

SED 552/553 and SED 509
Oregon State University
Summer 2011

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Course Goal:

The overall goal of the course is to begin preparing students to be professional teachers in today’s science and mathematics classrooms. The course is linked to the Bernard Harris Summer Science and Math Camp. In addition to our role within the camp, we will begin studying general teaching practices such as planning, assessment, and instructional techniques. We will also begin our study of learning theory and its relation to teaching. These topics will continue to be studied throughout the remainder of the program.

Relationship to Knowledge Base, National and State Standards

Inquiry-based learning and meeting the educational needs of diverse student populations are major themes in science and mathematics education and both state and national standards. This course is designed to assist pre-service teachers in the development of pedagogical content knowledge (PCK) for grades 3-12 science and mathematics, focused on the integration of subject matter and the incorporation of inquiry in teaching and learning.

Authorization Levels

Elementary/Middle (Option 1) or Middle/High (Option 2) (OAR 584-017-0120, 584-017-0130, 584-017-0140) in understanding and applying knowledge of developmental psychology and learning, appropriate to students in middle and high level education within the cultural and community context of the teacher education institution and cooperating school district. All students will be participating in their part-time student teaching experience at either the middle or high school levels following this intensive course.

Pre-service teachers plan lessons for integrated science and mathematics lessons at the appropriate grade level of authorization. These lesson plans will support student learning at various developmental levels and will incorporate technology in teaching science/mathematics (OAR 584-017-0100 – 1(a-g)). Pre-service teachers are instructed in establishing a classroom climate conducive to learning for elementary, middle and high school levels given that technology is an active ingredient in the learning experience (as described in OAR 584-017-0100 – 2 (a-k)). All of the assignments are graded with expectations of gains in knowledge about interpreting and applying cognitive educational psychology to an inquiry-based classroom at the level in which the student teacher will be completing the student teaching experience.

¹ Accommodations are collaborative efforts between students, faculty and Disability Access Services (DAS). Students with accommodations approved through DAS are responsible for contacting the faculty member in charge of the course prior to or during the first week of the term to discuss accommodations. Students who believe they are eligible for accommodations but who have not yet obtained approval through DAS should contact DAS immediately at 737-4098.

Ambitious Equitable Teaching and Core Principles

Our ultimate goal for this class is to work together so that you begin your teaching career with a strong foundation for what ambitious equitable teaching means and looks like.

We begin with a view that **ambitious teaching** includes developing skilled ways of drawing out and responding to each student in your class so that they learn worthwhile mathematics and science and view themselves as competent mathematicians and scientists. Ambitious teachers are committed to children, embrace mathematics and science as important tools through which to understand the world, and seek opportunities to grow continually and build their knowledge of children and teaching. We believe that we have to build more detailed visions of ambitious teaching through our work together. We do not believe that we have all the answers.

We are guided by a set of **principles for high quality teaching**:

- Teachers understand that children are sensemakers.
- Teachers must design instruction for all children to do rigorous academic work in school and to have equitable access to learning.
- Ambitious instruction requires clear learning goals.
- Teachers must know and connect with their students as individuals and as learners.
- Teachers must be responsive to the requirements of the school and community environments.
- The measure of good teaching is student learning.
- Teachers represent the nature of the discipline (mathematics or science) with integrity.
- Teachers engage their students in reflecting on their own learning.

The design of the activities and the coursework in general is guided by the following **principles for learning to teach**, which we expect you to endorse in this course and beyond:

- Teaching is intellectual work and requires specialized knowledge of content and pedagogy.
- Learning to teach requires repeated opportunities to practice.
- There is value in making teaching public.
- We bring our histories forward. Our own learning experiences and identities shape what we know and do.
- Teaching is a complex activity that must be learned and continually examined.

Practices

Our work and discussions in this course and program will draw on common practices of ambitious teaching, such as:

- Using discourse moves in whole class and small group settings
- Using appropriate questioning strategies
- Representing student thinking
- Organizing the use of public records and representations
- Teaching toward a clear learning goal
- Eliciting and responding to student reasoning
- Orienting students to one another
- Positioning students competently

Expectations for Professionalism

- Arrive before the start time of class. This allows you to get settled, check in with others, and be ready to go.
- Come to class prepared. Complete all readings before class and be prepared to apply what you have read, discuss it, and raise questions.
- You are expected to attend all classes. If you cannot attend class, let the instructors know as soon as possible. You are responsible for the material that you miss.
- This class involves class discussions of readings, engaging in tasks, and reflecting on classroom observations. Please be generous with comments about teachers' or colleagues' work and carefully consider your comments before reacting. The expectation is that we can cultivate a community in the class that will afford looking deeply into the complex task of teaching and support our growing understanding of practice.
- Be generous and help others learn and succeed. Be mindful and proactive if our conversations are being dominated by a few individual voices.
- All assignments are due on the announced dates unless other arrangements have been made ahead of time.
- Written work must be graduate level – clearly written, organized and correct mechanics. That means you will need to proofread carefully before you turn in your work and/or work with someone who can help you with this. If you'd like extra help with writing, please contact the University's Writing Center.
- Turn off e-mail and cell phone ringers when you enter class. Do not check social networking sites or surf the Internet. Please alert the instructors if you must take a call or respond to a text.
- Dress appropriately, specifically for your work in schools or with children. You are a model and you are always interviewing for a teaching position.

Student Conduct

In general, students are expected to follow the OSU Student Conduct Regulations as a minimum standard. For more information, please refer to <http://oregonstate.edu/admin/stucon/regs.htm> or contact the Office of Student Conduct and Mediation at 737-3656.

The main categories from the regulations that most directly apply are those regarding civility and academic honesty. Because this course is part of a professional licensure program, the professional standards of conduct for teachers also apply. These involve such categories recognized by TSPC as respect for others, collegial relationships, communication, punctuality, appropriate dress, and appropriate actions. The 3-way conference form found in the fall term student teaching handbook is a good reference for such professional behaviors.

If a preservice teacher needs to modify their conduct in any of the above areas, the usual practice is to first confer privately with the individual. If further steps are necessary, they will occur either through the OSU Student Conduct procedures or (in the case of professional standards) through established SMED procedures such as formal and informal written plans of assistance. Whenever possible, it is the policy of the university and of SMED to assist students in their personal growth and set clear goals so that the students are able to meet the applicable standards of conduct.

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Assignments:

All outside of class assignments are to be completed **before** the class meeting. **All assignments must be completed in order to receive credit in the course.** **Late Work:** There will be a 25% deduction for late work. If prior arrangements are made for submitting late work, this deduction **may** be waived by the instructors in cases of extenuating circumstances. All assignments should be submitted electronically via email to your grading instructor.

Reflections (worth 25% of grade):

*These assignments are designed to help you analyze your teaching. These reflections **are not** meant to be a summary of the teaching, but rather an analysis of the effectiveness of the teaching, a gauge the students' reactions, your reactions, and an assessment of whether you think learning occurred during the lesson. You may write a one paragraph summary of the teaching if you wish. This paragraph will not be graded. Grading will be based on the guidelines for the reflections and the clarity of writing.*

Synthesis papers and reading questions (worth 25% of grade):

At least one synthesis paper will be assigned. The purpose of these papers is to pull together your understandings around specific topics. In addition, reading questions are designed to help you focus on and examine the key issues in the readings. The reading questions will also be used in class during our discussions of the readings. Reading assignments and questions will be posted in class. Answers will be graded based on the conciseness and completeness of the answers.

Summative assignment (25% of grade):

The summative assignment will require you to not only reflect on your teaching experience but also on the topics covered in this course. You will need to answer questions about and analyze your experiences during the three week course. This assignment should demonstrate your ability to be introspective, as well as, accurately communicate your knowledge about learning and teaching. As a class we will determine the exact nature of this assignment.

Participation and attendance (25% of grade):

You are expected to actively and positively participate in class discussions and collaborative activities. Attendance and timeliness are mandatory as there are only three weeks to cover a large amount of material. You will also be required to present and then lead a discussion of an assigned chapter from "Perspectives of Learning". These presentations and discussions should show a thorough understanding of the chapter as well as raise valid topics to discuss.

Grading:

Class grades will be based on the total points earned for all assignments:

A: 100-90%

B: 89-80%

C: 79-70%

D/F: (retake class)