

# TREES FOR TOMORROW SUMMER TEACHER WORKSHOP

**Course Number:** NRES 410610: Selected Topics in EE

*"In the end we will conserve only what we love; we will love only what we understand and we will understand only what we are taught"*

-Babe Dioum

Summer/2017

Trees For Tomorrow Campus

June 26-29, 2017 or July 17-20, 2017

**If registering for credit through UWSP, please arrive at Trees For Tomorrow on the first date of workshop with full payment or deposit as either a money order or check. We will not accept credit cards. You may either pay for the credit in full as \$487.20 (graduate), \$319.87 (undergraduate), or as \$100 deposit. If paying a deposit, you may pay the remainder by credit card online after the workshop.**

Instructor: Mary Beth Factor, Trees For Tomorrow School Program Coordinator,  
[marybeth@treesfortomorrow.com](mailto:marybeth@treesfortomorrow.com), (715) 479-6456

## **I. Rationale:**

The purpose of this course is to introduce participants to the benefits of experiential, environmental, inquiry and outdoor learning. Through a four-day full immersion field-based experience, participants will explore various field teaching methods and skills in field investigation in order to bring their own students outside during the 2017/2018 school year. This course aligns with the UWSP College of Natural Resources philosophy where “all students need to understand and appreciate the relationships between natural resources and human needs and they need to understand the scientific method and its application to environmental problem solving.” This course promotes the hands-on exposure and analysis of different types of field investigations and the methods to encourage participants to implement such investigations into their school classrooms.

## **II. Course Aims and Outcomes:**

### ***Aims***

- 1) Participants will investigate and practice outdoor science and teaching techniques to create greater confidence in teaching outdoors.
- 2) Participants will also gain a greater vision of Next Generation Science Standards (NGSS) and methods to implement into their classroom through development of individualized activities/curriculum for outdoor field investigations.
- 3) Once back in their classroom for the 2017/2018 school year, students of participants partake in the field investigations created by the participant during the summer workshop.

### ***Specific Learning Outcomes:***

By the end of this course, participants will:

- 1) Gain a greater confidence in teaching outdoors through investigation of outdoor science and teaching techniques.
- 2) Develop a lesson plan or series of lesson plans during the summer workshop to implement individualized activities/curriculum field investigations into their classroom during the 2017/2018 school year. Various forms of evidence of this implementation will be submitted to the instructor of the course and graded in conjunction with UWSP.

### **III. Format and Procedures:**

Participants are expected to attend every morning, afternoon and evening session in either the June or July four-day workshop. These sessions will take place in a variety of outdoor and indoor locations. Participants should be prepared for any extended outdoor activity, including being prepared for weather changes. It is recommended to bring a hat, sturdy boots, any water repellent gear, and a water bottle for each session. In addition, Trees For Tomorrow will provide a field notebook and it is required for participants to bring this notebook and a pen or pencil to every session.

Participants will be giving reflections after each field investigation session and these reflections will be used to further create a future lesson or unit to be used within their classroom.

Participants are expected to participate in every discussion.

Participants will also create a 30-minute field investigation lesson as a small group and are expected to present this lesson to the rest of the workshop participants at the conclusion of that session. Participants will be given time in the evenings to create a 10-minute presentation discussing how they will implement the various outdoor science strategies and techniques within their classroom for the 2017/2018 school year. This 10-minute presentation will be given at the conclusion of the workshop during the final session.

Participants are expected to submit evidence of their implementation plan through a variety of pictures, graded student work, and a written reflection at the conclusion of their lesson or unit. These materials are to be submitted to the Instructor on Record, Mary Beth Factor, and will be graded in accordance with UWSP policy. A \$50.00 stipend will be given to the participant after all required materials have been submitted and are graded.

### **IV. My Assumptions**

This workshop is designed for 4<sup>th</sup>-8<sup>th</sup> grade teachers or pre-service teachers seeking to teach within those grade levels.

This workshop is also science and field-based focused. Although the classes are aligned to Wisconsin's Model Academic Standards for Science, they are heavily aligned to Next Generation Science Standards (NGSS) and the inquiry-based format reflects as such. The participant does not need to be well-versed in NGSS, but should come with an open mind to the open-ended learning strategies that will be shared. Participants are encouraged to take these strategies and redefine them in their own way, but to also be reflective and try new teaching methods. This workshop is designed to implement experiential and inquiry-based learning opportunities for the students of the participants, allowing the students to take learning into their own hands under the facilitation of the teacher.

**V. Course Requirements:** Whatever tasks and assignments you include in your course should be aligned with the specified learning outcomes (final learning state, skills, knowledge, attitudes and values the students leave the course with) you have defined and specified earlier.

1. Class attendance and participation policy: Attend every session within the 4-day workshop and participate in all reflective discussions. Create

2. Course readings and resources:

(a) Required text: **Please bring a skeleton outline of your lessons/units/themes to be taught within the year. You will be implementing a lesson or unit into your classroom within the 2017/2018 school year and will need to know when is the most appropriate time to do so.**

There are no required text readings prior to the start of the workshop. You will receive several resources during your stay, including:

- Several dichotomous tree keys
- An Animal Tracking Sheet
- A Silva Starter Compass
- Several Blank Field Notebooks
- A Trees For Tomorrow Knapsack
- A Meter Stick
- A “Mammals of Wisconsin” Book by Stan Tekiela
- A “Trees of Wisconsin” Book by Stan Tekiela

(b) Google Drive: All participants must have access to Google Drive. This is the platform where all materials will be shared, including potential lesson ideas, reflections, and all submission materials required to receive a grade.

**V. Grading Procedures: Grades** will be based on:

1. Participation (10%)
2. Reflections (15%)
3. “Create your Own Field Investigation” Group Presentation (15%)
4. Final Workshop Presentation (20%)
5. Evidence of Lesson/Unit Implementation within 2017/2018 Classroom (40%)

## **VI. Academic Integrity**

Each student in this course is expected to abide by the UWSP Academic Integrity Policies. Academic honesty requires that the course work a student presents to an instructor honestly and accurately indicates the student’s own academic efforts. For this course, collaboration is allowed in all instances *except* when creating your lesson or unit for implementation back in the classroom. You are encouraged to work together and to discuss information and concepts covered in the sessions with other participants. You can give "consulting" help to or receive "consulting" help from such participants. However, this permissible cooperation should never involve one participants having possession of a copy of all or part of work done by someone else. Although you are encouraged to seek support or ideas from other participants, all work submitted for your final grade must be your own unique lesson or unit.

Should copying occur, both the participant who copied work from another participant and the participant who gave material to be copied will both automatically receive a zero for the

assignment. Penalty for violation of this Code can also be extended to include failure of the course and University disciplinary action.

### VII. Accommodations for students with disabilities

In compliance with the University of Wisconsin-Stevens Point policy and equal access laws, I am available to discuss appropriate academic accommodations that may be required for any participant with disabilities. Requests for academic accommodations are to be made 30 days prior to the start of the workshop, except for unusual circumstances, so arrangements can be made.

### VIII. Inclusivity Statement

We understand that our participants represent a rich variety of backgrounds and perspectives. Trees For Tomorrow and University of Wisconsin-Stevens Point are committed to providing an atmosphere for learning that respects diversity. While working together to build this community we ask all members to:

- share their unique experiences, values and beliefs
- be open to the views of others
- honor the uniqueness of their colleagues
- appreciate the opportunity that we have to learn from each other in this community
- value each other’s opinions and communicate in a respectful manner
- keep confidential discussions that the community has of a personal (or professional) nature

### IX. Tentative Course Schedule (*May change to accommodate student needs*):

Day 1	
1:00pm	Arrival/Settle in
2:00pm	Introductions/Icebreakers Introduction to Trees For Tomorrow <ul style="list-style-type: none"> <li>• What is Environmental Education (EE)?</li> <li>• Benefits of Outdoor Learning and Place-Based Education</li> <li>• Benefits of Experiential and Inquiry Education</li> </ul> Goals <ul style="list-style-type: none"> <li>• <b>Discussion:</b> Goals: Why are you here?</li> <li>• <b>Discussion:</b> Our goals for you</li> <li>• Review Agenda – <b>Discuss:</b> Field Investigations and Overview for Week</li> <li>• Pre-workshop Evaluation</li> <li>• Introduce Google Drive: Access to Resources and Submission Guidelines</li> </ul>
5:00pm	Dinner
6:00pm	Goals <ul style="list-style-type: none"> <li>• <b>Small Group Discussion:</b> Where do you see outdoor learning fitting into your classroom? What resources are available? Past experiences in outdoor and/or inquiry-based learning?</li> <li>• <b>Introduction Presentation to Whole Group:</b> Your school settings, resources available, support, past experiences in implementing outdoor learning.</li> </ul> NGSS/Wisconsin Science Standards Review

	<ul style="list-style-type: none"> <li>• 3 ways for investigative studies (comparative, descriptive, correlative)</li> <li>• Examples of materials used in studies</li> </ul> <p><b>Discussion:</b> Monday Presentations and Implementation Plan Expectations</p> <ul style="list-style-type: none"> <li>• <i>For those taking University Credit:</i> University Credit Requirements Conversation</li> </ul>
<b>Day 2</b>	
7:30am	Breakfast/pack sack lunch
8:30am	<p>Introduce: Tips for Teaching Outside Topic: Creating a Field Investigation Lesson <u>Field Investigation Session #1:</u> Forming Field-based Science and Observation Skills (at Star Lake)</p> <ul style="list-style-type: none"> <li>• <i>Guiding Question:</i> How are places in the forest different? What should we observe to document these differences?</li> <li>• <i>Objective:</i> Participants will take quality observations in the field and document data at various sites. Learning the skills to document habitat types. Analyzing data through group comparisons and seeing patterns/trends, followed by a rationale for that trend.</li> <li>• Review: Tips for class debrief in the field</li> <li>• <b>Reflection #1:</b> What further questions can be asked after this activity? How can you format this activity to meet your students' needs within your classroom? What would be your objective(s)? What materials would you use?</li> </ul>
12:00pm	Lunch in the field
1:00pm	<p>Topic: Creating a Field Investigation Unit <u>Field Investigation #2:</u> Ecological Succession (at Star Lake)</p> <ul style="list-style-type: none"> <li>• <i>Guiding Question:</i> How do forests change?</li> <li>• <i>Objective:</i> This class session focuses on introducing forest succession by visiting a red pine plantation. Participants will build further on documenting quality observations, and practicing the skills learned in prior session. New methods will be introduced to analyze data while still creating a pattern/trend and rationale from observations collected as a whole group.</li> <li>• <b>Reflection #2:</b> How can you expand your lesson further and within different settings?</li> </ul>
5:00pm	Dinner
6:00pm	<p>Topic: Working within Smaller Settings <u>Field Investigation #3:</u> "Tiny Hike"</p> <ul style="list-style-type: none"> <li>• <i>Guiding Question:</i> What do we tend to miss? How does this play a role in what we see?</li> <li>• <i>Objective:</i> Participants will take a small length of rope and document what they find along that length in various quantified and qualified observations. A quick analysis will show what we typically miss on a daily basis that can serve as a major factor of what we see outside.</li> <li>• <b>Reflection #3:</b> What various strategies and questions can be implemented into your lesson to give greater depth to your</li> </ul>

	<p>students' observations and data analysis? What else can you explore within your available settings?</p> <p>Goals</p> <ul style="list-style-type: none"> <li>• <b>Small Group Discussion:</b> Review of Field Investigation Debriefs #1-3</li> <li>• Start creating presentations for Monday: Implementation Plan</li> </ul>
<b>Day 3</b>	
7:30am	Breakfast
8:30am	<p>Topic: Introducing Wildlife Signs and Connections</p> <p><u>Field Investigation #4:</u> Animal Adaptations on TFT Campus</p> <ul style="list-style-type: none"> <li>• <i>Guiding Question:</i> What can we learn about where animals may live based upon their characteristics?</li> <li>• <i>Objective:</i> Participants will explore specific animal adaptations infer appropriate habitat conditions based on those adaptations. Participants will gather data within several sites and create a sound evidence-based argument whether a certain kind of animal could inhabit that area or not. Class data will be used to determine certain trends and connections to current natural resource management issues will be discussed.</li> <li>• <b>Reflection #4:</b> What are different areas you can incorporate into your lesson?</li> </ul> <p><u>Field Investigation #5:</u> Wildlife Transects on TFT Campus</p> <ul style="list-style-type: none"> <li>• <i>Guiding Question:</i> How can I determine wildlife populations in my area?</li> <li>• <i>Objective:</i> Participants will review various animal signs and tracking information. Participants will be introduced to the use of a compass and GPS. They will use this information and these skills to walk a transect on campus, collecting data of the wildlife populations that are present. Participants will analyze data to determine what is present.</li> <li>• <b>Reflection #5:</b> How can you incorporate a component on wildlife populations? What are some ways to scaffold new skills onto already practiced skills?</li> </ul>
12:00pm	Lunch
1:00pm	<p><b>Small Group Practice:</b> Create your own Field Investigation</p> <ul style="list-style-type: none"> <li>• <i>Objective:</i> Participants within a small group will be given 45 minutes to 1 hour to create a quick outdoor field investigation lesson incorporating any of the methods or strategies learned in the past two days, but also incorporating new methods or ideas.</li> <li>• <b>Assignment:</b> Each small group will lead the class in a 30-minute outdoor/backyard lesson.</li> <li>• <b>Reflection #6:</b> How can you build this investigation further? What can you incorporate on a weekly or biweekly basis within your classroom?</li> </ul>
5:00pm	Dinner
6:00pm	<p>Goals</p> <ul style="list-style-type: none"> <li>• <b>Small Group Discussion:</b> Review of Field Investigation Debriefs #4-6</li> </ul>

	<ul style="list-style-type: none"> <li>• Review of Goals: Any Changes?</li> <li>• Finish presentations for Monday: Create Implementation Plan</li> </ul>
<b>Day 4</b>	
7:30am	Breakfast
8:15am	<p><b>Assignment:</b> 10-minute Presentation of Implementation Plan within the 2017/2018 School Year</p> <ul style="list-style-type: none"> <li>• Review materials used, rough timeline of lesson/unit, settings you will conduct lesson/unit in, objectives, define NGSS/WI Science Standards within lesson, ways to assess</li> </ul> <p>Submission of Lesson/Unit Evidence Guidelines  Availability of Resources after Workshop: Google Drive Review  Post Workshop Evaluation  Final Farewells and Closing</p>
12:00pm	Lunch and Depart