University of Minnesota
College of Education & Human Development
CI 5539: Improving Secondary Science Instruction:
Surviving the First Two Years
Fall 2013 - Spring 2014

Instructor
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College of Education & Human Development Mission Statement
The new College of Education and Human Development is a world leader in discovering, creating, sharing, and applying principles and practices of multiculturalism and multidisciplinary scholarship to advance teaching and learning and to enhance the psychological, physical, and social development of children, youth, and adults across the lifespan in families, organizations, and communities.

Conceptual Framework for P-12 Professional Education Programs
The central themes of the conceptual framework are:
• promoting inquiry, research, and reflection
• honoring the diversity of our communities and learners
• fostering a commitment to lifelong learning and professional development
CI 5539 promotes inquiry, research and reflection through a series of topical responses, interactions with other participants, and inquiries into classroom practice and student learning. Course discussions with other participants and the instructor will help foster appreciation of the diversity of learners and communities throughout the State of Minnesota.

Curriculum and Instruction – Science Education Mission Statement
The science education program is designed to help you become an inquiring, analytical, and reflective professional science educator. The goal of the program is to create thoughtful practitioners who are enthusiastic about and prepared for leadership roles in schools. We believe highly qualified professional educators are central to helping all students succeed in the sciences.

Course Description & Outcomes
The purpose of the course is for students to continue to reflect on their instruction, with a focus on reform-based teaching and student learning, help improve job satisfaction, and improve teacher effectiveness. The course provides ongoing support to teachers through online discussions with the instructor and other participants. The course also will help improve instruction through choice of two online professional development inquiries (PDIs) including:
• Planning Instruction
• Assessing Student Learning
• Classroom Management
Syllabus:

CI 5539
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Inquiry Based Instruction
Cooperative Learning in Science
Each PDI will feature a section in which you will reflect on your current practice, learn about best practices in science education, prepare to implement the practices in your own teaching, and reflect on the implementation of the practice. Teachers will be engaged in analyzing their instructional practices through videotaping their teaching and studying student artifacts. The course will also provide you with other resources to continue to improve your instruction.

Instructional Strategies
Students will participate in individual reflections, video club discussions, topical problem-solving discussions, video analysis of classroom teaching, and planning of instruction.

Readings
All required readings are in the form of articles posted on the class Moodle site. Optional readings will also appear on the site.

Course Web Page
You will be responsible for becoming familiar with the course website as this will be used weekly throughout the semester. The website can be accessed as follows:
1. Go to http://ay13.moodle.umn.edu
2. Click the “Login” link on the left-hand side of the screen
3. Log in with your UMN Internet ID and password
4. Click on the link beginning with “CI 5539…” in the Course Overview area

Technology
Students in this course will need to have the following to engage in this course:
- Frequent and timely internet access
- A computer or tablet with video and microphone input
- A video capture device (such as a digital camcorder, tablet, etc.)
- A computer for uploading captured video
While much of the course will be easily accessible via tablet, there are a handful of activities that will require the use of a computer. More details on the use of specific technologies may be found on the course Moodle site. If you do not own a video capture device, you may check one out from the STEM Education Center. (Please contact the instructor.) Students will also explore instructional technology and web-based technology that supports science instruction. You are encouraged to explore the following tools prior to the start of class to familiarize yourself with them and check for compatibility issues:
- Flipgrid (http://flipgrid.com)
- videoANT (https://ant2.cehd.umn.edu)
- Google Hangouts (http://www.google.com/hangouts)

Diversity
It is the University Policy to provide, on a flexible and individualized basis, reasonable accommodations to students who have disabilities that may affect their ability to participate in course activities or to meet course requirements. Students with disabilities are encouraged to contact me when possible to discuss their individual needs for accommodations. Preparing teachers to work with diverse student populations is an important part of this course. Students will be introduced to a variety of multicultural educational
resources and pedagogical strategies that promote increased understanding of diverse perspectives and lifestyles and improved student achievement through culturally relevant pedagogy.

Class Sessions
The course will take place online although we will provide some optional times for face-to-face interaction. Your minimum time requirement will be around two hours per week for the entire school year. This time includes work on your professional development inquiry, monthly reflective journal entries, monthly topical responses, and monthly venture/ vexation small group chats. See our Moodle site for more details.

Grading
Final Grade will be determined using the following scales. The numbers represent percentages of possible points earned. Grades will be rounded to the nearest integer.
- A 100-94: achievement that is outstanding relative to the level necessary to meet course requirements
- A- 93-90
- B+ 89-87
- B 86-84: achievement that significantly above the level necessary to meet course requirements
- B- 83-80
- C+ 79-77
- C 76-74: achievement that meets course requirements in every respect
- C- 73-70
- D 69-61: achievement that is worthy of credit even though it fails to meet fully the course requirements
- F <60: represents failure and signifies that the work was either (1) completed but at a level of achievement that is not worthy of credit, or (2) was not completed and there was no agreement between the instructor and the student that the student would be awarded an I.

Academic Dishonesty
Academic dishonesty in any portion of the academic work for a course shall be grounds for awarding a grade of F or N for the entire course.

Incomplete Grades:
The grade of "I" is not a regular University grade and cannot be given without special arrangements under unusual circumstances. It cannot be given merely to extend the time allowed to complete course requirements. If family or personal emergency requires that your attention be diverted from the course and that more time than usual is needed to complete course work, arrangements should be made with the instructor of the course before the quarter ends and consent obtained for receiving an "Incomplete" or "I" grade. These arrangements should be made as soon as the need for an "I" can be anticipated. A written agreement should be prepared indicating when the course assignment will be completed. Normally an "Incomplete" grade for a course should be removed within one quarter of its receipt.

Receipt of Final Grade:
University policies do not permit the posting of final course grades nor the reporting of these grades over the telephone. If you would like a record of your course grade before it is available via the University web site, send a self-addressed stamped envelope to the address on the first page.

Return of Course Papers:
All course papers will be graded and returned electronically.

Late Work
Online courses require timely postings to produce productive and collaborative dialogue. This is not a correspondence course. You will be expected to respond to postings and discuss online; late online postings are problematic and will not be accepted for credit.

**Role of instructor in this course**
As this is an online course, the role of the instructor is different from a face to face class. The instructor in this case is responsible for providing a learning environment and activities in which we will interact with you in a reflective capacity. The instructor will be responsible for the grading of the course assignments. The instructor also plays the role of lead mentor and will provide support and additional resources.

**Assignments and Grades**
1. **Flipgrid Responses** – occurs monthly (5%)  
   Your first entry should be posted by September 30th.
2. **Reflective Journal** – occurs monthly (15%)  
   Your first entry should be posted by September 30th.
3. **Video Club Café** – occurs monthly (15%)  
   Your first response should be entered by October 15th.
4. **Venture/Vexation** – occurs monthly (15%)  
   Your first discussion will begin October 7th.
5. **Professional Development Inquiry** – one per semester (50%)  
   Your first PDI should start the week of October 1st.

**University Policies**
See [http://onestop.umn.edu/Faculty/Teaching/policyList.html](http://onestop.umn.edu/Faculty/Teaching/policyList.html) for a list of policies related to teaching with links to those policies. Also see [http://www1.umn.edu/usenate/usen/policies.html](http://www1.umn.edu/usenate/usen/policies.html) for University Senate policies related to Teaching/Education.

**Statement on accommodations**
It is University policy to provide, on a flexible and individualized basis, reasonable accommodations to students who have disabilities that may affect their ability to participate in course activities or to meet course requirements. Students with disabilities are encouraged to contact their instructors to discuss their individual needs for accommodations.

**Statement on classroom conduct**
See [http://www1.umn.edu/usenate/policies/classexpectguide.html](http://www1.umn.edu/usenate/policies/classexpectguide.html) and/or [http://www1.umn.edu/regents/policies/academic/StudentConductCode.pdf](http://www1.umn.edu/regents/policies/academic/StudentConductCode.pdf)

**Statement on academic misconduct**
Scholastic misconduct is broadly defined as "any act that violates the rights of another student in academic work or that involves misrepresentation of your own work." Scholastic dishonesty includes, (but is not necessarily limited to): cheating on assignments or examinations; plagiarizing, which means misrepresenting as you own work any part of work done by another; submitting the same paper, or substantially similar papers, to meet the requirements of more than one course without the approval and consent of all instructors concerned; depriving another student of necessary course materials; or interfering with another student's work.

**Statement regarding sexual harassment**
"Sexual harassment" means unwelcome sexual advances, requests for sexual favors, and/or other verbal or physical conduct of a sexual nature when: (1) submission to such conduct is made either explicitly or implicitly a term or condition of an individual's employment or academic advancement in any University activity or program; (2) submission to or rejection of such conduct by an individual is used as the basis of employment or academic decisions affecting this individual in any University activity or program; or (3) such conduct has the purpose or effect of unreasonably interfering with an individual's work or academic performance or creating an intimidating, hostile, or offensive working or academic environment in any University activity or program. University policy prohibits sexual harassment. Complaints about sexual harassment should be reported to the University Office of Equal Opportunity, 419 Morrill Hall.

Support Services
If you need academic support, you may find the following services helpful.

The Learning and Academic Skills Center (http://www.ucs.umn.edu/lasc/lasc.html)
109 Eddy Hall, East Bank; 624-3323. Offers class, workshop, and individual assistance aimed at helping students achieve academic goals.

The Center for Writing (http://writing.umn.edu/)
227 Lind Hall 612 626-7579. Offers all University of Minnesota students free, individualized writing instruction.

The Department of Rhetoric's Online Writing Center (http://www.owc.umn.edu/)
Provides personalized online tutoring, a grammar hotline, and support for distance learners, especially in science and tech writing.

The University of Minnesota is an equal opportunity employer and educator.