

EDUC 50-B: Cal Teach Math Seminar

**EDUC 50B- WINTER 2014**  
**CAL TEACH 1 MATHEMATICS SEMINAR**  
**TUESDAY 6:00-7:45**  
**JACK BASKIN ENGINEERING 160**

**Course Instructor:** Hayley Vandercook

**Office:** Jack Baskin Engineering Building (JBEB) room 160

**Email:** hcvander@ucsc.edu

**Office Hours:** 30 minutes before and after class or by appointment

**COURSE DESCRIPTION:**

The overarching objective of this course is to provide an introduction to the career of teaching math in 6-12 grade level.

Students analyze and evaluate classroom observations and education issues related to their placements in secondary math classrooms. Coursework includes readings with written reflections, seminar participation and written weekly classroom observations. This quarter focuses on structure of school and classroom culture, how teachers prepare and implement lessons and how students learn math.

**SEMINAR OUTCOMES:**

- Cal Teach intern will move from student identity to teacher identity
- Recognize parts of a lesson plan
- Practice lesson presentation skills
- Study and observe select learning theories and strategies related to student learning
- Analyze and observe host teacher instruction
- Recognize classroom management and begin to practice classroom procedures

**SEMINAR TASKS:**

- Written classroom directed observations
- Weekly 1-2 page papers responding to class content and readings with an emphasis on critical writing .
- Math Minutes Activity Presentation
- Poster Lesson Project based on assigned Algebra I content standard
- Teacher Interview and paper
- Next Steps paper

**COURSE REQUIREMENTS**

1. Attendance and Participation: Attend weekly class meetings, complete assigned readings, and actively participate in discussions. You will also be required to present a short mini-math activity based on your Algebra 1 standard to the seminar class as part of your participation grade. Participation will be terminated after 3 or more absences in any required Cal Teach course.
2. Written classroom Observations and written Reflections: Conduct classroom observations in local middle or high school placements, complete directed observations and reflection assignments from various reading assignments. **These need to be turned in typed and printed following MLA format** – [you may email me papers by 5 pm by the due date] Be

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prepared to participate in class discussions that focus on classroom observations and connections to required readings.

3. **Teacher Interview:** Conduct a teacher interview. Suggested questions will be distributed. Write a report summarizing your findings.
4. **Online time sheet and written classroom observations:** 24 hours of class time is the minimum. Get involved in the classroom by working with students individually or in a small groups, leading a warm-up activity or lab activity, leading a “what it’s like to be a college student” type discussion, or other activities that your host teacher suggests, including actually teaching the class. Log the hours each time you visit the classroom in your Online Google Docs time sheet (instructions in orientation folder). Each week, you will turn in a free write reflection on what you’ve done in your placement classroom that week. This can be hand-written or typed and printed but not emailed. The reflection writing should focus on classroom observations such as: classroom management, classroom organization, classroom procedures, teaching strategies, math content and the math learning of the students in the classroom. Written reflections will be due every week starting Week 2. **At the end of the 5<sup>th</sup> week you must be caught up on your hours (one-half=13) and free write reflections. If this is the case, the full 50% of the points will have been earned (out of a total of 100 points). If this is not the case, then only partial % points will have been earned. The same happens at the 10<sup>th</sup> week: the full credit will be earned, or not.**
5. **Project: Lesson Plan Poster Presentation.** This will be a culminating project presented to your peers at last seminar meeting. Poster instructions to be provided over multiple weeks with the components building to the final poster. This will total to 20% of your grade.
6. **Cal Teach Final Reflections: Next Steps paper.** At the end of the quarter, after observing and assisting in a secondary mathematics class, think back on the experience and write about your next steps. This may include ways of participating in the classroom you already have done and wish to do more of, as well as ways of participating that you did not get to do but can see a need or desire to do it if given the chance. This should be a 1-2 page reflection including specific techniques and/or activities and the rational for considering them as appropriate next steps. As potential next steps you may also include things you want to learn more about concerning teaching methods & philosophy  
If you are certain you are not going to continue with Cal Teach, summarize what you have learned. Reflect on what kind of teaching, if any, you might do in the future; also, what you learned and gained by being in the Cal Teach program this quarter and comment on why you are choosing your direction.

### COURSE GRADING POLICY

20%	Attendance, Participation in discussions and Socratic seminars
20%	Poster Project
20%	Written classroom observations weekly
30%	Content from reading or lecture weekly papers
5%	Teacher Interview Paper
5%	Cal Teach Final Reflections: Next Steps Paper

**READING**

Instructor will provide some copies of readings. **Additional readings may be added as course progresses.**

1. Dweck, Carol Phd. Giftedness: A Motivational Perspective Volume 8 / Issue 3 / Spring 2008
2. [http://www.dukegiftedletter.com/articles/vol8no3\\_feature.html](http://www.dukegiftedletter.com/articles/vol8no3_feature.html)
3. Johnson, David R. (1982) *Every Minute Counts, Making Your Math Class Work*. Palo Alto: Dale Seymour Publications
4. “Required Reading for Math Teachers 1”  
<http://researchinpractice.wordpress.com/2009/10/24/required-reading-for-math-teachers-i/>
5. Marzano, Robert J. (2003) “The Critical Role of Classroom Management”. Chapter 1 **Classroom Management that Works: Research-based Strategies for Every Teacher**. Alexandria, VA: ASCD
6. Wallis, Claudia (February 13, 2008) “How to Make Great Teachers”. *Time Magazine*.

**OBSERVATION AND REFLECTION ASSIGNMENT MATERIALS**

Adams, N.G.; Shea, C.M.; Liston, D.D.; & Deever, B.; (2006) **Learning To Teach**; Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.

**COURSE SCHEDULE (some items are subject to change):**

Week 1 January 7, 2014

IN CLASS	OUTSIDE CLASS
<p>Introductions</p> <p>Distribute the syllabus and discuss course objectives</p> <p>Review initial meeting with classroom teacher: what to accomplish</p> <p>Pre-Observation – Your Concerns and Expectations</p> <p>Observation Mindset</p> <p>Introduce Dual Threads Access vs/and Content</p> <p>Modeled activity: [Classroom activity technique] Pair Share</p>	<p>Preparation for next meeting</p> <p>Readings: Week 1</p> <p>1) “Gifted a Motivation Perspective” <a href="http://www.dukegiftedletter.com/articles/vol8no3_feature.html">http://www.dukegiftedletter.com/articles/vol8no3_feature.html</a></p> <p>Prepare to discuss how the ideas of “growth” vs “fixed” relate to your learning up to this moment. Write out three “I noticed” statements that prepare for an active discussion.</p> <p>2) Complete Paper “Significant Past School Experiences” p. 5-6 in <i>Learning to Teach</i>.</p> <p>3) Complete introductory Cal Teach requirements by next class:</p> <ul style="list-style-type: none"> <li>• Arrange and conduct mentor teacher meeting</li> <li>• Complete in turn-in TB test, fingerprinting (if required), liability forms, mileage reimbursement and Cal Teach application.</li> <li>• Finalize your transportation plan to classroom placement, and make necessary adjustments with you host teacher regarding schedule, time to meet for collaboration and integration with your UCSC life.</li> </ul> <p>4) This weeks observation: How do the physical attributes of the classroom and teacher contribute to the success or failure of student learning?</p>

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Week 2 January 14, 2014

IN CLASS	OUTSIDE CLASS Classroom procedures and management
<p>**If having trouble accessing your Google Doc online time sheet, contact Pat (<a href="mailto:pkent@ucsc.edu">pkent@ucsc.edu</a>)</p> <p>Discuss:                      “Gifted a Motivation Perspective”                      “Significant Past School Experiences” p. 5-6 in <i>Learning to Teach</i>.</p> <p>Course Content:                      Access: Seating, management, space use                      Content: Introduce Algebra 1 State Standards</p> <p><b>Poster Plan: Identify your essential question that after your lesson your students will be able to answer.</b></p> <p>Modeled activity: War and Flashcards</p>	<p>Assigned Readings: Week 2                      1) “The Critical Role of Classroom Management” plus discussion preparation:                      Hi-light and prioritize 3 most interesting points and write out the main ideas or questions you have .                      Prepare to support you choices in a discussion format.                      2) <u>One Paper</u> integrating thoughts from.                      “Seating Arrangements”, p. 21-22 in <i>Learning to Teach</i>.<b>AND</b>                      “Taking Control of the Classroom” p.43-44 in <i>Learning to Teach</i>.                      3) Lesson Plan: Type up your chosen Alg 1 Standard. Explain why you think it is important for Alg 1 students to learn this. Determine your <u>“essential question”</u> for your lesson project. This will be an ongoing document that we add to each week.                      4) Classroom observation write-up. What is the driving force in your classroom. IE: teacher personality, content, students, something else?                      If you have questions just ask me.  <a href="mailto:hvander@ucsc.edu">hvander@ucsc.edu</a></p>

Week 3 January 21, 2014

IN CLASS	OUTSIDE CLASS Learning Environment Preparation for next meeting
<ul style="list-style-type: none"> <li>Discuss &amp; Debrief: “Seating Arrangements” &amp; “Taking Control of the Classroom” observation</li> </ul> <p>Access and Content:                      Access: How do we motivate, engage, inspire the students to actually want to learn what we are trying to teach?                      How can learning styles affect the student learning outcomes?                      Bloom’s Taxonomy and Costa’s and the “Ask – don’t tell policy”.</p> <p><b>Poster Plan: revised Essential Question. What resources do you have to motivate, inspire and help teach the concept?</b></p> <p>Modeled Activity: Review “All 4 One and One 4 All”</p>	<p><b>Complete</b> the following:                      1) Reading: Week 3                      “Chap 1” Every Minute Counts</p> <p>2) Lesson Plan: On-going write-up: What creative <b>resources</b> can you access to help motivate, inspire and teach your topic. Look in any Alg 1 Textbook at your school site or in Cal Teach lounge to find 3 <u>levels of difficulty</u> sample problems related to your standard for your lesson. NOTE: this should not be a new document. It is just added to the previous Standard and Essential Question document.</p> <p>3) Classroom written observation: 3 colums What ways do you observe students demonstrate or respond to confusion, lack of understanding or frustration with math concepts. How do they shape problems or confusion etc with personal issues. What ways do they show disinterest or lack of motivation?</p> <p>4) 1-2 pg paper integrating issues discussed in “Brain Compatible Classroom Activity” p. 59-60 In <i>Learning to Teach</i></p>

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Week 4 January 28, 2014

IN CLASS	OUTSIDE CLASS Curriculum Development Preparation for next meeting
<p>Discuss: “Brain Compatible Classroom Activity” 3 columns from classroom observations.</p> <p>Access and Content: How to use higher level of questioning to increase the level of understanding in the classroom. How can we integrate learning styles, motivation and increasing level of difficulty in our lessons?</p> <p>Activity: Team effort to use Bloom’s on an Alg 1 standard and to see the differences and apply it to planning.</p> <p><b>Poster Plan: Explain</b> <b>Identify 3 levels of difficulty using higher level questions related to learning outcomes. Build a sequence of questions to lead to desired Level of Understanding”</b></p>	<p>Reading: Week 4</p> <p>1) Chap 2 <b>Every Minute Counts</b></p> <p>2) 1-2 pg paper integrating concepts from “Classroom Characteristics and Climate” p.67-69 In <b>Learning to Teach</b>.</p> <p>3) <i>Lesson Plan ongoing write-up: List out questions that can build the level of understanding in your lesson for the students. 2 columns:1<sup>st</sup>- A question then a hoped for answer. Consider telling them by direct lecture format the last resort .</i></p> <p>4) Classroom observation: Make notes of the level of questions being asked in the lessons you are observing. Even on worksheets etc, use Costa’s as it is easier to categorize quickly.</p> <p><b>REMINDER: ONLINE timesheet hours must be up to date on: _____.</b></p>
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Week 5 February 4, 2014

IN CLASS	OUTSIDE CLASS Student Learning Preparation for next meeting
<p>Debrief: “Classroom Characteristics and Climate”</p> <p><b>Discuss:</b> Chap 1/2 of Every Minute Counts</p> <p>Content/Access: How do we create an environment for safe questions and safe answers? How can questions become our first line of attack and how can we get responses that are helpful.</p> <p><b>Activity:</b> <b>Math Minutes Start lessons 5 students</b></p> <p><b>Poster Plan:</b> Make a list of ideas for ACTIVITIES to accomplish the level of understanding you desire. <b>Retype after peer revision and edits.</b></p>	<p>Readings: Week 5</p> <p>1) “Clever Hans” <a href="http://researchinpractice.wordpress.com/2009/10/24/required-reading-for-math-teachers-i/">http://researchinpractice.wordpress.com/2009/10/24/required-reading-for-math-teachers-i/</a></p> <p>2) Chap 3 Every Minute Counts</p> <p>3) 1-2 pg paper “Teacher Wait Time” p.55-57 in <b>Learning to Teach</b> integrated with reading, discussions and observations.</p> <p>4) Ongoing write up: Poster Lesson: What will the students be DOING to answer your questions? Make a list of possible ideas for ACTIVITIES to accomplish the level of understanding you desire.</p> <p>5) Classroom observations: Take notes of what students are doing to learn the material being presented?</p> <p><b>REMINDER: ONLINE time sheet half hours (13) due and up-to-date by...</b></p>

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Week 6 February 11, 2014

<p>IN CLASS</p>	<p>OUTSIDE CLASS Inquiry instruction Preparation for next meeting</p>
<ul style="list-style-type: none"> <li>• Pair share for peer review your Lesson Plan. Look for Higher level of thinking either Bloom's or Costa's as it relates to your Alg 1 lesson.</li> <li>• Discuss: "Wait Time and Chap 3 "</li> <li>• Discuss Teacher Interview assignment: what makes for a good interview?</li> </ul> <p><b>Poster Plan: Explain Performance Tasks: what will your students do to experience the Learning Goal? Sample lesson plans.</b></p> <p><b>Activity:</b> <b>Math Minutes Start lessons 5 students</b></p>	<p>Reading: Week 6</p> <ol style="list-style-type: none"> <li>1) Finish <b>Every Minute Counts</b> [note: this is longer than you think.]</li> <li>2) Classroom observations: "The Art of Questioning" Make note of 3 question asking strategies you observe in your placement.</li> <li>3) Lesson Plan Ongoing Write up: Poster Lesson Identify <u>Student performance tasks</u> This is the main thrust of your lesson plan. What will <b>your students be doing</b> to reach the level of understanding necessary to answer the Essential Question.</li> </ol> <p>3) Conduct Teacher Interview (due week 8)</p>

Week 7 February 18, 2014

<p>IN CLASS</p>	<p>OUTSIDE CLASS Teacher Instruction Preparation for next meeting</p>
<p>Discuss Poster Every Minute Counts The Art of Questioning Lesson Project so far How will you create "access" and "content"? Use Blooms or Costa's higher order?</p> <p><b>Poster Plan: Peer review of student performance tasks.</b></p> <p><b>Activity:</b> <b>Math Minutes Start lessons 5 students</b></p>	<p>Reading: Week 7</p> <ol style="list-style-type: none"> <li>1) Ongoing Write-up Poster Lesson: <u>Revision</u> of Student performance tasks and some organization of lesson plan.</li> <li>2) 2 page Integration paper: Question asking. Wait time, Blooms higher order and accessing the content. What is the goal of an exemplary time in the classroom? <b>Integrate</b> all we have discussed in class so far, any readings or outside websites to explain how <b>your</b> lesson plan meets what we have been learning about and why. Really looking for a synthesis of the ideas as evidenced in your lesson plan specifically.</li> <li>3) Classroom observation: Describe your time in front of classroom, wait time, nerves, content. How did it go?</li> </ol> <p><b>REMINDER: Teacher Interview is due next week</b></p>

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Week 8 February 25, 2014

IN CLASS	OUTSIDE CLASS Teacher Instruction Preparation for next meeting
<p>Peer Review: "An exemplary lesson plan" Activity: DVD on question asking techniques <b>Teacher Interview due</b></p> <p><b>Math Minutes 5 students</b></p>	<p>Reading: Week 8 Complete the following:</p> <ol style="list-style-type: none"> <li>1) 1-2 pg paper "Metaphors of Classroom Praxis" pp. 85-86 in <i>Learning to Teach</i></li> <li>2) Print all components of your lesson that we have developed out in very large font to be integrated onto your poster next week. This can be on colored paper or whatever you want to have included [including your math minutes activity] on your poster. If you come prepared then your poster will be done end of next week in class. What are 3 students names and something about them?</li> <li>3) Classroom observations. General observation of choice. List our 2-3 questions about the profession of teaching.</li> </ol>

Week 9 March 4, 2014

IN CLASS	OUTSIDE CLASS Teacher Instruction Preparation for next meeting
<p>Debrief "Metaphors of Classroom Praxis" observation Discuss: Questions you have about teaching as a career, the state of teaching, whatever you want to know.</p> <p>Discuss "Final Reflection: Next Steps" assignment Teacher Interview Sharing</p> <p><b>Activity:</b> <b>Math Minutes any remaining students</b></p> <p><b>Prepare Posters in class. Materials provided.</b> We will have all poster paper, scissors, glue, felt pens etc to actually finish your poster in class if you are well prepared.</p>	<p>Readings: Week 9 Finish Poster if for some reason this did not happen in class.</p> <p><b>1) 1 – 2 pg paper. "Final Reflection: Next Steps" due next week. [Note: this is put in your Cal Teach file.]</b></p>

Week 10 March 11, 2014

IN CLASS	OUTSIDE CLASS Preparation for next meeting
<p>Debrief Discuss "Final Reflection: Next Steps" assignment</p> <p><b>Present posters of the Poster Lesson Plan Project This is peer graded on a 50pt scale.</b></p>	<p><b>Absolutely nothing to do!</b></p> <p><b>REMINDER - ONLINE time sheet hours should be updated by Friday, March 15<sup>th</sup> at midnight. All observations reflections should be handed in by the last seminar meeting.</b></p>