 peer-reviewed articles related to that controversial issue as it relates to environmental education. *(For example, a student may be interested in how her church views climate change. She might select climate change and find peer-reviewed research related to teaching about climate change in faith-based settings.)*

The point of this paper is not to make a case for one 'side' or another, nor it is to present solutions. Rather, this paper is a place for you to think deeply about what educators need to know about teaching environmental issues that are perceived by some individuals as controversial. As an environmental educator, you will have many opportunities to teach controversial issues, and to do so effectively you must be grounded in a scientifically accurate understanding of the issue as well as sensitivity to your audience.

This is not a lesson plan; it's a reflective assignment that challenges you to consider your own approach to teaching controversial issues. As you write, you may wish to consider some of these guiding questions.

- What makes this issue important to this audience? Why?
- What are the unique challenges to teaching about this issue?
- What's at risk if the teaching is not done effectively or doesn't meet the audience's needs? How do you determine the audience's needs?

You are required to use at least 5 peer-reviewed sources to present research about TEACHING that controversial topic. In other words, the student in our example would not be writing about the issue of climate change, she would be writing about TEACHING about climate change in faith-based settings.

Your academic journal searches should include a mix of scientific background on the topic and pedagogy related to that topic. Your environmental issue paper will be 8-10 pages long and must adhere to APA guidelines.

It has three main sections:

Section One: Introducing the Topic

This section presents an overview of the controversial topic, including a summary that includes scientifically accurate information of sufficient depth to provide the reader with a clear understanding of the issue.

Section Two: Controversy and Pedagogy

In this section, explain briefly what makes this issue controversial, and to what audiences specifically, it is controversial. Then describe approaches to teaching this issue effectively and with sensitivity to the audience in question. Remember to describe an approach, method, context or format that you think would be effective, and how it reaches the audience you listed. Why did you select the approach you did? What tools, techniques, or special considerations did you refer to when thinking about teaching to this audience?

Section Three: Reflection

Use this final section to wrap up your thinking on the issue. Reflect on why it's important to think critically about pedagogy when it comes to controversial issues in EE.

Environmental Issue Pedagogy paper	Excellent A	Proficient B	Satisfactory C	Insufficient
Part One: topic Introduction	Student exhibits a clear understanding of the assignment and a willingness to reflect on the topic. Approach is thoughtful, reflective, and influenced by course experiences, readings, discussions and assignments. This section presents a clear overview of a controversial topic, with an abundance of scientifically accurate information of sufficient depth to provide the reader with a clear understanding of the issue.	Student exhibits an adequate understanding of the assignment. Approach is influenced by course experiences, readings, discussions and assignments. This section presents a summary of a controversial topic, with an adequate amount of scientifically accurate information in an attempt to provide the reader with a general sense of the issue.	Student lacks clarity about the expectations of the assignment. Approach lacks connection to course experiences, readings, discussions and assignments, or connection may be weak. This section may present a summary of a controversial topic, but lacks an adequate amount of scientifically accurate information to provide the reader with a sense of the issue.	Student does not meet expectations of the assignment. Approach lacks connection to course experiences, readings, discussions and assignments. This section may not present a summary of a controversial topic or it may be scientifically inaccurate. The student demonstrates a lack of understanding of the issue.
Part Two: Controversy	Student demonstrates proficient command of the nature of the issue and how it is perceived by a	Student demonstrates a reasonable understanding of the nature of the issue and how it is	Student is attempting to develop an understanding of the nature of the issue or struggling to	Student overlooks critical details, writing is vague or incomplete. Student is clearly not

	<p>variety of stakeholder groups. Student recognizes and articulates the challenges associated with teaching about this issue in EE settings. Explanations contain many personal examples or connections, and are detailed and reflective.</p>	<p>perceived by one or more of a variety of stakeholder groups. Student recognizes and articulates the challenges associated with teaching about this issue in EE settings.</p>	<p>understand what makes it controversial among stakeholder groups. There may be inadequate conclusions drawn from material. Student generally responds to guiding questions, but only meets the minimum standard in this area.</p>	<p>understanding the challenges of teaching the issue or is demonstrating a lack of awareness of the perception of this issue among any stakeholders.</p>
<p>Part Two: Pedagogy</p>	<p>Student describes multiple approaches to teaching this issue effectively and with sensitivity to the audience in question. Student includes numerous examples of different methods, context, or formats in order to reach different stakeholders, and clearly addresses the strengths and weaknesses of</p>	<p>Student describes several approaches to teaching this issue and demonstrates an appropriate level of sensitivity to the audience in question. Student includes a few to several examples of different methods, context, or formats in order to reach different stakeholders, and attempts to</p>	<p>Student describes few to one approach to teaching this issue and attempts to demonstrate sensitivity to the audience in question. Student includes one example of an approach to reach different stakeholders, but neglects to address strengths and weaknesses of that approach. Student makes few to no</p>	<p>Student provides inadequate description of an alternative way of addressing the issue, and/or neglects to show sensitivity to the audience in question.</p>

	<p>each. Student is able to connect examples to course materials and readings on best practices, and uses additional resources to support his/her assertions. Specific tools, techniques, or special considerations are included in the writing and demonstrate a clear awareness of the needs of multiple stakeholder groups.</p>	<p>address strengths and weaknesses of each Student connects examples to course materials and readings on best practices.</p>	<p>connections to course materials and readings on best practices.</p>	
<p>Part Three: Reflection</p>	<p>Student demonstrates a deep level of reflection and authentic concern for this issue, and freely shares thoughts or feelings related to new ideas, challenges to previous paradigms, or discomfort.</p>	<p>Student demonstrates reflection and authentic concern for this issue, and may share some thoughts or feelings related to new ideas, challenges to previous paradigms, or discomfort.</p>	<p>Student demonstrates an adequate level of concern for this issue, but the writing does not include any thoughts or feelings related to new ideas, challenges to previous paradigms, or discomfort.</p>	<p>Student does not demonstrate reflective practice, OR the section is incomplete/absent from the paper</p>

Environmental Issue Pedagogy paper	Excellent A	Proficient B	Satisfactory C	Insufficient
Mechanics and Conventions	<p>The writer demonstrates a good grasp of standard writing conventions (spelling, punctuation, grammar, etc) and uses conventions effectively to enhance readability. Writer has met all the assignment guidelines and followed APA formatting as directed. All citations are noted and a reference list is included. Errors tend to be so few that just minor touch-ups are necessary.</p>	<p>The writer shows reasonable control over a limited range of standard writing conventions. Conventions are sometimes handled well and enhance readability – other times, errors are distracting and impair readability. Writer has, for the most part, met all the assignment guidelines such as length, APA formatting, and other requirements. There may be a few errors in citations or reference list.</p>	<p>Errors in spelling, punctuation, etc. repeatedly distract the reader and make the text difficult to read. Writer has disregarded many of the guidelines for the assignment.</p>	<p>Numerous errors, unprofessional presentation.</p>

Appendix 5-C Lesson Assessment Assignment Rubric

Students teach in a variety of situations and are assessed, based on the rubric and guidelines below.

Formal Observation Form

Candidate (please print): _____
 Completed by (please print): _____ Supervisor Cooperating Teacher
 School: _____ District: _____ Grade Level: _____ Placement: A B
 Program:
 Elementary Education Undergraduate Licensure Program Multiple Subjects MAT
 Single Subject MAT: Endorsement Area: _____ SPED: Resource Site-Based
 Elementary Secondary

Reminder: The scale below refers to the competencies and performances of a STUDENT teacher.

- (1) **Beginning:** Observes, shows awareness, explores, replicates
- (2) **Developing:** Demonstrates, practices, experiments, questions, sets goals
- (3) **Proficient:** Applies, plans, organizes, engages, presents, facilitates, modifies, assesses, communicates, collaborates, reflects
- (4) **Exemplary:** Integrates, refines, connects, differentiates, analyzes, expands at a pre-service level

Standards	Evidence/Strengths	Goals/ Areas for Growth
#1-#3: The Learner and Learning Learner Development Learning Differences Learning Environments <i>Aligned with edTPA rubrics 1-9, 14</i> <i>Professional Dispositions Rubric</i>		
←-----1-----2-----3-----4----->		
Not Observed Beginning Developing Proficient Exemplary		
#4-#5: Content Content Knowledge Application of Content <i>Aligned with edTPA rubrics 1-4, 7-9, 14</i>		
←-----1-----2-----3-----4----->		
Not Observed Beginning Developing Proficient Exemplary		
#6-8: Instructional Practice: Assessment Planning for Instruction Instructional Strategies <i>Aligned with edTPA rubrics 1-9, 15</i>		
←-----1-----2-----3-----4----->		
Not Observed Beginning Developing Proficient Exemplary		
#9-10: Professional Responsibility: Professional Learning and Ethical Practice Leadership and Collaboration <i>Aligned with edTPA rubrics 10, 15</i> <i>Professional Dispositions Rubric</i>		
←-----1-----2-----3-----4----->		
Not Observed Beginning Developing Proficient Exemplary		

Satisfactory Progress Plan for Improvement (see attached plan)

 Candidate Signature Date Cooperating Teacher/Supervisor Signature Date

Standards

THE LEARNER AND LEARNING

Standard #1: Learner Development: The teacher understands how learners grow and develop, recognizing that patterns of learning and development vary individually within and across the cognitive, linguistic, social, emotional, and physical areas, and designs and implements developmentally appropriate and challenging learning experiences.

Standard #2: Learning Differences: The teacher uses understanding of individual differences and diverse cultures and communities to ensure inclusive learning environments that enable each learner to meet high standards.

Standard #3: Learning Environments: The teacher works with others to create environments that support individual and collaborative learning, and that encourage positive social interaction, active engagement in learning, and self- motivation.

CONTENT

Standard #4: Content Knowledge: The teacher understands the central concepts, tools of inquiry, and structures of the discipline(s) he or she teaches and creates learning experiences that make these aspects of the discipline accessible and meaningful for learners to assure mastery of the content.

Standard #5: Application of Content: The teacher understands how to connect concepts and use differing perspectives to engage learners in critical thinking, creativity, and collaborative problem solving related to authentic local and global issues.

INSTRUCTIONAL PRACTICE

Standard #6: Assessment: The teacher understands and uses multiple methods of assessment to engage learners in their own growth, to monitor learner progress, and to guide the teacher's and learner's decision making.

Standard #7: Planning for Instruction: The teacher plans instruction that supports every student in meeting rigorous learning goals by drawing upon knowledge of content areas, curriculum, cross-disciplinary skills, and pedagogy, as well as knowledge of learners and the community context.

Standard #8: Instructional Strategies: The teacher understands and uses a variety of instructional strategies to encourage learners to develop deep understanding of content areas and their connections, and to build skills to apply knowledge in meaningful ways.

PROFESSIONAL RESPONSIBILITY

Standard #9: Professional Learning and Ethical Practice: The teacher engages in ongoing professional learning and uses evidence to continually evaluate his/her practice, particularly the effects of his/her choices and actions on others (learners, families, other professionals, and the community), and adapts practice to meet the needs of each learner.

Standard #10: Leadership and Collaboration: The teacher seeks appropriate leadership roles and opportunities to take responsibility for student learning, to collaborate with learners, families, colleagues, other school professionals, and community members to ensure learner growth, and to advance the profession.

Professional Dispositions

PROFESSIONAL AND ETHICAL CONDUCT

Listens attentively and receptively to feedback. Responds to feedback by making suggested changes and is process/solution oriented. Models integrity and ethical, collegial conduct. Well-groomed and dresses professionally and appropriately.

INDIVIDUAL AND CULTURAL SENSITIVITY

Respects and values diversity; appreciates and is open to other's perspectives; models cultural sensitivity. Resolves disputes with compassion, empathy and patience.

WORK HABITS

Consistently reliable, punctual, and follows through on commitments; exhibits organization and time management skills

EFFECTIVE AND PROFESSIONAL COMMUNICATION

Communicates clearly in an open and respectful manner; asks questions and seeks information appropriately; carefully considers the communication context and makes appropriate adjustments. Written communication is professional.

SELF-REFLECTION

Reflects on own cognitive, psychological, social/emotional, and professional characteristics; cognizant of how these characteristics impact others; takes initiative for personal and professional growth.

Collaboration/Leadership

Participates in collaborative efforts; participates in problem solving; shares responsibilities and is flexible in performing various roles.

Appendix 5-D

Native American or Cultural Park/reservation Tour Assignment and Rubric

Assignment: After a Field trip to a Native American or other cultural park/reservation, students keep a reflective journal and critically evaluate and reflect on their observations and the role of native history and culture.

Element	Exceptional	Acceptable	Minimal
Observations	Clear, organized summaries of student learning, activities or experiences described vividly and with details. Many “take home messages” listed throughout to help students make connections to practice.	Summaries may be unclear or disorganized. Description of activities may be superficial or incomplete, but indicate a level of engagement nonetheless. Few connections to practice, several “take-home” messages listed throughout.	Summaries are thin and lack structure. Descriptions are presented as lists or simple phrases and do not indicate student engagement. Few or no connections to practice or “takehome” messages included in each entry.
Connections to the role of native history and culture in Teaching EE	Lists at least 5 ways to encourage flexibility, creativity and openness considering native or other culture’s ideals if teaching EE	Lists at least 3 ways to encourage flexibility, creativity and openness considering native or other culture’s ideals if teaching EE	Lists at least 2 ways to encourage flexibility, creativity and openness considering native or other culture’s ideals if teaching EE

Appendix 6-A

Task Analysis & Assessment Assignment and Rubric

Description:

1. Explore the national and state standards and the Cross-Cutting Guide to EE & NGSS
 - Next Generation **Science Standards** can be accessed at:
<https://www.nextgenscience.org>
 - State Common Core Standards (for **Language Arts and Math**) can be accessed at
<http://www.corestandards.org/the-standards>.
 - Oregon Content Standards (for **Social Sciences** and content areas other than science, math, language arts) can be accessed at:
<http://www.ode.state.or.us/teachlearn/real/standards/default.aspx>.
 - The Cross-Cutting Guide to **Environmental Education** & NGSS can be accessed at
<http://resources.spaces3.com/06128fff-596d-4700-a4ce-ed8517feb9c5.pdf>
2. Pick ONE state or national standard that catches your interest **and is tied to the goals and objectives of environmental education.**
 - a) Copy the precise verbiage for that standard
 - b) Identify 3-4 **knowledge items that students would need to learn** in order to demonstrate proficiency in this standard.
 - c) Identify 3-4 **skills students would need to learn** in order to demonstrate proficiency in this standard.
 - d) Describe the alignment to the **goals/objectives of environmental education**
 - e) identify at least **2 formative or summative assessment strategies** linked to both the standard and the environmental education goals/objectives.

Use a framework similar to this template or make up one of your own.

Standard (related) to Environmental Education:	
Knowledge:	Skills:
Alignment to the Goals/Objectives of Environmental Education:	
Two (2) Formative or Summative Assessment strategies (or test questions)	

aligned to the State/National Standards & the EE Standards. Indicate what skills and knowledge are being assessed.

Rubric: Unpacking the Standards/Task Analysis & Assessment

	Exemplar	Proficient	Developing	Beginning
Standard Alignment to Envir Ed	Standard is directly aligned to the goals of EE with similar concepts and vocabulary.	Standard is aligned to the goals of EE with similar concepts and vocabulary.	Standard is loosely aligned to the goals of EE and/or the concepts and vocabulary seem disconnected.	Standard was a poor choice and offers little connection (if any) with EE.
Task Analysis (TA): Knowledge necessary to meet the standard	The TA is thorough and includes knowledge-based items linked to the big idea of the standard. Demonstrates clear understanding.	The TA lists some knowledge-based items linked to the big idea of the standard. Demonstrates clear understanding.	The TA shows evidence of understanding the knowledge necessary, but incomplete and items may not be linked to the big ideas of the standards	There is little or no evidence of understanding the knowledge necessary to meet the standard.
Task Analysis (TA): Skills necessary to meet the standard	The TA is thorough and includes skill-based items linked to the big idea of the standard. Demonstrates clear understanding.	The TA lists some skill-based items linked to the big idea of the standard. Demonstrates clear understanding.	The TA lists evidence of understanding the skills necessary, but incomplete and items may not be linked to the big ideas of the standards	The TA lists little or no evidence of understanding the skills necessary to meet the standard.
Goals of EE Identified	Thoroughly describes at least one appropriate EE Goal/Objective and aligns it to the standard selected	Describes at least one appropriate EE Goal/Objective and aligns it to the standard selected.	Describes an appropriate EE standard but doesn't align it to the standard selected.	The EE Goal/Objective described doesn't align with the standard.
Assessment Strategies	Two (or more) formative or summative	Two formative or summative assessment	Two formative or summative assessments	At least one formative or summative

	Exemplar	Proficient	Developing	Beginning
Formative or Summative	<p>assessment strategies are listed and an appropriate fit for the standard</p> <p>They are thoroughly described to indicate what specific content is being assessed.</p> <p>The assessment strategy could help inform teaching and learning.</p>	<p>strategies are listed and appropriate for the standard.</p> <p>They are described and indicate content assessed.</p> <p>The assessment strategy could help inform teaching and learning</p>	<p>strategies are listed. At least one is appropriate for the standard.</p> <p>They are briefly described but do not indicate a clear knowledge of the content assessed.</p>	<p>appropriate assessment strategy is listed.</p> <p>And/or</p> <p>There is little or no description</p> <p>And/or</p> <p>There is little or no indication of the content being assessed.</p>

Appendix 6-B

Authentic Performance Task Assignment and Rubric

Purpose of Assignment:

As students continue to learn about assessment, they will demonstrate their ability to create an authentic environmental education performance task, put the task in the (Wiggins & McTigue) GRASPS format and create an Analytic Rubric to reveal the task’s criteria for success.

Assignment Summary:

- **Task:** Students will design an authentic, age-appropriate environmental education performance task for students. The task should be created in the **GRASPS** format. Students should use the hand-outs provided in class to frame their work.
- **Rubric:** students will create an **analytic rubric** to support the Environmental Education Performance Task and define the criteria for success. This rubric will help students to assess their own work as well as their classmates.
- **Note:** While big ideas and standards are critical, for this assignment students do NOT need to show or list the task’s specific standards alignment.

EE Performance Task & Rubric Assignment Rubric

	4 Exemplar	3 Proficient	2 Developing	1 Beginning
Age-Appropriate EE Task	EE Task is clearly age appropriate, and inspiring!	EE Task is age appropriate.	EE Task could be age appropriate with minor modifications.	EE Task is not age appropriate.
Real World Relevance	EE Task is authentic. Clearly answers the question, “When would I ever need this information in the real world?”	Usually answers the question, “When would I ever need this information in the real world?”	Doesn’t really help students make connection to the real world. Assignment seems “traditional.”	A boring assignment. Makes students ask, “In what world would this be real?”
Standards-Aligned	EE Task is one that could align with grade level	EE Task could align with standards or	EE Task could align with standards and/or	EE Task is fun but has little potential for alignment.

	content standards and/or Common Core as well as Envir Ed K-12 Guidelines	Common Core as well as Envir Ed K-12 Guidelines with a few minor modifications	common core with major modifications	
GRASPS G: Goal R: Role A: Audience S: Situation P: Product S: Success Criteria	Information is clearly listed in the GRASPS format based on Wiggins & McTigue handouts provided in class.	Information is in the GRASPS format with one or two minor errors.	Information is listed, but not in the GRASPS format and may or may not have errors in content	Information is not in the GRASPS format and contains errors.
Analytic Rubric Framework & Categories	Analytic rubric uses a table/grid with categories aligned to the task.	Analytic rubric uses a table/grid with most categories aligned to the task.	Analytic rubric uses a table/grid but categories not aligned to the task.	No Attempt to create a grid and categories.
Rubric Content	Contents of categories clearly define task expectations with scaffolding language.	Most content of the categories define task expectations w/scaffolding language.	Some content of the rubric categories define task expectations – no scaffolding language.	Little evidence of content relating to task or scaffolding language.

Appendix 6-C

EE Dream Program Assignment and Rubric

Assignment: Create a **program outline** using a “backwards design” format showing tight alignment to an over-arching theme or major concept. All lessons must have clear, **measurable objectives**, including group recreation activities, evening programs and campfire, service learning, culminating activity, meal/food lessons and of course, the engaging content-rich field study rotations. You may choose your own theme and audience. It could be community members (adults), college students, K-12, pre-school, at-risk students, urban, rural, a mix – you decide! It is suggested that it be “Project-based.”

Your Task:

- **Goal:** Develop an inclusive, theme-based, integrated, engaging curriculum for a **3 to 5 day residential program**
- **Product:** A detailed **outline** of the program (probably around 10 pages). Full lessons plans are not required.

Success Criteria:

- Students will be provided with an outline template for this assignment.
- Please see the **Final Exam Scoring Sheet** for specific expectations.

The outline students submit must include:

- Theme/Concept
- Audience
- Description of the Setting: Marine, Forest, Desert, Wetlands, Alpine, etc.
- State Standards. Please use NGSS, Oregon Standards or the standards from your “dream state.”
- Essential Questions (3-4)
- Enduring Understandings/Goal Statements (3-4)
- Task Analysis (Unpack the standards. What knowledge and skills are necessary for success?)
- A pre/post assessment plan for learners
- Final Task: Culminating Lesson that helps assess student learning and aligned to the EQs and EUs
- Lessons (10 to 15) with a title, objectives, strategy of instruction. Of the 10 to 15 lessons,
 - One lesson must be a service learning or Citizen Science lesson
 - One lesson must be a theme-based campfire program
 - One lesson must be a dining hall or food-related lesson
 - Field Study blocks may include up to 3 “mini” lessons if appropriate.

EE Student: _____

Reviewer: _____

Unit Outline Scoring Sheet
Understanding by Design
Environmental Education “Dream Program”

____ **The Unit Alignment (15 points)**

- (3 pts) Standards aligned to Enduring Understandings & Theme
- (3 pts) Enduring Understandings aligned to Essential Questions
- (2 pts) Culminating Lesson aligned to Enduring Understandings and Theme
- (2 pts) Lesson objectives aligned to what students are actually doing in the lesson
- (5 pts) Evening program & campfire aligned to Enduring Understandings & Theme

____ **“The Big Picture” Theme/Concept & Content (15 points)**

- (2 pts) Unit Theme or Concept identifies overarching unit “big idea”
- (5 pts) Accurate/complete selection of standards aligned to content of unit
- (4 pts) **Enduring Understandings** are big ideas that may require several lessons to illustrate. They are written in complete sentences.
- (4 pts) **Essential Questions** are engaging questions that further inquiry and understanding (and are aligned to the Enduring Understandings).

____ **Task Analysis & Culminating Lesson (15)**

- (6 pts) **Task Analysis** identifies what **knowledge** and **skills** will be taught in the unit. What will students **know** and **be able to do**?
- (5 pts) **Culminating lesson** is engaging, authentic and applies content acquired during the program, which could include field stations, campfire programs, hikes, meals, etc.
- (4 pts) **Culminating lesson** provides opportunity for **informal assessment** of the enduring understandings and standards listed.

____ **Assessment Plan & Program Evaluation Tool (10)**

- (10pts) **Pre/Post Assessment Plan**: This could be a few sentences defining and linking assessment strategies but should include all of the following elements:
- (3 pts) **Pre-Assessment Plan** describe at least **one way** student prior knowledge will be assessed

- (3 pts) **Post-Assessment Plan** describes how students will be assessed to determine learning gains. One tool could be exactly the same as the pre-assessment tool such as a paper/pencil, multi-choice test. (This allows for easy comparison of learning gains after the program.)
- (4 pts) **Other Evidence** lists other (formal or informal) assessment tools you anticipate will be used **during** the course of the field experience (other than the pre/post assessment). An example: field journals.

_____ **Program Planning Organizer (15 points)**

(15 pts) Table serves as an “At –a-Glance” and clearly identifies program structure teaching time blocks, evening programs, culminating lesson, etc.

_____ **Instructional Plan: The Lessons & Objectives (30 points)**

- **Please list all of the lessons (8-10) in the unit. See below for instructions. You are NOT including complete lesson plans for this program outline.**
 - (7pts) The lessons as a whole, are place-based, aligned to the standards, enduring understandings and the theme. They are content rich, age appropriate, engage the learners and represent a variety of best practice instructional strategies.
 - This list of lessons will prepare the students to complete the culminating lesson. **A service learning, meal time, campfire, and culminating lesson are included.**
 - (3 pts) **Purpose of the Lesson:** In one or two sentences, summarize the lesson and write what the student will learn.
 - (2 pts) **Instructional Strategy:** What strategies are you using to engage the learner? Example, group work, journaling, singing, inquiry, student-as-the-teacher, hands-on, interpretive hike, etc.
- (8 pts) **Lesson Objective** is accurately written and includes:)
- A: An **A**udience (The learner will)
- B: Observable **B**ehavior (What will they do? Use Bloom’s charts for verbs)
- C: **C**ondition or support (Will they use a calculator, map, globe, partner?)

An example of the requested format:

The learner will:

- dissect a dead darlingtonia to reveal the insects inside while working with a partner in the fen.
- identify five aquatic organisms in Deer Creek in small groups while using field guides.
- compare, while working in a group, the dissolved oxygen levels of two streams using the test kits provided.

Nuts and Bolts: Please do not write the objectives in a paragraph. Use bullets as shown above. Please use **observable, measurable** verbs. Make an effort to vary the “Bloom’s Levels” and encourage critical thinking.

☺ Your objectives **SHOULD NOT contain words such as learn, understand, imagine, discover, embrace, wonder, or know.** They are lovely and “organic”, but not measurable.

Please contact your instructor with any questions. Be sure to have fun with the assignment! :-)

Appendix 6-D

Environmental Education Program Administration

Assignment: Program Evaluation Plan & Tools

Summary: Students will design a summative program evaluation plan and tools for their “dream program.” It must include at least three audiences, such as students, teachers, and/or chaperones. It could include high school counselors, agency stakeholders, or others.

The assignment has two parts:

- Part 1: The Summative Evaluation Plan
- Part 2: The Summative Evaluation Tools (a survey modified for three different audiences)

Part 1: Evaluation Plan: Summative

Directions: In less than two pages, please provide brief answers to the following questions:

- What program are you evaluating? Include the program’s mission or goal. Are there specific outcomes you hope to meet?
- What audiences you are evaluating? Note that you must include at least three.
- What is the reason/purpose for evaluating the audience?
- How will the evaluation be delivered? Will the delivery to all audiences be the same?
- How will the data be collected and interpreted?
- How will the evaluation tools be pilot tested?
- Is a consent/permission form necessary to conduct the evaluation with the audience? If so, describe the process for administering and collecting the consent forms?
- How will the forms be stored to ensure the confidentiality of the participants?
- How will the results be communicated to stakeholders?
- How will the results be USED to improve a program?

Part 2: Evaluation Tools: Summative Survey

Directions: Please design an evaluation tool (survey) for the program you described above. The survey should be modified to address three different stakeholder audiences such as students, teachers, counselors, parent chaperones, etc.

The surveys should align to the audience with vocabulary and questions to respond to their

developmental needs. *Note:* Consider non-readers and people for whom English is not their first language when selecting vocabulary. Consider the information in Chapter 3 of the text (NAAEE Publication: *Evaluating Your Environmental Education Programs*) to help guide your design.

The survey questions should be a mix of the following types, depending on the audience:

- **Categorical:** Respondents select one item (usually) from a group of similar items such as asking to select an age from a range of ages.
- **Scales:** Respondents select one point within a range from 1 to 5 with indicators such as “never” to “often” or “boring” to “very interesting.” 1 should be low and 5 high.
- **Ranking:** Respondents indicate a preference by ordering the options, with 1 being the most preferred.

Optional: To compliment the “closed” questions of the survey, you may also include comment sections and “open” questions.

Length: Try to limit your survey to one page, however two pages is acceptable depending upon the audience and situation.

Rubric: Part 1. Program Evaluation Plan

Part 1. Evaluation Plan				
	Exemplar	Proficient	Developing	Beginning
Program Mission/Goal	Includes complete mission and goals with thorough specific outcomes.	Includes complete mission and goals statement. Outcomes present and described.	Includes mission or goal. May or may not include outcomes.	Vague mission and/or goal statements and may or may not include outcomes.
Audiences	Three audience groups (stakeholders) specifically identified with reasons for inclusion.	Three audience groups identified with reasons for their inclusion.	Two audience groups identified.	One audience group identified.

Purpose	The purpose is clearly showcased with several appropriate reasons.	The purpose is showcased with at least one reason.	The purpose is generally stated with no reasons identified.	The purpose is vague or not present. No reasons identified.
Delivery Method	The delivery method is thoroughly described and details the modifications for various audiences.	The delivery method is described and mentions modifications for audiences.	The delivery method is generally described with no mention of audiences.	The delivery method is vaguely described with no mention of audiences.
Data Collection	A thorough and specific data collection and interpretation plan is described.	A data collection and interpretation plan is described.	A data collection and interpretation plan is generally described with gaps.	A data plan is vaguely described with many gaps in the plan.
Pilot Test	A plan to pilot test the evaluation tools is thoroughly and skillfully designed for all audiences.	A plan to pilot test the evaluation tool is identified and includes ideas to try to meet the needs of all audiences.	A plan to pilot test the tool is evident but in the developing stage.	A plan to pilot test the tool is not identified or very vague.
Consent Form	A consent form is professionally designed for use with appropriate audiences, including ELL.	A consent form is professionally designed for use with appropriate audiences.	A consent form is designed but has gaps .	A consent form is either vague or not present.

Confidentiality	A specific plan is designed to ensure complete confidentiality of all stakeholders and dispose of evaluations.	A plan is designed to ensure confidentiality and appropriately dispose of evaluations.	A plan is identified but there are gaps in the confidentiality.	A vague plan is addressed with numerous gaps.
Communication	An excellent, detailed communication plan to share info with stakeholders, including a final report has been considered.	A communication plan has been designed to share info with stakeholders.	A communication plan has been considered but lacks clarity.	A vague plan was mentioned or not present.
Use of Results	A plan is clearly described to share the results to improve the program.	A plan is described to share the results to improve the program.	A plan is mentioned but doesn't really focus on program improvement.	The plan is vague or is not present.

Rubric: Part 2. Program Evaluation Tools

Part 2. Evaluation Tools (Summative)				
	Exemplar	Proficient	Developing	Beginning
Program Mission/Goal Alignment	Questions include questions aligned to the mission and goals with thorough specific outcomes.	Questions include complete mission and goals statement. Outcomes present and described.	Questions include mission or goal. May or may not include outcomes.	Questions are vague and mission and/or goal statements may or may not include outcomes.
Audiences	Questions are modified for specific audiences (stakeholders) including ELL and non-readers.			
Design and Layout	The purpose is clearly showcased with several appropriate reasons.	The purpose is showcased with at least one reason.	The purpose is generally stated with no reasons identified.	The purpose is vague or not present. No reasons identified.
Types of questions: <ul style="list-style-type: none"> ● Categorical ● Scaled ● Ranking 	Questions are thorough and include a mix of the three types.	Questions are thorough and include a mix of two different types.	Questions are well written and include just one type.	Questions are poorly written.

Appendix 6 - E

Environmental Education Program Administration

Assignment: Final Report Document

Assignment Structure & Summary: Students will work as a cohort group to design a Final Report for the Fall in the Field residential and non-residential programs. Students will work in small groups on specific tasks. This report will help serve as the “institutional memory” of the cohort’s programming thus requiring accurate reporting. This report will be shared with stakeholders and will be used to reflect on the season’s performance and provide valuable insights for future cohorts.

Photos: Images should capture a sense of wonder and curiosity and visually support the program goals and “story.” A mix of close-ups, landscapes, and natural history will add to the report. Do NOT include photos of students simply listening to someone talk to them or kids as “bumps on a log” imagines. Students should be doing something! J Many stakeholders will only look at the photos. Note that photos of students (showing their faces) under the age of 18 must have a confirmed Photo Release on file.

Graphic Design: Consider using a program for the report layout that is accessible to the whole cohort. InDesign is available in the Library and on some University computers.

MLA or APA Professional writing Style: Pick a style such as MLA or APA to guide the writing. The most important thing is to be consistent throughout your writing.

Proficiency Expectation:

A proficient thorough Final Report must include the following items:

- Cover Page – should be eye-catching
- Table of Contents
- Executive Summary (Two page limit)
 - ○ Since many stakeholders only read The Executive Summary it should be considered the “at-a-glance” or “highlight reel” for the entire report. It could include easy-to-view charts and graphs to showcase the bottom -line financial and audience served numbers. Critical numbers should not be embedded in the text but rather in the charts and graphs or highlighted in graphically appealing text boxes. Appendices or other page numbers in the report could be referenced here. It should not be text heavy.
- Introduction of Program & Goals
- Map of Region (with sites identified)
- Brief Curriculum Summary linked to Program Goals & Standards (details in Appendix)
- Site Descriptions (Showcasing what students did and learned at the site, unique natural history, etc

- Audiences Served (break down Title I, new schools, etc.)
- Food for Thought Program
- Financial Summary (charts and graphs. Numbers should not be “centered” in text boxes)
- Program Evaluation Summary (details in Appendix)
- Other Topics
- Lessons Learned
- Acknowledgements (Be sure to thank those who have provided funds and resources)
- Appendices (Standards alignment, lesson summaries, staff bios, evaluation tools, assessment tools, marketing information, financial specifics not in the text, etc.)

Appendix 6-F

Leadership in Environmental Education Assignment and Rubric

Students participate in all cohort meetings and committee meetings including meeting facilitation on a rotating basis for the purpose of developing all aspects of the Fall in the Field Program including selection of theme, selection of education standards, development of marketing materials, serving as liaison with our community partners and educators, managing the schedules and scheduling, managing the budget, developing safety plans and all other aspects of both a residential and non-residential programs. Students will oversee and manage program delivery.

Leadership in Environmental Education Scoring Rubric

This program promotes leadership. Students are expected to demonstrate leadership in their participation of all aspects of the program. What may be acceptable as a fine upstanding citizen may not be acceptable for one aspiring to be a leader and program administrator.

ACTIONS & IDEAS	High Pass	Pass	Low Pass	Not Pass
A leader identifies what needs to be accomplished and steps up to help without being asked	Student consistently identifies program needs and takes the initiative to make the changes happen while at the same time considering peers.	Student frequently identifies needs and takes the initiative to make the changes happen while at the same time considering peers.	Student at times identifies needs and takes the initiative to make the changes happen and may fail to consider peers.	Student rarely identifies needs and takes the initiative to make the changes happen and often fails to consider peers.
A leader goes beyond the minimum expectation for a participant in the program.	Student consistently contributes more than the minimum program requirements.	Student frequently contributes more than the minimum program requirements.	Student occasionally contributes more than the minimum stated requirements.	Student contributes no more than the minimum stated requirements.
A leader sets a good example of behavior and maintains a positive attitude.	Student consistently sets a good example for others and maintains a positive attitude despite challenging circumstances.	Student usually sets a good example for others and usually maintains a positive attitude. Rarely behaves in a manner that detracts from the effort.	Student often sets a good example for others but on occasion acts inappropriately. Student often positive but negative attitude more than occasionally apparent.	Student often behaves in a non-supportive manner and frequently exhibits a negative attitude.
A leader helps a group improve.	The group consistently looks to the student for ideas, motivation and guidance.	As a result of student actions, the group improves the program and interactions among the group. Actions rarely detract from the performance of the group.	Some actions promote an improved program and group interactions but occasionally some actions detract from group performance.	Student actions often impair group efforts more than support them.
A leader provides ideas for program improvement.	Student frequently proposes ideas for the group and in a positive manner taking into consideration the opinions of the group.	Student regularly proposes ideas for improving the program and delivers ideas in an appropriate way for consideration by the group.	Student either offers few ideas for program improvement or proposes ideas in a manner that fails to take in consideration the opinions of the group.	Student rarely if ever proposes ideas for program improvement.
A leader diplomatically offers constructive criticism.	Student is consistently alert to program needs and in a sensitive and supportive manner offers constructive criticism aimed at program improvement.	Student is alert to program needs and in a sensitive and supportive manner offers constructive criticism aimed at program improvement.	Student sometimes identifies program needs and provides constructive criticism usually in an appropriate manner.	Student rarely identifies areas for program improvement. Or, student provides criticism in a negative or insensitive manner.
A leader does not measure their contributions against the contributions of others.	Student does not compare their efforts to those of others and demonstrates more concern for the quality of the program.	Student does not compare their workload to that of others in a negative manner and actions rarely suggest displeasure. Primary concern is the quality of the program.	Student occasionally complains about fairness of the workload distribution and actions sometimes clearly communicate displeasure regarding same.	Student often complains about fairness of workload relative to the work of others.
A leader focuses on the mission.	Student consistently considers proposed actions in light of program objectives.	Student usually evaluates proposed actions in light of the program objectives.	Student occasional evaluates proposed actions in light of program objectives.	Student rarely if ever considers proposed actions in light of program objectives.
A leader is a good ambassador for the program.	The student finds the time to talk with others (e.g. SFI staff) about the program and listens to the perceptions of others.	The student takes the time to talk with others about the program and listen to the perceptions of others when the opportunity presents itself.	The student occasionally speaks with others about the program and listens to the perceptions of others.	The student rarely interacts with others about the program. Actions clearly communicate displeasure.
A leader honors commitments and meets obligations to the group.	The student is nearly always punctual and unfailingly provides promised products of superior quality by agreed upon deadlines.	The student is consistently punctual and reliably provides promised products of high quality by agreed upon deadlines.	The student usually punctual and usually provides promised products of good quality by agreed upon deadlines.	The student often late and often delivers promised products late or incomplete.

INTRA-PERSONAL RELATIONS	High Pass	Pass	Low Pass	Not Pass
A leader fosters a sense of belonging.	Student is clearly concerned about collegiality and promotes a sense of belonging through words and actions.	Student aware of group dynamics and actions usually foster a sense of partnership and inclusion.	Student generally operates independently but occasionally works to promote group collaboration	Student rarely encourages or acts to promote group cohesiveness.
A leader considers the welfare of the group.	Student is clearly concerned about the welfare of the group and takes actions to improve the welfare of the individuals of the group.	Student is usually attentive to the needs of the group and acts to promote general welfare.	Student demonstrates concern for group welfare at times, but not consistently. Student seldom takes action to promote the general welfare of the group.	Student rarely demonstrates concern for the welfare of the group. Student participates in program activities but operates independently outside of the immediate work environment.
A leader listens to others.	Student actively seeks input of ideas and concerns from others and makes it clear those ideas and concerns have been heard.	Student seeks input from others and responds in a way that the speaker knows they have been heard.	Student generally listens to the ideas and concerns of others but does not clearly communicate that these ideas and concerns have been heard.	Student does not listen well to others and rarely acknowledges the ideas and concerns of others
A leader encourages and inspires others.	Student aware of the feelings of others and offers encouragement when needed. Peers look to the student for opinions and problem solving.	Student regularly compliments other members of the group and peers show respect for the student.	Student offers only occasional encouragement but may avoid interacting with one or two group members.	Student rarely encourages others and avoids interacting with a segment of the cohort.
A leader supports others who need assistance to grow.	Student is consistently aware of the strengths and weaknesses of peers and in appropriate ways offers guidance or assistance.	Student identifies area of growth in individuals of the cohort and works in appropriate ways to help those in need to grow in these areas.	At times student demonstrates awareness of the strengths and weaknesses of others and in appropriate ways offers guidance and assistance. At times the manner in which assistance is offered may not be constructive.	Student may be concerned about the strengths or weaknesses of peers but only occasionally offers assistance. Assistance when offered may not be constructive.
A leader is respectful of others.	Student clearly and consistently shows respect for all including peers, SFI staff, teachers, chaperones and students through speech and actions.	Student is generally sensitive to the needs and feelings of others and acts accordingly. Student acknowledges all have something of value to offer including peers, SFI staff, teachers, chaperones and students.	Student usually shows respect for all, but on occasion through either speech or action demonstrates a lack of respect for others (peers, SFI staff, teachers, chaperones, and/or students).	Student usually shows respect for others, but on more than a few occasions through either speech of action demonstrates a lack of respect for others (peers, SFI staff, teachers, chaperones, and/or students).
A leader fosters goodwill among the members of a group.	Student anticipates the needs of the group and individual members and acts to promote collegiality.	Student is sensitive to the feelings of peers and acts to promote collegiality.	Student is usually sensitive to the needs of others and often acts to promote collegiality.	Student is often sensitive to the members of the group and sometimes works to promote collegiality.
A leader seeks and accepts constructive criticism.	Student demonstrates a clear concern about personal improvement and invites constructive criticism on any and all aspect of their performance.	Student is concerned about self-improvement and regularly seeks out constructive criticism and receives it gracefully.	Student occasionally seeks out constructive criticism for self-identified areas of improvement. Student usually receives comments without becoming defensive.	Student rarely seeks out constructive criticism. When constructive criticism is offered student frequently becomes defensive.
A leader helps a group reach decisions by building consensus.	Student consistently works with others to help reach a collaborative decision.	Student usually works with others to reach a collaborative decision, but occasionally may attempt to impose their will upon the group.	Student often works with others to reach a collaborative decision but sometimes attempt to force a decision reflecting their own goals.	Student only sometimes tries to build consensus but often attempts to force a decision upon a group that reflects their own goals.
A leader communicates clearly and regularly with members of a group.	Student sensitive to group needs and takes the initiative in communicating with all members of the group regarding matters that affect group cohesion and performance.	Student consistently communicates with all members of the group regarding matters that affect group cohesion and performance.	Student frequently communicates with members of the group regarding matters that affect group cohesion and performance.	Student sometimes or rarely communicates with members of the group regarding matters that affect group cohesion and performance.