

### Semester and Year this Document Covers

Fall 20xx

### Course Number and Title

ChEE 597A Engineering GK12

### Course Description

This workshop will support graduate fellows working in K-12 classrooms through the Engineering program. Through weekly discussions, reading and journaling graduate students will reflect upon their classroom experiences, share teaching strategies, and learn about the processes of teaching and learning engineering.

### Instructor Information

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### Learning Outcomes

Students should demonstrate the ability to develop a lesson plan

Students should demonstrate the ability to work as a team with their K-12 teacher mentor

Students should understand NGSS Standards

### Required Texts and Materials

Readings will be provided

### Schedule of Topics and Activities

Schedule and assignment due dates is attached

### Assessments

Assessment Categories	Percentage of final grade
Attendance and participation in class activities	20%
Journal assignments	10%
Lesson Plan	60%
Final Presentation	10%
Total	100%

### Grading Scale and Policies

A 90% and above

B 80% to 89%

C 70% to 79%

### University Policies

<https://academicaffairs.arizona.edu/syllabus-policies>.

### Subject To Change Notice

Information contained in the course syllabus, other than the grade and absence policies, may be subject to change with reasonable advance notice, as deemed appropriate by the instructor of this course.

### Graduate Student Resources (optional)

Please consider including a link to the University of Arizona's Basic Needs Resources page:  
<http://basicneeds.arizona.edu/index.html>

## FALL 20xx-SBAR SEMINAR

W e e k	Date	Prese nter	Topics	Discussion Prompts	Assignment
1	xx/xx	CK TA	<ul style="list-style-type: none"> <li>Orientation/Welcome/</li> <li>Introductions</li> <li>Check-in on classroom experience</li> </ul>	Reflection on working in a classroom assignment. Something you learned, something that was challenging, something that was awesome.	Readings: See Reading List
2	xx/xx	SC CK TA	<ul style="list-style-type: none"> <li>Case Study Method of Lesson Planning</li> <li>Lesson Planning Review</li> <li>5 E Model</li> </ul>	What is your authentic/engaging question/what is the "Case"? Where does your lesson fit within the curriculum?	Reading
	xx/xx		<ul style="list-style-type: none"> <li>No Class for SBAR Conference</li> <li>Get together with NM and AZ fellows in town</li> </ul>		
4	xx/xx	CK			Reading
5	xx/xx	Indige- FEWSS Fellow	<ul style="list-style-type: none"> <li>Indigenous Knowledge and Science</li> <li>Science and traditional ways of knowing within indigenous communities</li> </ul>	How can science and science education incorporate indigenous science and ways of knowledge?	Reading
6	xx/xx	TBA	<ul style="list-style-type: none"> <li>Class Management strategies/engagement</li> </ul>	What are some strategies for keeping students engaged, connected, and interested?	Reading
7	xx/xx	CK TA	Field Trip		Reading:
8	xx/xx	CK	<ul style="list-style-type: none"> <li>Inclusive Science Learning</li> <li>Culturally Relevant Pedagogy</li> </ul> Overview of Lesson Design Goals	Discussion: Additions/Revisions to Tree Ring Lesson	Lesson Design Check list
9	xx/xx		Presentations/Feedback		<b>Micro presentation-lesson plan idea/concept</b> Upload lesson draft to dropbox

## FALL 2019-SBAR SEMINAR

10	xx/xx	CK TA	NGSS Science Standards & SBAR connections	What is NGSS and how do these standards influence science teaching? How do SBAR topics and themes connect to NGSS?	<b>uploaded to Dropbox</b>
11	xx/xx	TA	Communicating Science Exercises/ Encouraging Science Talk	What are some strategies for communicating complex science content to multiple audiences?	<b>Peer Review-partners due: upload to dropbox</b>
12	xx/xx	CK/TA	Working Session		<b>Lesson Revision Plan upload to dropbox</b>
13	xx/xx	CK/TA	Working Session		
14	xx/xx		No Class--Thanksgiving		
15	xx/xx	SC/ CK/TA	Presentations		<b>Final Lesson Plan Due-Drop Box</b>
16	xx/xx	SC/ CK/TA	Presentations		<b>Teacher Interview Document Final Reflection</b>

### **Deliverables for Spring Semester**

#### **1) Lesson**

**Draft Lesson/Micro presentation xx/xx**

**Part A: Draft lesson plan (class presentation)**

**Part B: Revision Plan xx/xx**

**Part C: Adapted/Revised Lesson xx/xx**

- 2) Peer Lesson Review and Feedback. Each fellow will review and prepare written feedback for one of your peers.
- 3) Activity Log: Maintain school activity log (weekly)
- 4) Prepare and lead at least one classroom activity during the semester.
- 5) Attend at least one of the SBAR research meetings held from 3-4 pm and write a reflection.
- 6) Interview/feedback session with your educator
- 7) Assigned Readings/discussion preparation
- 8) Final Reflection/Assignment