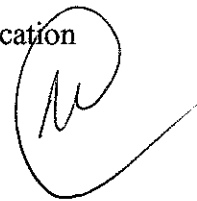


MEMO

To: Dean John Stone, School of Graduate Studies and Continuing Education
From: Dr. Anne D'Antonio Stinson, Chair, C&I Department
Date: September 9, 2008
Re: Currency of Bulletin Offerings for 500- and 600-level Courses



You have identified four C&I courses as meeting the criteria from removal from the bulletin. After consulting with the faculty, I have discovered the following:

CIGENRL 554	Can be removed from the bulletin
EARLYCHD 540	Dual listing w/ EARLYCHD 340 provides graduate option for initial/add-on licensure
SECNDED 626	Dual listing w/ SECNDED 426 provides graduate option for initial/add-on licensure
SECNDED 629	Dual listing w/ SECNDED 429 provides graduate option for initial/add-on licensure. NOTE: There is a student enrolled in SECNDED 629 for Fall 2008!

Curriculum Proposal Form 9 has been completed and is attached for each of the courses listed above.

**University of Wisconsin – Whitewater
Curriculum Proposal Form # 9**

(Procedures can be found at <http://acadaff.uww.edu/Handbook/Procedures-Form9.htm>)

Continuation of an Inactive Course

(to be used in conjunction with Currency of Catalog Exercise)

X The course should be continued. Justification is provided below:

Subject Area and Course Number: **SECNDED 629**

Title: **Science Methods**

Justification: **Dual listing w/ SECNDED 429 provides graduate option for initial/add-on licensure. NOTE: There is a student enrolled in SECNDED 629 for Fall 2008!**

Updated Course Outline: **See attached**

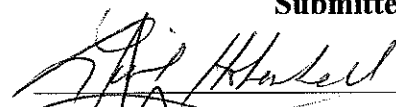
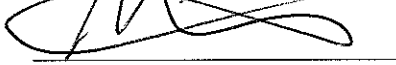
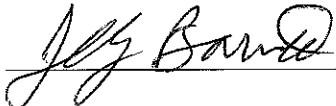
Updated Bibliography **See attached**

Deletion of an Inactive Course

The course should be eliminated. I verify that this course should no longer be included in any degree program and should be deleted from any in which it currently appears.

Subject Area and Course Number:

Submitted By

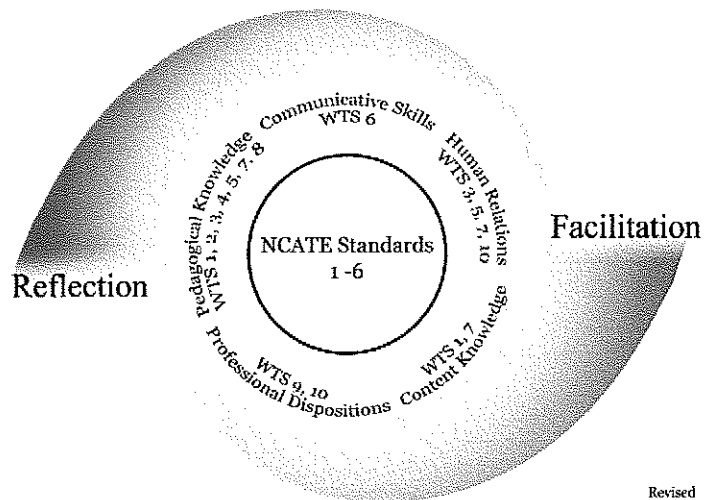
Sponsor		Date	<u>9/5/08</u>
Department Chair		Date	<u>9/5/08</u>
Dean of College		Date	<u>9/9/08</u>

Decision

- The course update is administratively approved and will be updated on the curricular database.
- The justification of keeping this course does not meet the requirements for the currency of catalog exercise.
- The AVC's office will have the course deleted from all programs.

Associate Vice Chancellor _____ Date _____

The Teacher is a Reflective Facilitator



Our conceptual framework, The Teacher is a Reflective Facilitator, is the underlying structure in our teacher preparation program at UW-Whitewater. This structure gives conceptual meanings through an articulated rationale to our operation. It also provides direction for our licensure programs, courses, teaching, candidate performance, faculty scholarship and service, and unit accountability. In short, our teacher education program is committed to reflection upon practice; to facilitation of creative learning experiences for pupils; to constructivism in that all learners must take an active role in their own learning; to information and technology literacy; to diversity; and to inquiry (research/scholarship) and assessment. Therefore, all syllabi pertaining to courses required for licensure should reflect a commitment to these underlying principles.

CURRICULUM AND INSTRUCTION: SECNDED 429/629
METHODS OF TEACHING SCIENCE
Fall, 2008
Section 01: Tuesdays, 5:30-8:00pm

Instructor: Liesl Hohenshell
email: hohenshl@uww.edu
Office Phone: 262-472-1190

Course Room: **3006 Winther Hall**
Office: 4046 Winther Hall
Office Hours: T 2-5pm; W 4-5pm; Online F 2:30-3:30pm; and by appointment via email

*Note. I schedule time to respond to emails on Monday, Wednesday, and Friday afternoons. I am happy to meet with you outside of class time to address advising questions and individual concerns.

Course Description

Designed to acquaint students with basic educational techniques; to develop in students the ability to utilize effectively techniques characteristic of science programs, namely, laboratory learning to acquaint students with new approaches to science; to familiarize students with new developments in the science curriculum; to help students gain a broad vision of their teaching profession, their science area and their responsibilities to all students.

Purpose

The purpose of this course is to strengthen the pedagogical content knowledge of students seeking licensure by the State of Wisconsin for teaching in classrooms at middle and high-school grade levels. This course considers different teaching models, metacognitive tools, inquiry structures, assessment approaches, curriculum design,

use of computer technology in science instruction, and state and national science education standards. Issues of safety and accessibility are addressed as a part of curriculum planning for the science classroom.

Goals

The following five general goals for preservice teachers drive the curricular approach, organization, and content decisions for the course. The preservice teacher is to . . .

1. Gain confidence in self as an agent of science education capable of researching and teaching science;
2. Develop information-seeking strategies, educational technology skills, and techniques for gathering, organizing, and analyzing ideas and materials for science teaching;
3. Build knowledge of student's ideas about science and the natural world, their thinking processes, and their attitudes toward science;
4. Apply knowledge about students to plan instruction and assessment for diverse student populations; and
5. Advance further in viewing the instructional process of science education as a dynamic, reflective investigation into a practice of shared teaching and learning.

Intended Learning Outcomes

- * WTS = Wisconsin Standards for Teacher Development and Licensure (PI-34)
- NSETS = National Science Education Teaching Standards
- NSEPDS = National Science Education Professional Development Standards
- NSEAS = National Science Education Assessment Standards

In concert with these goals, the preservice secondary education teachers will be expected to . . .

Performances

- | | Standard(s)* |
|--|---|
| 1. Make explicit their beliefs and assumptions about the nature of science and the teaching of science; | WTS 1, 4, 5, 7 - 9
NSETS A - F
NSEPDS B
NSEAS B - E |
| 2. Demonstrate facility using concept maps as planning, assessment, and investigation-structuring metacognitive tools; | WTS 1, 4, 6 - 8
NSETS A - E
NSEPDS A, D
NSEAS A - E |
| 3. Identify and use different types of investigations and key investigation components; | WTS 1, 3, 4, 5, 7
NSETS A - F
NSEPDS B, D, E
NSEAS A, B, D |
| 4. Use electronic mail communication and network accessible resources in instructional planning and implementation; | WTS 1, 3, 4, 7
NSETS D - F
NSEPDS C
NSEAS B, C |
| 5. Work effectively with colleagues in various aspects of classroom instruction: observation; investigation of students' prior knowledge; unit planning and implementation; reflective analysis and assessment of the unit; and presentation of the unit to the class; | WTS 1 - 10
NSETS A - E
NSEPDS A - D
NSEAS A - D |

- | | |
|--|--|
| 6. Demonstrate a working knowledge of the Wisconsin Model Academic Standards for Science; | WTS 1, 2, 7
NSETS C, F
NSEPDS B, D
NSEAS A - E |
| 7. Describe a theory of cognitive development and utilize this knowledge in planning, implementation, and analysis of science instruction for students in secondary grade levels (focusing on intended licensure); | WTS 2, 3
NSETS B - E
NSEPDS B
NSEAS A, B, D, E |
| 8. Describe and distinguish between at least two instructional models and direct and indirect instructional sequences, recognize that a variety of different instructional models may use direct and/or indirect instructional sequences, identify elements of these instructional models through systematic observation and reflection; | WTS 4, 7, 10
NSETS A - E
NSEPDS C, E,
NSEAS A, B, D |
| 9. Examine integration of literature as an instructional science tool; | WTS 1, 4, 7
NSETS B, D
NSEPDS B |
| 10. Explore videotaping and editing technologies as tools supporting instruction and reflection on teaching; | WTS 9
NSETS C, E
NSEPDS B |
| 11. Identify appropriate sources of information related to current safety regulations, practices in the science classroom, and the storage room; | WTS 5
NSETS D
NSEPDS B, C |
| 12. Locate current resources regulating the care and treatment of animals in the classroom; | WTS 5
NSETS D
NSEPDS B, C |
| 13. Plan the use of varied modes of assessment in the science classroom; | WTS 4, 8
NSETS C
NSEPDS B
NSEAS A - E |
| 14. Begin building a science instruction resource file including hard copy as well as electronically stored resources; and | WTS 1, 4, 7
NSETS A, C, D
NSEPDS B, C |
| 15. Use intentional design to plan appropriate enhancements, accommodations, and adaptations to maximize learning for all students and minimize the proportion of learners in the class who experience disability in the learning environment. | WTS 3, 5
NSETS B, D, E
NSEPDS B
NSEAS B, D, E |

Evaluation

The final grade for the course is determined by your willingness and ability to fully participate in all course activities. A full participant 1) has an exemplary attendance rate (never arrives late or leaves early); 2) attends all classes prepared with readings completed and refers to academic material to support statements

during interactions, showing a strong command of the subject matter in discussing issues and educational research; 3) reads and reflects on relevant Task expectations prior to each session; 4) *ensures all Tasks are thorough and complete representations of her/his best effort, aligned with the highest level of rubric criteria, and turned in on time*; 5) exemplifies professionalism; 6) is open to learning through negotiation of ideas, sharing perspectives and experiences, thoughtfully considering others' ideas and suggestions; 7) does not give the impression of learning *only* by listening; and 8) exhibits an overall *positive*, courteous, and respectful attitude **to all** throughout the course.

The final evaluation of the course performance will be a weighted combination of the following elements:

- 25% **Attendance, Participation & Professional Disposition** (Individual), also includes work online, outside of class, and during class as part of course sessions
- 5% Task 1, Reflective Philosophy of Education Statement (Individual)
- 5% Task 2, Case Study Discussion (Group)
- 10% Task 3, SWH Investigation (Individual)
- 5% Task 4, Curriculum Outline & Inspiration Generated Curriculum Concept Map (Individual)
- 5% Task 5, Prior Knowledge SWH Investigation (Individual)
- 15% Task 6, Microteaching Lesson with Educational Technology (Individual)
- 25% Task 7, Final Unit Lesson (Individual & Group)
- 5% Task 8, Reflective essay (Individual)

Your course **attendance is important and essential** to maximizing learning opportunities **for all** members of the course. Twenty-five percent of the course grade will be based on attendance and participation in the course activities, including incidental written work, research, presentations in class, on-line tasks, and general class discussions. **Attendance is required for everyone throughout the course.**

Percentage points will be deducted for absences (automatic 5% for the second absence and each thereafter), late arrivals and/or early departures (1-5% for the second and each thereafter depending on the amount of time). It is **your responsibility** to inform the instructor and group members in advance of an absence to a course session and if you arrive late to a course session, it is necessary to **check in** with the instructor immediately **after class** to adjust the record of attendance. If you are absent, it is also **your responsibility** to complete preparation tasks, in class assignments, and submit tasks that were due that day. **Only the third absence may be made up** for credit by arranging a time to meet with the instructor and completing assigned make up work. Much of the work in this course is conducted in groups; as such, there are both self-and peer evaluations, which compose up to 3% of the course grade (from the Attendance category).

The following grading scale will be used for the final grade for the course:

- 90-100% = A
- 80-89% = B
- 70-79% = C
- 60-69% = D
- <60% = F

The letter codes below Tasks in the description indicate which standards set the Task or session addresses. While a number of the Tasks addressed are *necessary* to meet one or more of the Wisconsin Standards for Teacher Development and Licensure (WTS), in a number of cases, the Tasks are not *sufficient* to fully demonstrate the standards. Thus, WTS rubrics are scored only for Tasks that allow a mark at basic (2) or proficient (3) levels and it is the **student's responsibility** to include relevant WTS rubrics with submitted work.

Graduate Level SECNDED 629: In addition to completing the tasks above as full participants, graduate students also complete a midterm research paper on misconceptions surrounding a science topic, meet with the instructor to design an informal investigation pertaining to an issue relevant to science education, write a final paper, and present study findings to the class at the final exam time.

*Note. If you have personal questions or issues to convey or discuss, please make an appointment with the instructor via email or visit during office hours. The times immediately before and after class are reserved for lesson preparation and clean up.

Submitted Materials

Due to potential compatibility issues, it is highly recommended that all written materials prepared outside of class are typed in 12pt. Times New Roman font, single spaced, saved in Word® format 97-2003 with the file extension of ".doc" and printed. Students are expected to save and back up all documents produced for the course on separate mediums (e.g. hard drive *and* flash drive or CD) and in some cases in separate programs (e.g. information on WIKI site also saved as Word® documents). It is **each student's responsibility to keep a copy of all** submitted tasks (i.e. products produced individually and in groups); that is, each team member should have a copy of ALL components of group work. Also it is your responsibility to keep tasks after they are scored (e.g. in case of a grade dispute). It is also the **student's responsibility to have a backup plan ready for any task requiring technology** (e.g. D2L, PowerPoint, imovie DVD) with a hard copy ready to present and submit on time, which demonstrates preparedness for technological problems.

University Policies

The University of Wisconsin-Whitewater is dedicated to a safe, supportive and non-discriminatory learning environment. It is the **responsibility of all** undergraduate and graduate **students** to familiarize themselves with University policies regarding Accommodations <http://www.uww.edu/StdRscs/csd/accommodations.php>, Academic Misconduct, Religious Beliefs Accommodation, Discrimination and Absence for University Sponsored Events Available online [8/20/08]. For details please click on the associated links and refer to the Schedule of Classes; the "Rights and Responsibilities" section of the Undergraduate Catalog; the Academic Requirements and Policies and the Facilities and Services sections of the Graduate Catalog; and the "Student Academic Disciplinary Procedures" (UWS Chapter 14); and the "Student Nonacademic Disciplinary Procedures" (UWS Chapter 17).

Reasonable Modifications Requests

Students in need of reasonable modification of the instructional context are to meet with the instructor to discuss the needed modification. If the modification requires the assistance of personnel, equipment, or materials that are beyond those readily provided by the instructor, then the student is to be referred to Disabled Student Services. Upon referral to Disabled Student Services, the student must:

- a. Sign a request for services based on the presence of a disability;
- b. Provide appropriate diagnostic information that establishes that s/he is a qualified individual with a disability; and,
- c. Request in writing the reasonable modifications(s) sought to accommodate the qualifying disability.

Disabled Student Services arranges (in consultation with instructional staff) to provide appropriate reasonable modifications. (John D. Truesdale, memorandum, Aug. 15, 1996).

Prerequisites

Restricted to Students with Professional Education Admission; EDFOUND 212 Prerequisite

Ethics Statement

The Unit supports the codes of ethics published by the specialty organizations. Available online [8/20/08], <http://www.nsta.org/about/positions/professionalism.aspx>

Resources

*The text for the course is available at Textbook Rental:

*Gallagher, J. J. (2007). *Teaching science for understanding: A practical guide for middle and high school teachers*. Upper Saddle River, NJ: Pearson Education, Inc.

- **Note. These resources are very useful for determining relationships between concepts in the science standards. See the **Learning Objectives** section in particular for resources to assist with alignment of instructional activities, objectives and assessment.
- **American Association for the Advancement of Science. (1993). *Benchmarks for science literacy*. Cary, NC: Oxford University Press. Available online [8/20/08], <http://www.project2061.org/tools/benchol/bolframe.htm>
- **American Association for the Advancement of Science. (2001). *Atlas of science literacy*. Washington, DC. UW-W Call # for reserve desk, Q183.3.A1 .A788 2001
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- **Driver, R., Guesne, E., & Tiberghien, A. (1985). *Children's ideas in science*. Philadelphia: Open University Press. UW-W Call # for reserve desk, Q181.A1 C49 1985
- Driver, R., Squires, A., Rushworth, P., & Wood-Robinson, V. (1994). *Making sense of secondary science: Research into children's ideas*. New York: Routledge.
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- Gibbs, J. (1995). *Tribes: A new way of learning and being together*. Sausalito, CA: Center Source Systems, LLC.
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Learning Objectives

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Journals (and Associations)

- American Educational Research Journal*,
Review of Educational Research (American Educational Research Association)
Journal of Research in Science Teaching,
 The International Journal of Science Education (National Association for Research in Science Teaching)
Science Education
School Science and Mathematics (School Science and Mathematics Association, International)
Science Activities (American Association for the Advancement of Science)
Science and Children,
Science Scope,
The Science Teacher (National Science Teachers Association)
 The American Biology Teacher (The National Association of Biology Teachers)
 American Journal of Physics,
 The Physics Teacher (American Association of Physics Teachers)

Useful Websites and Tutorials Available on-line [8/20/08]

Annenberg Media, <http://www.learner.org/#>

Howard Hughes Medical Institute, <http://www.hhmi.org>.

Videos, animations, lectures, interactive, labs, ask a scientist: <http://www.biointeractive.org>

Smart boards: Educator Resources <http://smarttech.com/>

The Science Writing Heuristic Inquiry Approach (Secondary & Elementary Levels):

SWH homepage, <http://avogadro.chem.iastate.edu/SWH/homepage.htm>

Iowa Science Literacy Project, Investigating the Science Writing Heuristic <http://www.ci.hs.iastate.edu/scilit/>

Powers of Ten,

Charles & Ray Eames Film, <http://www.powersof10.com/>

<http://micro.magnet.fsu.edu/primer/java/scienceopticsu/powersof10/>

Webquest.org, <http://webquest.org/index.php>

American Association for the Advancement of Science, <http://www.aaas.org>

The Educator's Reference desk, <http://www.eduref.org>

Institutional Animal Care and Use Committee (IACUC) Policy and Procedures, in Research and Sponsored Programs, <http://www.uwworsp.org/dnav/185/page.htm>

Carolina: Activities, Resource, Curriculum, http://www.carolina.com/general/directories/site_map.asp

Animal care, http://www.carolina.com/how_do_I/care_guides.asp

Flinn Scientific, Inc.: <http://www.flinnsci.com/Sections/Safety/safety.asp>

Materials Safety Data Sheets (MSDS), http://www.flinnsci.com/search_MSDS.asp

Occupational Safety and Health Administration (OSHA), <http://www.osha.gov/web/dep/chemicaldata/#target>

Center for Disease control and Prevention, Office of Health and Safety, Biosafety,

<http://www.cdc.gov/od/ohs/biosfty/biosfty.htm>

Hazardous Waste and Radiation, <http://www.uww.edu/Adminaff/radsafmanbod.htm>

Eisenhower National Clearinghouse for Mathematics and Science Education, <http://www.goenc.com>

AIMS Education Foundation, PO Box 8120, Fresno, CA 93747-8120, <http://www.aimsedu.org>

Highsmith.com, educational materials (e.g. murals), <http://www.highsmith.com>

Chemistry Teaching Resources, <http://www.csun.edu/science/chemistry/index.html>

Learning Point Associates, <http://www.learningpt.org/>, some materials from North Central Regional Educational Laboratory (NCREL)

Misconceptions about Science:

<http://www.amasci.com/miscon/opphys.html>

<http://web.archive.org/web/20010506020226/http://www.pitt.edu/%7Evtalsma/syllabi/2943/handouts/misconcept.html>

Reference List, <http://www.comp.lancs.ac.uk/computing/research/aai-aied/people/paulb/misconrefs.html>

Tutoring, <http://www.uww.edu/tutorial>

Writing Center Services, lower level McCutchan Hall, <http://www.uww.edu/tutorial/wc.html>

Citations of a website APA style:

University of Chicago Laboratory Schools. (2008). In Encyclopaedia Britannica. Retrieved April 17, 2008, from Encyclopædia Britannica Online: <http://www.britannica.com/eb/article-9001453>

General Portfolio Phase 3 Forms, <http://academics.uww.edu/cni/portfolio.html>

Click the "**Student Guide**" link for help Preparing the College of Education Portfolio, 3 components are described in detail 1) Philosophy Statement, 2) Reflective Narratives & 3) Artifacts

Artifact Rubrics links are on the right for quick print

SECNDED 429 Science Methods *Anticipated Schedule*: Fall 2008

#	Date Tuesday	Assignments and Readings Due for Class	Topics	Ongoing Tasks
1	9/2		Welcome & Introductions Write Beginning Ideas for discussions Overview of course content & expectations Information (Data collection) 1. Pre-survey #1 - Nature of science 2. Pre-survey #2 - Beliefs (STEBI) (surveys in D2L) Discussion: How do children learn? Task Descriptions 1 & 2	1. Begin Task #1: Reflective Philosophy of Education *if you have a laptop, consider bringing to class sessions
2	9/9	1. Pre-surveys 1 & 2 uploaded in D2L 2. Gallagher, Ch. 2 3. Read D2L module, Constructivism & NOS: a) Constructivism Ch. b) Read 1/2 NOS articles: McComas, <i>15 myths of science</i> ; or AAAS, Science for All Americans, Ch. 1	The Nature of Science & Constructivism What is the nature of science ? Critical Reading Strategy for Discussions How <i>do</i> people learn? What should we emphasize in science classrooms, learning science content or doing science? NOS Follow up Discussion on D2L Task Descriptions/Assign Groups/Topics Schedule and contact information grids Case Study Discussion Groups Unit Lesson Plan Team Begin activity illustrative of reform approach	1. Continue Task #1: Reflective Philosophy of Education 2. Gather text resources (not web) for unit content knowledge 3. Case Study Group 1 Task
3	9/16	1. Gallagher Ch. 4 2. D2L module, Inquiry a) PPT b) Hand & Keys article, <i>Inquiry investigation: A new approach to laboratory reports</i> c) Print and bring to class: the <i>SWH student Template & Self-Evaluation Rubric</i> d) Hand, Prain, & Vance, <i>Writing Wheel</i> 3. Read Case Study 1 4. Submit NOS follow up discussion on D2L 5. Submit Task #1 Reflective Philosophy of Education to D2L	Instructional Models Inquiry & Learning Cycle Models Case Study Group 1 leads discussion 1. Types of Investigations 2. The Science Writing Heuristic (SWH) purposes, structure, components, and report structure 3. Inquiry Investigations questions, variables, constants, control and data collection	1. Complete Task #3 SWH Investigation 2. Gather text resources (not web) for unit content knowledge 3. Case Study Group 2 Task

#	Date Tuesday	Assignments and Readings Due for Class	Topics	Ongoing Tasks
4	9/23	1. Gallagher Ch. 5 & 7 2. Read Case Study 2 3. Read NOS follow up discussion contributions on D2L 4. Read D2L module, Assessment a) PPT b) Concept Map article c) Assessment Strategies 5. Submit Task #3 SWH Investigation to D2L	Strategies & Formative Assessment Debrief on NOS D2L discussion Case Study Group 2 leads discussion Building a Concept Map 1. Students explain concept map (CM) purposes and conventions 2. Whole Class Example 3. Evaluation of concept maps 4. Description of Inspiration program designed to produce concept maps in computer lab Show Standards Links: Explore WMAS Classification & Locate disciplines (Physical, Earth & Space, Life & Environmental) for grade level(s)	1. Print Content & Process Skill Standards for Discipline content & unifying standards 2. Research resources & Standards for your Unit Topic: <u>National & State WMAS</u> 3. Case Study Group 3 Task
5	9/30	1. Gallagher Ch. 3 2. Read Case Study 3 3. Read D2L module, Objectives a) Read Heinich, et al. article, <i>Objectives</i> b) Penick et al. article, <i>Questions are the answer</i> 4. Bring copies of WMAS standards- Discipline(s) & unifying standards for your team's unit grade level http://www.dpi.state.wi.us/standards/sciintro.html click & print performance, & content standards ; check glossary	Standards, Lesson Objectives & Investigating Student Conceptions Case Study Group 3 leads discussion 1. What should we emphasize in science classrooms, learning science content and/or doing science? 2. What are you asked to teach? A. The National Science Ed. Standards B. Wisconsin Model Academic Standards C. <i>District Standards</i> 3. Activity: On WMAS printed copy locate discipline standards for your team's unit topic (physical science, earth and space science, and life and environmental science) for grade level. What are the performance standards? How do they relate to science process skills (in Martin), NOS & inquiry? How might operational definitions of process skills appear in lessons? 4. Developing Academic Language for all 5. Conventional Format for writing Behavioral Objectives for Lessons 6. Lesson planning structure: Brief vs. Formal 7. Task #4 Expectations: Inspiration Map of Curriculum concepts from field 8. Task #5 Expectations, using the SWH approach design and conduct an investigation to determine students' prior knowledge of concepts you will teach or (co-teach) in the field	1. Explore National Standards http://books.nap.edu/html/nses/html/index.html scroll to Content & Compare to WMAS 2. Add WMAS standards to your unit lesson plan 3. Plan flow of unit lessons with team 4. Plan Task #5 Investigation of students' prior knowledge 6. Case Study Group 4 Task 7. Obtain Curriculum Concept map from field placement

#	Date Tuesday	Assignments and Readings Due for Class	Topics	Ongoing Tasks
6	10/7	<ol style="list-style-type: none"> 1. Read Case Study 4 2. Read D2L module, Diversity 	<p>Diverse Learners NSF interviews Case Study Group 4 leads discussion</p> <ol style="list-style-type: none"> 1. Orientation to Educational Technology (Task #6 Expectations) 2. Obtain raw data on student performance in field for use in class for assessment analysis 3. Search Web-based activity 4. Clarify questions concerning Tasks 5. In class time for: <ol style="list-style-type: none"> a) Accessing Web-based activity b) Reviewing teacher resources, materials and planning unit with teams c) Designing prior knowledge investigation d) Exploring ideas for incorporating technology in microteaching lesson 	<ol style="list-style-type: none"> 1. Task #5 Prior Knowledge Investigation design 2. Developing unit lesson ideas with team 3. Case Study Group 5 Task 4. Obtain raw data (student assessment answers) 5. Print a web-based activity
7	10/14	<ol style="list-style-type: none"> 1. Bring design of Task #5 (through tests) 2. Read Gallagher, Ch. 9 3. Read Case Study 5 4. Bring printed copy of Web-based activity for analysis in class 	<p>Case Study Group 5 leads discussion Examining Resources for appropriateness In class analysis of Web-based activity Redesigning lessons Assessment Analysis expectations for in class work Share Task #5 design of Prior Knowledge Investigation</p>	<ol style="list-style-type: none"> 1. Conduct Task #5 Prior Knowledge Investigation 2. Obtain raw data (student responses on an assessment) 3. Construct unit lesson ideas 4. Explore technology resources
8	10/21	<ol style="list-style-type: none"> 1. Bring all raw data from prior knowledge investigation 2. Bring raw data from students' performance on an assessment in the field placement (check in) 	<p>Educational Technology II</p> <p>In class time for:</p> <ol style="list-style-type: none"> a) Interpreting prior knowledge data, making claims & supporting with evidence b) Generating Inspiration Concept Maps for placement curriculum c) Reviewing teacher resources, materials and planning unit with teams d) Designing prior knowledge investigation e) Exploring ideas for incorporating technology in microteaching lesson 	<ol style="list-style-type: none"> 1. Revise and complete Prior Knowledge Investigation 2. Plan unit lessons 3. Construct Educational Technology lesson for microteaching 4. Collect assessment data (if not approved)

#	Date Tuesday	Assignments and Readings Due for Class	Topics	Ongoing Tasks
				at check in) 5. Convert curriculum outline to Inspiration Concept Map
9	10/28	<ol style="list-style-type: none"> Bring printed copy of Inspiration Curriculum Concept Map Task #4 Bring "approved" raw data of student performance on assessment in the field placement 	<p>Safety on-line task expectations for D2L discussion & MSDS chemical presentations</p> <p>Task #7 Final Unit Lesson expectations</p> <p>Focus lesson design on eliciting students' use of science language through questioning-to demonstrate you need to provide sample ideal responses</p> <p>Assessment Analysis - turn in at end of class</p> <p>Schedule time for unit Lesson plan conferences (30 min/group)</p> <p>Schedule time to practice technology</p>	<ol style="list-style-type: none"> Write first draft of unit lesson Write Educational Technology lesson for teaching in class Read safety module, D2L discussion
10	11/4	Each Unit Team member brings to Conference: <ol style="list-style-type: none"> at least one unique science content resource text for teacher background knowledge Printed unit lesson All lesson materials, including items students manipulate, handouts, guides, wksheets, assessments 	<p>Partial class meeting:</p> <p>Time allotted for Unit/lesson plan conferences (30 minutes/group) to review plans for unit lesson, materials, & unit flow</p> <ol style="list-style-type: none"> Teams work on revisions Room available for individual practice with technology for microteaching lessons (scheduled with instructor) 	<ol style="list-style-type: none"> Practice Technology Lesson Revise Unit Lesson
11	11/11	<ol style="list-style-type: none"> D2L Discussion Safety Cases Readings in D2L Safety Module: <ol style="list-style-type: none"> PPT Animals & Safety Roy article, <i>Essential first aid</i> BSCS, excerpts <i>Hazards & Safety</i> USDA, <i>Animal Welfare Act</i> Animals: Rules for Science Fairs MSDS Acetic Acid Safety Resources Safety Contract 	<p>No formal class meeting; time allotted for:</p> <p>Online Safety Module Work</p> <ol style="list-style-type: none"> Proactive considerations Liability and negligence Animals in the classroom MSDS research Submit Safety Case Challenge to D2L Group work on Final Unit Lessons Individual practice with Technology for microteaching lesson (scheduled with instructor) <p>Instructor available during office hours and class time by appointment (send email)</p>	<ol style="list-style-type: none"> Submit Safety Challenge response to peer in D2L by Friday Practice Technology Lesson Revise Unit Lesson Print MSDS sheet for a chemical
12	11/18	1. Response to peer for	Safety debrief	1. Practice

#	Date Tuesday	Assignments and Readings Due for Class	Topics	Ongoing Tasks
		safety challenge due 11/14 2. Submit Task #5 Prior knowledge investigation to D2L 3. Bring MSDS sheet for a chemical you will use	Discuss safety challenge responses & quality of evidence MSDS presentations in class	Technology Lesson 2. Revise Unit Lesson
13	11/25	1. Task #6 Technology Lesson Due for day 1 microteachers	Day 1 Microteaching with Educational Technology (Task #6) about 25 minutes each student [WTS 7, 8, 9; NSETS A, B, C, D, E; NSEPDS B, C; NSEAS A]	1. Some practice Technology Lesson 2. Revise Unit Lesson Thanksgiving
14	12/2	1. Full Phase 3 Portfolios Due for all with Final Unit Plan Lessons (Task #7) 2. Task #6 Technology Lesson Due for day 2 microteachers	Day 2 Microteaching with Educational Technology (Task #6) about 25 minutes each student	1. Some practice technology lessons 2. Final Tasks
15	12/9	Technology Lesson Due for day 3 microteachers	Day 3 Microteaching with Educational Technology (Task #6) about 25 minutes each student	Final Tasks
16	<i>12/16 Plan to be present the entire final exam time</i>	1. Gallagher Ch. 15 4 Final Tasks →	Discussion: Professional Investigation Plans Course Evaluations Class time to submit final tasks to D2L 1. Post-survey #1 - Nature of science 2. Post-survey #2 - Beliefs (STEBI) 3. Self and Peer Evaluation of teamwork 4. Task #8 Reflective Essay	