GEO 406LRS: Science Capstone Experience

A class for future teachers

LO 1227 – Mondays 2:00 pm – 4:45 pm

Instructor Information

Matthew d'Alessio
(Professor in Dept. of Geological Sciences)

Office Hours
Location: LO 1228
Times: Wed. 1:30-2:30p

Phone: 818.677.3647

Email:
matthew.dalessio@csun.edu

Special needs

I am committed to accommodating those with special physical or learning needs. Please let me know.

Other Notes

It is the responsibility of each student in this course to know and follow all written guidance given by the instructor in this class.

These policies and schedules are subject to change in the event of extenuating circumstances.

A class for future teachers

Teaching is one of the most gratifying professions you can imagine, but it is also serious and challenging work. Teachers often spend more time with their students than many parents, and over a career you might deeply touch over a thousand lives (parent to over a thousand children!). You therefore have the responsibility to be a positive role model. You can't be late (or if you are, you'll be fired). You can't yell every time you get a little frustrated (or if you do, you'll be much less effective). You can't lie (your students will always catch you). In many cases, you can't even go to the bathroom. Teachers are superstars. If you want to be one, now is the time to start practicing these skills of excellence. This class has high expectations for learning and integrity, and low tolerance for excuses.

Teaching Takes Practice

As you transition from being a lifelong student to being a career teacher, you'll need to practice facing new situations. In this class, we'll practice teaching science in a supportive environment called microteaching. Each week, you will prepare to teach a micro-lesson to your team of 5-6 peers. The lesson plans are already written and come from the FOSS kits that LAUSD uses to teach elementary science. By teaching your peers, you will master both science content and gain valuable practice in front of a very small, very forgiving "classroom."

Your peers will assess your preparation and performance in order to give you valuable feedback that can help you improve your science teaching.

Team based learning

Research shows that you can learn more from your peers than you can from professors. To facilitate this learning, you will spend a good portion of the class working in teams. You will work with the same team the entire semester, and you will not be able to choose your team. Since having unprepared teammates can impact your experience, there is a procedure for "firing" a student from your team posted on the Moodle website for our class. In past experience, we rarely need to employ this policy. Almost all required teamwork will be in class, so there is no need to worry about coordinating your schedules.

Electronic Equipment

Class time is a few short hours a week to devote to focused learning. Save phone calls, text messages, web surfing, and other activities for designated breaks or after class. Many K-12 schools have "No cell phone" policies, so you might as well get used to it now. Keep your cell phone out of your own site so you won't be tempted. There will be penalties for violating this policy.

* Portions of this syllabus are copied from a model for this class by Professor Doug Yule, 2009.

Grades

The grading policy in this class gives merit to three general areas:

- Your preparation, as measured by homework assignments and quizzes covering homework material conducted at the beginning of class.
- Mastery of science content, as measured by summative quizzes conducted periodically at the end of topics
- Growth as a science teacher, as measured by peer assessment of your microteaching.

I will calculate your grade using the categories in the table below. Numbers in parentheses indicate what portion of that category is based on your individual grade versus team grades.

No Extra credit. There will be no individual extra credit, though there will be occasional team bonus points awarded for winning competitions, etc.

Grades of incomplete cannot be given in laboratory classes.

Academic dishonesty, copying, cheating

I expect high standards of academic integrity from future teachers so there is a **zero-tolerance rule** for academic dishonesty in this class. I will refer all cases of academic dishonesty (including copying, allowing others to copy your work, plagiarism, failing to cite your source, copying/pasting text from the internet even with modifications, misrepresentation of others' work as your own, violations of the collaboration policy below, etc.) to the VP of Student Affairs' office for arbitration and possible disciplinary action. The first offense will result in, *at minimum*, the reduction of your final grade by one partial letter grade (A- becomes B+), the second offense will result in an F for the class. It is not worth the risk to cheat or let someone copy your work in this class.

If You Miss A Class Meeting: Leave Days

Teachers typically get 10-12 days of sick leave that they can miss without penalty. In this class, ***you can miss one day, no questions asked and with no penalty***. To request a leave day, you must ***fill out the form on Moodle*** **either before your absence or within 7 days after**. After using your leave day, you will receive no credit for days you miss. Homework due that day should be turned in the following class period with the words "LEAVE DAY" written on top. I do consider extenuating circumstances. You may **not** use a leave day on a day for which you are scheduled to microteach. You will receive zero for those days. Instead, you'll need to arrange a substitute by contacting your teammates and seeing if someone else can volunteer to switch with you.

Late Assignments

NO late assignments will be accepted except for those that result from a medical/legal emergency affecting you or a close family member. Such an emergency will have to be documented in writing by an appropriate medical/legal authority and will be accepted at no penalty.

Grades are calculated using the following items:		
Microteaching	150 pts	3 times, 25 / 50 / 75 points
Peer/Self-Assessment of microteaching	90	18 lessons, 5 points each
Post-teaching reflections	60	3 times, 20 pts each
Quizzes	65	3 times, about 20 points each
Homework	35	5 times, 5-15 points each
Other	15	In class surveys
TOTAL	415 pts	

Plus-minus grading will be utilized for this course based on converting the course average to grades as follows:

		B+	86-89	C+	76-79	D	60-69
A	93-100	B	83-85	C	73-75	F	< 60
A-	90-93	B-	80-82	C-	70-72		

Rounding: Final course average scores are rounded to the nearest integer.

GEOL 406 LRS: Science Experience Capstone

	Date	Topic	Activities	Homework Due
1	23-Jan	What makes a good science class?	Human Likart scale, STEBI-B, Team Selection, Gallery walk, Microteaching signup	
2	30-Jan	How does science work?	Discuss teaching evals, science journals	HW1: What are the qualities of good teaching?
3	6-Feb	Microteaching 1	FOSS Environments: Terrestrial environments	HW2: Pre-quiz
4	13-Feb	Microteaching 1	FOSS Environments: Range of Tolerance / Ecosystem Engineers	*
5	20-Feb	Microteaching 1	Climate Connections: Little Ice Age / Blooming Thermometers	*
6	27-Feb	Microteaching 1	Recording Changes / Final observations of range of tolerance / Post-quiz	*
7	5-Mar	Microteaching 2	Wrap-up Microteaching 1 / FOSS Water Planet: The Water Cycle	HW3: Pre-quiz
8	12-Mar	Microteaching 2	FOSS Water Planet: Water Vapor	*
9	19-Mar	Microteaching 2	FOSS Water Planet: Weather	*
10	26-Mar	Microteaching 2	FOSS Mixtures & Solutions: Salt Saturation / Post-quiz	*
11	2-Apr	Spring Break		
12	9-Apr	Microteaching 3	Wrap-up Microteaching 2 / Kinesthetic Astronomy 1	*, HW4: Pre-quiz; HW5 on Moodle: Modify a Lesson
13	16-Apr	Microteaching 3	FOSS Solar Energy: Shadow Tracking / Sun-Angle	*
14	23-Apr	Microteaching 3	FOSS Water Planet: Heating Earth / Convection	*
15	30-Apr	Microteaching 3	Kinesthetic Astronomy II / Post-quiz	HW6: Surveys on Moodle
16	7-May	Games in Science Class	Climate solutions challenge, Climate negotiation simulation, Course review game	

*: Micro-teachers prepare their lessons; Last week's micro-teachers complete post-teaching reflection.