Course Description: Students will DO science and become familiar with the Wisconsin State Model Academic Standards in Science by exploring science education with a focus on constructivist learning theory. Students will learn and demonstrate effective teaching methods and explore available resources within the broad range of science content areas. All students will be engaged in active field experiences with either elementary or middle school students and will also demonstrate teaching strategies in classes. Field experience: 20 hours for elementary education majors and 40 hours for secondary majors.

Note: A criminal background check is a requirement of this course prior to placement in a K-12 classroom. The required form is provided in class, and there is no cost to the student unless it is determined that a federal background check is necessary.


Course Objectives & Intended Learning Outcomes: Upon completion of this course, the engaged pre-service teacher will have utilized (but not be limited to) discussions, reflective responses, demonstrations, activities, experiments, peer teaching, and field experiences to:

• Investigate and evaluate process-oriented science instruction (Standards 1, 4, 7, & 8).

• Identify and plan physically and emotionally safe and educationally sound in-class and outdoor learning experiences (Standards 4, 5, & 7).

• Teach science lessons using hands-on, minds-on strategies which enhance student retention and ownership of learning, and integrate with other content areas and the community (Standards 4 & 7).

• Develop strategies for teaching science which are supportive of gender equity and adapt effectively to diverse student abilities, learning strategies, cultural backgrounds, or ages (Standard 3).

• Explore the Wisconsin Model Academic Standards for Science and design and teach lessons with appropriate assessment plans which address these standards (Standards 1, 4, 7, & 8).

Accommodations: If you are in need of academic or medical accommodations, contact Mrs. Patti Fenner-Leino, the Disabilities Coordinator, at 682.1230 or Ponzio Room 229.

This course is one of the few remaining Education courses prior to your student teaching experience. As such, I expect highly committed, professional behavior from each of you!
Attendance, participation, and communication: Attendance and active, engaged participation are absolute requirements of this course! You are expected to attend each class ON TIME, remain for the entire class period, and be prepared to discuss assignments, teach your classmates, and effectively participate in teaching demonstrations. It is your responsibility to find out from other students in the class what you missed if absent. Copies of handouts will be available in my office after class. Absence is NEVER an excuse to miss assignment due dates. *Ten points will be deducted for each calendar day an item is submitted past the due date*

Participation means more than just attending the class. You are expected to demonstrate active engagement (hands on and minds on) in all activities and assignments—both in and out of class. Be a good listener; contribute to the class by making meaningful remarks during discussions and offering constructive comments and questions to classmates during and after micro-teaching. Please do not attempt to monopolize or sidetrack discussions.

Communication is one foundation of your success in all endeavors, including this course. Activate and access your Northland College email account and check it often for messages! *I will only respond to your Northland College account.* Email is the easiest and quickest way to contact me with your questions and comments. I will also use email to make important class announcements and share class resources.

Course specific assessment and evaluation: You will be presented with the opportunity to demonstrate your strength, weakness, and growth as a pre-service teacher everyday that our class meets. Assessments will include standard quizzes and tests, in addition to (but not limited to): short written reflections, micro-teaching lesson plans, field experience journals, and classroom observations. Grades will be assigned to your point total that you earn through the semester in the following fashion:

A = 93-100%  
B + = 87-89%  
B- = 80-82%  
C = 73-76%  
D+ = 67-69%  
F = < 60%

A- = 90-92%  
B = 83-86%  
C+ = 77-79%  
C- = 70-72%  
D = 60-66%

*Ten points will be deducted for each calendar day an item is submitted past the due date.*

<table>
<thead>
<tr>
<th>Areas of assessment</th>
<th>Points Possible</th>
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<tbody>
<tr>
<td>Attendance and Active Participation (20 @ 5 points)</td>
<td>100</td>
</tr>
<tr>
<td>Science Content Area Assessments &amp; Reflections (5 @ 100 points)</td>
<td>500</td>
</tr>
<tr>
<td>Observed Classroom Lesson w/Plan (no make-up if missed)</td>
<td>150</td>
</tr>
<tr>
<td>Field Experience Journal</td>
<td>100</td>
</tr>
<tr>
<td>Final Exam Wednesday, December 15, 2010, 11:00 am</td>
<td>150</td>
</tr>
<tr>
<td>THE FILE, due no later than Friday, December 17, 2010, 11:00 am</td>
<td>250</td>
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<td>1,250</td>
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**Course assignments:** Active participation means that you are involved and taking an active role in the discussions and activities taking place during the class. This is impossible to do if you are not present!! As a teacher, you will provide detailed lesson plans, even when you are absent and in preparation for this expectation, there should be no late assignments; however, if a written assignment is submitted late, *ten points will be deducted for each calendar day it is late.* There will be NO makeup if a scheduled presentation or lesson is missed.

You will be required to submit a variety of assignments to demonstrate your competencies in each area. These assignments allow you to provide evidence of your mastery of course objectives. The evaluation rubrics will be provided in class and will be reviewed prior to the due date to help you understand precisely how the assignment will be graded while also allowing you to self-assess your work before submitting it. You should carefully examine the rubric to be sure you understand what is expected of you for each assignment.

*Formatting for ALL assignments:* use Microsoft Word processing software (1997 version or newer), left justified, and margins between 0.6 - 1” for the top, bottom, left and right sides. Use an 11-or 12-point font that is easy to read, such as Times New Roman, Courier, or Arial. If you use a non-IBM computer, it is your responsibility to ensure compatibility and that your documents display the correct settings and formatting. For any file that you submit electronically, I will send an email confirmation stating I am in receipt of your file and have successfully opened it. Without such a confirmation email from me, prior to, or on, the due date, an assignment submitted electronically will be considered **NOT TURNED IN!**

**YES,** spelling and grammar count! All assignments should be clearly labeled with your name, the title of the assignment, and page numbers if more than one page in length. Formal title pages are optional. ABSOLUTELY no untrimmed paper torn from a spiral notebook will ever be accepted! Remember the appearance of each assignment is important, follow directions carefully and keep in mind that your work represents your competency and professionalism.

**Science Content Area Assessments:** There will be a science content area assessment according to the class calendar covering each of five primary areas of science instruction. For these assessments, you will be required to present micro-lessons or solution strategies to your classmates either as an individual or as a member of a cooperative learning group. After delivering the lesson and/or strategy, classmates will provide you with written feedback and suggestions. **Within one week** of presenting your lesson and/or strategy, you are to complete a 1-page reflection in which you address the strengths and weaknesses of your presentation, in what ways you would implement or modify the recommendations of your classmates, and what you learned from preparing and presenting the lesson and/or strategy.

**Observed Classroom Lesson and Detailed Lesson Plan:** During your field experience hours, you must present at least two different science lessons to your assigned class. One lesson will be observed and evaluated by your classroom teacher, and the other lesson will be observed and evaluated by your college instructor. The evaluation forms for both will be provided in class. For the lesson observed by your college instructor, there must be a completed lesson plan and reflection submitted within one week after being observed. There will be NO rescheduling of observations!

**Field Experience Journal:** Each hour of your field experience must be documented in your field experience journal. The timesheet should be maintained in the journal, and it must be completed and signed by both you and your classroom teacher before your final grade can be entered. The journal and timesheet are due by **4:00 pm on Friday, November 5, 2010.** The proper format, content, and grading rubric for the journal entries will be provided in class prior to your first placement.
Final Exam: Attendance and participation at the final exam is required! During part of this we will discuss and reflect upon the various aspects of project- and problem-based science instructional strategies. The other part of this time will be a written portion covering the material presented in class. The final exam for this course is scheduled for Wednesday, December 15, 2010, from 11:00 to 12:20 am.

THE FILE: Essentially, this is a collection of useful artifacts that can be incorporated into your classrooms on the first day of your teaching career. It will include items like copies of successful demonstrations, lab ideas, papers or articles that you find interesting or useful, and resource lists. You will receive an itemized list of the required elements, but start collecting ‘Science Teaching Stuff’. The format for THE FILE is flexible, keep in mind what organizational system you find most useful. THE FILE can be turned in anytime during the month of December, but the last day to bring it to me is during the final class meeting time, Friday, December 17th at 11:00 AM.

COURSE ETHICS: You are expected to listen carefully and respectfully to both the professor and other students’ contributions and discussions in class. Side discussions and comments are disrespectful and distracting. Disrespect, language, comments, or actions that are in bad taste will not be tolerated. Please be sure to turn off your cell phone, pager, and all other electronic devices during class. Students who do not conduct themselves in a respectful manner will be asked to leave the classroom. If a situation arises where you must arrive late for class, please enter quietly and take the first available seat. Do not bring friends, children, pets, meals, or anything else to the class that should not be there.

Plagiarism and cheating in any fashion also will not be tolerated. When you use material from other sources, you must acknowledge the source. Not doing so is called plagiarism, which means using without credit the ideas or expressions of another. You are, therefore, cautioned (1) against using, word for word, without acknowledgment, phrases, sentences, paragraphs, photographs, etc., from the printed or online material of others; (2) against using with only slight changes the materials of another; and (3) against using the general plan, the main headings, or a rewritten form of someone else's material. These cautions apply to the work of other students as well as to the published work of professionals.

Of course, these cautions also apply to information you find on the Internet, World Wide Web, or other electronic or online sources. If you are in doubt, please ask me far in advance of the due date, since the consequences for plagiarism are severe. In this class, anyone who plagiarizes fails the course.*

Cheating includes using any type of unauthorized notes, study aids, crib sheets, or information on a test, homework, or any other coursework. While you are encouraged to work and study together, be sure the work you submit is your own!

Recordings: Any form of video and/or audio recordings of any part of this class or its content is prohibited unless approved by the instructor in advance.

CHEATING IN ANY FORM WILL RESULT IN FAILURE OF THE COURSE.

Incomplete Grades: Under Northland College policy, an incomplete grade will be given ONLY under extreme circumstances beyond your control, such as a major illness. An incomplete grade will be given ONLY if you have successfully completed the entire course except for the final exam. If the final exam is not completed by the incomplete deadline, a grade of zero will be entered and the final grade will be calculated based on the points completed.

The professor reserves the right to modify this course syllabus and/or calendar as necessary