Instructor

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Logistics

Course: CI 5531 Teaching Middle School Science - 3 cr.
- Time: 2:30-4:30 T,Th
- Location: LES 139B

Course: CI 5596 Clinical Experience in Middle School Science - 4 cr.
- Time: 2:30-3:00 Th
- Location: LES 139B

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.

Course Objectives: Conceptual Framework for P-12 Professional Education Programs

The central themes of the Conceptual Framework are:

1. Promoting inquiry, research, and reflection;
2. Honoring the diversity of our communities and learners; and
3. Fostering a commitment to lifelong learning and professional development.

The purpose of this course is to examine science teaching in the middle school and help you inquire and reflect about your own teaching practice and its impact on you and your students. Throughout this course we will collaboratively inquire about teaching and learning, observe and analyze instruction, and reflect on your own and each others’ science teaching. Ultimately this course is designed to not only support you during the practicum experience, but also help you learn how to use various instructional techniques and methods, and to inquire and reflect upon your teaching during this semester and beyond.

Prerequisite

Students must be enrolled as a student in the initial licensure program in science education. Course format will include: discussion of current literature in educational research, examination of case studies of practicing teachers, lesson plan design, and co-teaching middle school students.
Course Goals

1. Develop an understanding of Research-based Instructional Methods.

2. Provide collaborative middle school practicum experience with mentor teacher.

3. Develop and teach units for 12 weeks of middle school science instruction where you will consider the following questions:
   - What major science ideas should be taught?
   - Why are these science concepts important for middle school students?
   - What should students be able to do with their science knowledge?
   - Which science concepts and objectives will be difficult to teach?
   - What activities should be used to teach the concepts?

4. Critically reflect on your Practicum Teaching Experience with mentor teacher, mentor, and peers.

5. Successfully practice each phase of the Teaching Performance Assessment (TPA).

Science Education: Curriculum and Instruction Statement

The science education initial licensure program at the University of Minnesota is designed to help you become an accomplished professional science educator. The program seeks to prepare inquiring, analytical, and reflective educators who can teach in the classroom and lead in the schools.

Course Expectations: Minnesota Standards of Effective Practice for Beginning Teachers

The Minnesota Board of Teaching has mandated that all teacher education programs need to assess their pre-service teachers according to their actual performance based on a set of specific standards. In this performance based approach, rather than simply passing courses or writing quality essays, students in our programs need to demonstrate their knowledge, dispositions, and skills as effective pre-service teachers. The following are the standards adapted by the Teacher Education Council that have been used to develop performance assessment tasks in different foundations and methods courses. You will be evaluated for readiness to obtain licensure based on meeting the following ten standards.

- **Standard 1** – Subject Matter. The teacher understands the central concepts, tools of inquiry, and structures of the discipline(s) he or she teaches and can create learning experiences that make these aspects of subject matter meaningful for students.

- **Standard 2** – Student Learning. The teacher understands how students learn and develop, and can provide learning opportunities that support their intellectual, social and personal development.

- **Standard 3** – Diverse Learners. The teacher understands how students differ in their approaches to learning and creates instructional opportunities that are adapted to learners from diverse cultural backgrounds and with exceptionalities.

- **Standard 4** – Instructional Strategies. The teacher understands and uses a variety of instructional strategies to encourage students' development of critical thinking, problem solving, and performance skills.
• **Standard 5** – **Learning Environments.** The teacher uses an understanding of individual and group motivation and behavior to create a learning environment that encourages positive interaction, active engagement in learning, and self motivation.

• **Standard 6** – **Communication.** The teacher uses knowledge of effective verbal, nonverbal and media communication techniques to foster active inquiry, collaboration, and supportive interaction in the classroom.

• **Standard 7** – **Planning Instruction.** The teacher plans and manages instruction based upon knowledge of subject matter, students, the community, and curriculum goals.

• **Standard 8** – **Assessment.** The teacher understands and uses formal and informal assessment strategies to evaluate and ensure the continuous intellectual, social, and physical development of the learner.

• **Standard 9** – **Reflection and Professional Development.** The teacher is a reflective practitioner who continually evaluates the effects of his/her choices and action on others (students, parents, and other professionals in the learning community) and who actively seeks out opportunities to grow professionally.

• **Standard 10** – **Collaboration, Ethics, and Relationships.** The teacher communicates and interacts with school colleagues, parents/guardians, families, and the community to support students’ learning and well-being.

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**Course Structures**

**Require Textbook:**


**Course Website:**

- [https://sites.google.com/a/umn.edu/teachmidsci/](https://sites.google.com/a/umn.edu/teachmidsci/)

**Assignment Overviews: CI 5531**

Grading in CI 5531 will be based upon the following six components:

1. Clinical Interview = 15% (BOT standard 1-4, 6-10)
   - Prepare, Conduct, and Present findings of a clinical interview with 3 middle school students. Components of the interview and details will be given in class. The final product created from this assignment will be a podcast-style audio presentation.

2., 3., & 4. Three (3) Mini-Unit Lesson Plans and Reflections/Commentary = 10% for first mini-unit, 15% for second mini-unit, 25% for inquiry lesson which includes all aspects of TPA. (BOT standard 1-9)
   - Detailed instructions will be distributed in class. Follow the instructions for layout and design using the 5E, 7E or other model of lesson planning. One of the unit plans should include an example of a “cookbook” lab that you’ve converted to a Differentiated Scientific Inquiry lesson.

   - First Due: October 25. Second Due: November 22. Third Due: December 13.
5. Teaching Rationale = 10% (BOT standards 1-10)

- Use the research you have read in this course and others in your rationale. Cite sources indicating your intent for including science curriculum, implementation, assessment and classroom management, and/or major trends and reforms in science education.

6. Class Participation = 25%. (BOT standards 1-10)

- It is expected that you will attend class and participate in class discussions and activities, online and in class. Missing more than four classes will result in a decrease in your grade by a full letter grade. Some in-class assignments will be collected and included as part of your participation grade.

### Assignment Overviews: CI 5596

Grading in CI 5596 will be based upon the following four components:

1. Teaching = 40% (BOT standard 1-10)

   - You will be engaged in microteaching three times during the semester: Each unit should be 3-5 days long. A University Mentor will observe you a minimum of once during each of your three units. The first should occur around Oct. 11, the second around by Nov. 8, and the last around Dec. 6. These dates are negotiable with your cooperating teacher and mentor.
   - You must complete your practicum in the middle school.
   - You should show continuous growth through thoughtful reflection, three observations by your mentor which will include at least one pre-observation meeting to discuss the lesson’s objectives, debriefing sessions after each observation, and weekly meetings with your mentor small group. You will meet for 30-60 minutes weekly with your mentor in a small group setting.
   - You should receive a satisfactory review/evaluation from your cooperating teacher.

2. Video Lesson Analysis = 20% (BOT standard 1-10)

   - You will videotape your own teaching and critically examine one lesson along with your mentor.

3. Guided Observation Forms = 10% (BOT standard 1-10)

   - You will complete guided daily observations during the first three weeks of your middle school placement. These will be evaluated based on thoroughness and relationship to middle school experience.

4. Journaling = 30% (Due Weekly on Friday at 11:59 p.m.)

   - You will complete fourteen (14) journal entries about different aspects of teaching middle school science and being a science educator. You will respond to a different prompt each week. These assignments should always include your thoughts and reflections about the assignment as it pertains to your middle school experience, what you have learned in class, and from the readings. The assignments will be posted on the course website and you must respond to other classmates’ postings.

### Relevant University Policies
Student Internet Access

This course will make use of the Internet for both e-mail communication and access to course documents and discussion on the Internet. All registered University of Minnesota students are currently provided an e-mail address. Wireless Internet access is available throughout campus. The following assumptions are made about your access and use of the Internet:

- Students will determine their e-mail address and password within the first week of class. You can initiate your account with a photo ID at any computer lab. Or, go to http://www1.umn.edu/adcs/info/accounts.html
- Students are assumed to have access to a computer either personally or through University Open Labs, and to have basic computing skills.
- Assistance in using e-mail and the Internet is available through University Microcomputer Help facilities. Assistance is also available through the University Microcomputer Helpline: 626-4276 (9 a.m. to 4 p.m., M-F). Students who need extra assistance in using Internet software in order to complete the course requirements should talk with the instructor.

Grading and Transcripts:

The University utilizes plus and minus grading on a 4.000 cumulative grade point scale in accordance with the following:

A 4.000 - Represents achievement that is outstanding relative to the level necessary to meet course requirements
A- 3.667
B+ 3.333
B 3.000 - Represents achievement that is significantly above the level necessary to meet course requirements
B- 2.667
C+ 2.333
C 2.000 - Represents achievement that meets the course requirements in every respect
C-1.667
D+ 1.333
D 1.000 - Represents achievement that is worthy of credit even though it fails to meet fully the course requirements

For additional information, please refer to: http://policy.umn.edu/Policies/Education/Education/GRADINGTRANSCRIPTS.html.

S - achievement that is satisfactory, which is equivalent to a C- or better (achievement required for an S is at the discretion of the instructor but may be no lower than equivalent to a C-)

F (or N) - Represents failure (or no credit) 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

Incomplete are highly discouraged but may be granted under extenuating circumstances such as family medical problems or illness. Incompletes are only granted in writing and will involve a written agreement with a specified completion date. Incompletes in CI 5531 and CI 5596 must be made up by Jan 10th or the student will not be able to take CI 5532 or do student teaching.

Receipt of Final Grade

University policies do not permit the posting of final course grades nor the reporting of these grades over the telephone. Your course grade will be available via the University website.

Diversity

Preparing educators to work with diverse student populations is an important part of this course. Course materials and activities will be respectful of diversity. I intend that students from all backgrounds will be well served by this course, that their learning needs will be addressed both in and out of class, and that the diversity students bring to this class will be viewed as a resource, strength and benefit by all course members. All ideas in this class will be respected.

Participation

Attendance is essential in order to experience the practical and social nature of science teaching in schools. Reflection of your teaching experience at the middle school with your university mentors and peers is critical to the success of this course. Illness or other emergencies may prevent you from attending classes. If you miss four of the class sessions or teaching experiences, the highest grade you can receive is a B. If you miss eight of the class sessions or teaching experiences, the highest grade you can receive is a C. Please email me, your mentor, and cooperating teacher if you are unable to attend a class session or practicum experience.

Make-up policy

I expect that you will attend every class, participate, and submit assignments on the date that they are due. If situations arise that interfere with your ability to fulfill this expectation, please talk to me individually and we will determine an appropriate course of action (depending on the circumstances, points may be deducted).

University Policies

How to Access Your Final Course Grades

Go to OneStop for Students [http://onestop.umn.edu/Student/], click on Academics, then click on Grades.

See [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] 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

All students at the University have the right to a civil, productive, and stimulating learning environment. In turn, instructors have a responsibility to nurture and maintain such an environment. Lively, even heated, discussion is not disruptive behavior. Both instructors and students have a fundamental obligation to respect the rights of each other and an equally fundamental obligation to respect the instructional setting as a place for civil, courteous behavior.

Teaching and learning are vital to the mission of the University. The University believes teaching responsibilities to be of primary importance for its instructors (faculty, graduate teaching assistants, instructors, teaching specialists, etc.) such that performance by instructors shall be taken into consideration in determining salary increases, tenure, retention, and promotion. See http://www1.umn.edu/usenate/policies/classexpectguide.html and/or http://www1.umn.edu/regents/policies/academic/StudentConductCode.pdf

Statement on academic misconduct

http://www1.umn.edu/regents/policies/humanresources/AcademicMisconduct.pdf

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 http://www1.umn.edu/regents/policies/humanresources/SexHarassment.pdf "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](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/](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/](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.