

EDU/GEL 183

Fall Quarter 2019 Syllabus

Lecturer
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Topical Outline

The MAST III (Math and Science Teaching) seminar is designed for 3rd and 4th year students and focuses on teaching practices in high school science and math classrooms. Students in the course will be placed with a high school teacher and spend 3 hours per week, for ten weeks, in his or her classroom. Through selected readings, seminar discussion, and field experience, students will explore and experience what it means to teach science or math. They will present opening and closing activities, go over homework, lead a lab, prepare and analyze a quiz, practice questioning techniques, and explore the CA State Standards for math and science.

- **You must collect a minimum of 30 internship hours in order to pass EDU/GEL 183.**
- **Attending class is mandatory, one absence is excused, no questions asked. More than one absence will result in a final grade reduction by one grade for each additional absence. If you have extenuating circumstances, you must let me know immediately by email.**

Community Norms

All voices are welcomed, encouraged and respected in this space.

Reflect	Think before you speak.
Empower	Empower yourself and others.
Share	Share your voice and space.
Push	Participate until something happens.
Elmo	Enough, let's move on.
Confidentiality	Share the knowledge, not the story.
Tech Check	Be mindful; be present.

Outline by Session (week)

Subject to change

Session 1 9/25

- Introduction & Information on course requirements and logistics
- First look at the CA State Teaching Standards: New Generation Science Standards and Common Core

Due 10/1: *Assignment. Enter the assignment into the assignment section on Canvas. 250 words minimum, can be a bulleted list.*

- Develop a **goal plan** of what you want to accomplish during your internship: What are your goals, and how are you planning to accomplish them? **Due Tuesday 10/1 on Canvas.**

Due 10/15: *Assignment. Enter the assignment into the assignment section on Canvas. 250 words minimum.*

- **Every Minute Counts: Making your math class work:** Write a short reflection about this very handy companion. How do the math classrooms **you** attended during **your** high school career differ from David Johnson's classroom? How were they the same?
 - **NOTE; You can borrow this book from me at the following dates: 9/25, 10/2, and 10/9. If you borrow a book, you are required to return it to me one week later, so your fellow students have a chance to borrow it as well before the due date of the assignment.**

Week 1, Reflection 1: 250 words minimum:

Option 1

You will be primarily observing this week. Ask for a seating chart so that you can memorize names. When appropriate, walk around and help students informally. Write down your thoughts about your class room: was learning going on, was teaching going on, was the teacher in control of the class room, did anything extraordinary happen?

Option 2 (if you were unable to go to your internship this week)

Not everyone will have met their mentor teacher the first week. If you have not met your mentor teacher yet, state that you did not visit the school and write about three things you hope to see happen in a classroom. Math majors: What should a good math lesson look like? Science majors: What should a good science lesson look like?

Record your reflections on Canvas by Sunday 11:59 pm.

Record your hours on CalTeach.

Session 2, 10/2

- NGSS – Susann Pinter
- Common Core – Mary-Betty Stevenson

Due 10/8: *Reading Assignment.*

- Teach like a Champion 2nd edition: Read chapters 4 and 5. You need to **read** this information to be able to create a meaningful lesson plan!

Due 10/23: *Assignment due as a hard copy in class*

- **Download from Canvas: Teacher Observation Protocol.** Choose one of your intern classes and complete the teacher observation protocol. **The protocol MUST be typed, the document is fillable.**

Week 2, Reflection 2: 250 words minimum:

Option 1

Continue to work with students individually. Practice analyzing their errors and guide them to understanding. When they say, “I can’t do this problem, help them discover what part of the problem they were unable to do: set up the equation, choose a formula, use the formula, ...

Option 2 (if you were unable to go to your internship this week)

If this is your first time in your intern classroom, ask for a seating chart so that you can memorize names. When appropriate, walk around and help students informally. Write down your thoughts about your class room: was learning going on, was teaching going on, was the teacher in control of the class room, did anything extraordinary happen?

Record your reflections on Canvas by Sunday 11:59 pm

Record your hours on CalTeach

Session 3, 10/9

- Developing a positive classroom environment (Classroom Management)
 - Behavioral expectations and accountability
- Lesson Planning (**first draft due session 6, 10/30/19**)
 - Together with a partner, develop a lesson plan to present to your peers during peer evaluation. As partners, decide what topic you want to choose and the grade level, any grade level 9 -12 is appropriate. Peer evaluations will be done in class in weeks 6 and 7. Use the New Science Generation Standards and the Common Core State Standards as your guide. You can find those online on the class homepage on Canvas
 - Download the appropriate lesson plan template from Canvas: science students download the **NGSS** template and math student download the **Common Core** template. Use these templates to complete your lesson plan. **First draft of your lesson plan as a hard copy is due in class session 6. Please bring 3 copies. Peer evaluations will start session 6 and continue session 7 if needed.** Your revised lesson plan (based on the peer reviews) is due session 8 as a hard copy.

Due 10/15: *Assignment. Enter the assignment into the assignment section on Canvas. 250 words minimum.*

- Teach like a Champion 2nd edition: Read chapter 10 and 11, Reflect on these two chapters and answer the following question: **How would your IDEAL classroom look like and how will the students in this classroom behave?**

Week 3, Reflection 3: 250 words minimum:

Option 1

By now you should know some of the students’ names. Greet students at the door. Take a more active role helping students. Watch how your teacher handles classroom management and how she/he tries to create a positive classroom environment.

Option 2 (if you were unable to go to your internship this week)

Because of special circumstances, some of you still might not have had the opportunity to go into the classroom yet. For you, I have uploaded an article on classroom management. Read the article, write a brief summary and then reflect on the article. Do you agree with the practices described? disagree? What did you take away from the article?

Record your reflections on Canvas by Sunday 11:59 pm

Record your hours on CalTeach

Session 4, 10/16

- Differentiation: Does the one-size-fit-all class room actually work?
 - Helping ALL students learn
 - Helping students identify what they don't understand
 - Using student mistakes to guide instruction
 - How to tailor individual instruction to students

Due 10/22: Assignment. Enter the assignment into the assignment section on Canvas. 250 words minimum.

- [Teach like a Champion 2nd edition: Read chapter 1 and 2.](#) Reflect on those two chapters and answer the following question: *What is meant by "culture of error"? Do you think this is a useful concept?*

Week 4, Reflection 4: 250 words minimum:

Option 1

During the 4th week of internship, reflect on how your mentor teacher uses differentiation in the class room? Can you identify any differentiation or not? If you cannot identify any differentiation, how would you differentiate in order to help the students in need?

ALSO: Coordinate with your mentor teacher a portion of the lesson that you can handle one day *in the near future*. (perhaps, going over homework or presenting a sample problem).

Option 2 (if you were unable to go to your internship this week)

Link to the Teacher Tool Kit (posted in on this week's Canvas module) and chose one of the modules of "Opening Activities". Describe the content of the module you chose and reflect of the effectiveness of its content. **ALSO:** Coordinate with your mentor teacher a portion of the lesson that you can handle one day *in the near future*. (perhaps, going over homework or presenting a sample problem).

Record your reflections on CalTeach and Canvas by Sunday 11:55 pm.

Record your internship hours on CalTeach.

Session 5, 10/23

- Styles of teaching:
 - Using tips as a teaching tool
 - Pros and cons of various teaching styles

Due 10/29: Assignment. Enter the assignment into the assignment section on Canvas. 250 words minimum.

- [Teach like a Champion 2nd edition: Read chapter 7](#) and respond to the prompt below:
Compare and contrast the technique of "cold call" and "wait time". Do you prefer one or the other? What are the benefits and draw backs of both these techniques?

Week 5, Reflection 5: 250 words minimum:

Option 1

During the 5th week of your internship, pay close attention to the styles of teaching that your mentor teacher uses. Does there seem to be a pattern to when he/she uses a particular style?

Option 2 (if you were unable to go to your internship this week)

Link to the Teacher Tool Kit (posted in on this week's Canvas module) and chose one of the modules of "Monitor students' understanding throughout the lesson". Describe the content of the module you choose and reflect of the effectiveness of its content.

Record your reflections on Canvas by Sunday 11:59 pm

Record your hours on CalTeach

Session 6, 10/30

- Engaging the learner:
 - Questioning techniques
 - The emotional classroom. Important questions to ask your students:
https://www.edutopia.org/article/important-questions-ask-your-students?utm_source=Edutopia+Newsletter&utm_campaign=f5e375ea2c-EMAIL_CAMPAIGN_082218_enews_importantquestion&utm_medium=email&utm_term=0_f72e8c8c4-f5e375ea2c-84982771
 - Class discussion: Cold calling vs. wait time
- Lesson plan peer evaluations start. Bring 3 hard copies of your lesson plan to class today.

Due 11/5: Assignment. Enter the assignment into the assignment section on Canvas. 250 words minimum.

- [Teach like a Champion 2nd edition](#): Read chapter 3 and write about the following task: *Try to imagine the most boring content (to you) that you could teach. Now script the first five minutes of your class in which you find a way to make this boring topic exciting and engaging to your students.*

Week 6, Reflection 6: 250 words minimum:

During week 6 of your internship, pay close attention to what *students* are doing during each part of the lesson. When do they seem most engaged? When do they seem to “tune out?”

Record your reflections on CalTeach and Canvas by Sunday 11:55 pm.

Record your internship hours on CalTeach

Session 7, 11/6

- Technology
 - Assembling a PhET activity worksheet
- Lesson plan evaluations continue.

Due 11/13: Assignment due as a hard copy

- Develop a PhET activity worksheet. Download the directions from *Canvas*. **A hard copy of the PhET activity worksheet is due in class session 8.**

Week 7, Reflection 7: 250 words minimum:

Option 1

During the 7th week of your internship, pay attention to what kind of technology is used in the classroom and address the following: is any technology used and what kind? is none used, why not? is the technology used wisely or is it unnecessary?

Option 2 (if you were unable to go to your internship this week)

If you are unable to go to your internship this week, read the article "Technology in the Classroom" (uploaded on this week's Canvas module) and write a reflection on this article. 250 words minimum.

Record your reflections on Canvas by Sunday 11:59 pm

Record your hours on CalTeach

Session 8, 11/13

- **TURN IN YOUR LESSON PLANS!**
- Science: Shifting a lesson from traditional to inquiry
- Math: TBA

Week 8, Reflection 8: 250 words minimum:

Option 1

Before you go to your internship this week, email your teacher and ask about **ELL (English Language Learner)** students in your classroom. If there are any ELL's, notice what challenges they encounter during class time. How does the teacher support these students? Are there other ways these students have their needs met? If not, what did you observe?

Option 2 (if you were unable to go to your internship this week)

Read the paper Educator Toolkit for ELLs (it is uploaded in this week's module). Using the findings in this paper, reflect how a teacher can effectively help English Language learners understand the material taught in school using technology.

Record your reflections on CalTeach and Canvas by Sunday 11:55 pm.
Record your internship hours on CalTeach.

Session 9, 11/20

- Number Talk and other Mathematics Learning Strategies
 - Create a poster in class to present in session 10

Week 9, Reflection 9: 250 words minimum:

You are almost done. During the 9th week of your internship, continue to work with students individually. Practice analyzing their errors and guide them to understanding.

Option 2 (if you were unable to go to your internship this week)

Read "Why Mathematics" (article can be found in this week's module) and reflect on this article. 250 words minimum.

Record your reflections on CalTeach and Canvas by Sunday 11:55 pm.
Record your internship hours on CalTeach.

THANKSGIVING WEEK 11/25 – 11/29

No class Wednesday 11/27

Public Schools not in session, no reflection due this week

Session 10, 12/4

- Number Talks presentations
- Closure
- Informal question/answer period

Due 12/11 Assignment

Internship hour verification sheet due in my office (EPS 1362) as a **hard copy** or as a **pdf** attached to my email spinter@ucdavis.edu by **4:00 pm**.

Week 10, Reflection 10: 250 words minimum:

During the 10th week of internship, continue to take an active role in the class, but also take time to reflect on the experience as a whole.

This prompt is not contingent on your presence in your internship: What characteristics of the mentor teacher would you like to emulate? Which would you do differently? Include this in your reflections.

Record your reflections on CalTeach and Canvas by Sunday 11:55 pm.
Record your internship hours on CalTeach

Final Paper

There will be a take home final. Prompt will be posted Wednesday November 27th on Canvas. It is due Wednesday 12/11 on Canvas **8:00 AM**

1. READINGS

Readings are selected from the following books:

- *Every Minute Counts. Making Your Math Class Work.* Johnson, David (**BOOKSTORE or amazon**). *Can also be borrowed from me.*
 - *Mathematics Framework for CA Public Schools K-12*, CA Department of Education; Sacramento, 2006
Download from: <http://www.cde.ca.gov/be/st/ss/documents/ccssmathstandarداug2013.PDF>
 - *New Generation Science Standards*. Download from
<http://www.nextgenscience.org/sites/default/files/NGSS%20DCI%20Combined%2011.6.13.pdf>
 - *Teach like a Champion*, Doug Lemov, 2nd edition, (**BOOKSTORE or amazon, amazon is cheaper!**)
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2. GRADING PERCENTAGES

30% 10 Reflection papers, minimum 250 words each (always due each Sunday at 11:55 pm on Canvas):

- 10 pts. on time + exceptionally well done + exceptional professional writing + **description** of the lesson and **reflection** are submitted + writing prompt is observed
- 8 pts. only ok done but not outstanding, otherwise all other criteria are met
- 7 pts. 1-2 days late and/or lesson description missing, and/or writing prompt not observed
- 6 pts. Over three days late, badly done or too short
- 0 pts. Not turned in

What is a reflection paper?

The weekly reflection consists of a brief **description** of the lesson/s you engaged in **AND** a **reflection** that addresses the weekly internship prompt. Description and reflection need to be done in two **SEPARATE** paragraphs.

30% Intern participation includes:

- Goal plan
- Summary goal plan
- 30 hrs. of verified internship (**due 12/11/2019, 4pm**)
- Mentor teacher evaluation
- Observation protocol

20% Assignments include:

- Assignments with the associated reading (due always following Tuesday's 11:55 pm on Canvas in the assignment section)
- Lesson plan
- PhET activity worksheet

10% Seminar participation & preparedness: Participation is an essential part of the course. Participation means **listening as well as speaking**, expressing your own thoughts in whole and small group discussions, and helping others develop their ideas. Participation also includes making every effort to arrive to class **on time** and using electronic devices only for course-related purposes.

A until I notice....

- Always late
- Lack of participation (no oral contributions)
- Non-class use of technology (e.g. phone use)
- Generally disengaged

10% final paper

3. ATTENDANCE

Attendance is **required** and will be taken every session. You are allowed to miss **one** class session. If you are missing more than one session, your final grade will be **reduced by one full grade for each additional session you missed**. If there are extenuating circumstances, please let me know immediately by email, so we can make alternative arrangements.

4. JUSTIFICATION FOR UNIT(S) OF CREDIT

This course will meet for 2 hours of lecture/discussion each week and 3 hours of fieldwork in a public high school classroom each week. During discussions, basic concepts of teaching a math and science class will be introduced and the CA State Standards for math and science will be examined. Students will prepare and present various components of a lesson including: opening activities, closing activities, presenting a new concept, writing and analyzing a quiz, review, and classroom management.

6. ADDITIONAL INFORMATION FOR STUDENTS:

This course places students in high school classrooms in Davis, Dixon, Woodland, Winters, Vacaville and West Sacramento.

7. The U.S. Department of Education determined that UC Davis needed to institute measures for validating that students participate in their registered classes. To comply with this mandate, in September 2019 the campus will require students to verify that they have begun each course for which they are registered via the Academic Participation program. This program also encourages students to acknowledge their responsibilities regarding academic integrity and the Code of Academic Conduct, reinforcing our campus culture of honesty. participate.ucdavis.edu