

# UNST 421 Senior Capstone Science Inquiry in the Outdoor Classroom

**Instructor:** Rick Hugo, Cramer Hall, Room 17V  
(503) 725-3356, [hugo@pdx.edu](mailto:hugo@pdx.edu)

**Meeting Place and Time:** Mondays 12:45-3:05, Extended Studies Building (XSB) room 205  
**Office Hours:** Mondays 11:30 - 12:30 or by appointment

## [Field Calendar](#)

**Capstone primary contact:** Cielle Swatland - [cielle.swatland@gmail.com](mailto:cielle.swatland@gmail.com)  
or (503) 957-8400 - text only after 9pm, please

**Wolfree Field Phone (urgent field day calls):** 503-806-7564

## Course Description

**Course Ideals:** This course is intended to give students training and experience in guiding young learners through the process of Science Inquiry. During this course, you the Capstone participant will also engage in a process of inquiry - teaching yourself how to teach. Because Capstone students come from a variety of different backgrounds, you will be expected to actively contribute your unique skills and perspectives to our community of science educators. Field days will be challenging and rewarding, and you should come away from the class with a sense of just how much you can impact the life of a young learner in a short time.

**Field Days:** "Field Days" include outdoor field trips, classroom visits, and perhaps one service day. During outdoor field trips, you will be an assistant Science Mentor for small group, inquiry-based science experiments. As the term progresses, Capstones with outstanding teaching and leadership capabilities may be asked to serve as lead mentors.

During classroom visits, you will perform a variety of duties including small group mentoring, individual tutoring or other activities at the discretion of the classroom teacher. During service days, you will assist Wolfree staff with such activities as maintaining or organizing field equipment, processing teacher and student assessment surveys, or other labor-intensive tasks at the discretion of Wolfree staff.

**Course Project:** Each quarter, Capstone students will complete a course project related to Wolfree's long-term program needs. Past projects have included field assessment rubrics, presentation scoring guides, mentoring instructional materials, presentation guides for students, etc. In keeping with the inquiry nature of the course, Capstone students will take a large role in determining the scope and nature of the final product and the final presentation

**Final Reflection paper.** To reflect on lessons learned during the course, you will write a 3-5 page essay and give a 5 minute talk about your learning in one of the *4 core topics of the University Studies curriculum* - *Communication, Appreciation of Diversity, Ethics and Social Responsibility, and Critical Thinking*. Details are at <http://web.pdx.edu/~hugo/Capstone/FinalReflection.html>.

## Grading

Wolfree depends heavily on reliable Capstones in order to provide high-quality programs to schools in need. Thus, your grade will be weighted heavily towards your field day performance. The 3 field day criteria are **attendance**, **punctuality**, and **effort**. You will also formulate and complete a [personal learning assessment](#).

"**Attendance**" quite simply means that you must attend a field day to receive credit:

- Any missed field day must be made up no matter how good the excuse. Acceptable excuses must be submitted *in writing*. An unexcused absence will incur a double penalty.
- **If you will miss a day, you must contact Wolfree before that morning's mentor meeting.**
  - **If you know in advance, email Cielle at [cielle.swatland@gmail.com](mailto:cielle.swatland@gmail.com)**
  - **If it's a last-minute change, call the Wolfree field phone at 503-806-7564**
- If the absence is pre-ordained you must, *prior to the missed day*, submit an acceptable written excuse to both Cielle and Rick (email will suffice) and arrange a make-up day. You may trade days with other students, but these trades must be cleared with Wolfree and Rick first.
- You are responsible for arranging make-up days in a timely manner. The best method is to email Wolfree and cc: Rick. Last minute, end-of-term requests for make up days may not always be granted. Showing up on site without first informing Wolfree **will not count**.
- Transportation issues will generally not constitute acceptable excuses
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**"Punctuality"** means that you are ready to work at the prescribed mentor time and remain on site for the end-of-day debriefing and field day cleanup. Please check the online calendar the night before your field day - the day's schedule may change at the last minute!

**"Effort"** means that:

- you arrive on site fully prepared to take care of yourself and your group of students. You must dress appropriately (**LAYERS, LAYERS, MORE LAYERS**) and carry adequate food and water
- you perform all tasks required by Wolfree and your lead mentor,
- you treat Wolfree staff, other mentors, and students with courtesy and respect, and
- you respond appropriately to feedback from Wolfree staff and fellow mentors.

### Scoring:

Field day performance	15 pts / day - 5pts – attendance - 5pts – punctuality - 5pts - effort	Score (%)	Grade
<b>Unexcused</b> field day absence or serious misconduct during field day	<b>-15 pts</b>	87-89 83-86 80-82	A A- B+
<b>Excused</b> field day absence (absence must be called in to WT staff by morning meeting of the day you miss)	0 pts	77-79 73-76 70-72	B B- C+
Makeup work (extra field day or other work arranged by Wolfree) - must be approved by Wolfree/Rick in advance!!	up to 15 pts / missed field day		C C-
Journal entries	5 pts / entry (late journals = 2 pt)	67-69 63-66	D+ D D-
Monday classroom attendance	5 pts / class	60-62	
Group term project (presentation and archive copy)	45 pts		F
Final individual oral reflection	15 pts		
Final individual reflection paper	15 pts		
<a href="#">Personal learning assessment</a>	30 pts		

## Schedule of Topics

Week	Discussion Topic	Reading Due	Journal entry due
1 – Sept 24	Training Day!		
2 – Oct 1	Science inquiry Develop personal learning evaluation	Read one of the following:  1. <a href="#">What is Science?</a> 1. including <a href="#">A science checklist</a>  2. <a href="#">What is Inquiry?</a>	Goals and expectations for the course (This journal will be shared with WT staff.)  Draft <a href="#">Personal learning evaluation</a>
3 – Oct 8	Teaching tips ‘n tricks	Read: <a href="#">Reinforce positive behavior</a> and one other link under the heading, "See related handouts:"	Describe your students’ processes of asking questions and forming hypotheses  Final <a href="#">Personal learning evaluation</a>
4 – Oct 15	Socratic dialogue and the art of questioning	<a href="#">Socratic teaching</a> from Stanford U.	Try out a new trick in the field – report how well it worked
5 – Oct 22	Learning styles and multiple intelligences	<a href="#">Multiple Intelligences</a> and choose one of the sub-headings from the list	Be Socratic in the field – report your results
6 -- oct 29	Progress so far and challenges remaining;		Identify your kids’ learning styles and try to accommodate them
7 – Nov 5	Ethics in general and the Wolfree Ethic in particular	National Education Association's <a href="#">Code of Ethics</a> for educators	Identify a weakness in your own teaching; try to address it and report your results
8 – Nov 12	Veteran's day - PSU closed		Reflect on the importance of non-value laden language. Has this been a challenge or a strength for you?
9 – Nov 20	Project work		none (Thanksgiving holiday)
10 – Nov 27	Project work		TBA
<b>Final - Monday, Dec 3 12:30 - 2:20</b>	Final personal reflection Final project presentation		Submit personal evaluation