

Sustainable Science for Teachers

CALS 104

Instructor

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**Office Hours by Appointment*

**Please use email (not telephone) to most efficiently communicate with course instructors.*

*If you must use phone as primary means of communication, call Jerica at 735.2146 to schedule an appt during office hours.

Course Description and Objectives

In this course you will be exploring Guam's outdoor environment, designing lesson plans that meet the standards of GDOE (or other school district) and creating, orchestrating and implementing a community project all with an overarching focus of sustainability. The course outcomes are two-fold: 1) development of lesson plans and teaching associated materials and 2) the development and implementation of community based sustainability project. The lesson plans should focus on key issues/curriculum concepts identified in the syllabus calendar.

Course Expectations

This course requires time outside of the scheduled Tuesday/Thursday class time, as detailed in the course schedule. This course requires the student to be an active participant in class lectures and discussions. This course assumes each student comes with an interest in teaching and a commitment to attend all scheduled classes for the duration of the course. Since this course involves group collaboration and teamwork, it is expected that you come prepared for discussions and always respect others. Assignments are expected to be turned in on time and should reflect a considerable amount of thought and preparation. It is expected that you attend the class with a positive attitude, patience, and an excitement to develop intellectually.

Class materials will be posted online on the UOG Sea Grant website: www.uog.edu/seagrant. If you are unable to access materials via the internet, it is your responsibility to identify a method in which to acquire those materials. Please contact me with any questions or concerns.

All assignment are due on time, no late work will be accepted, no grade will be given for late work.

Grading Distribution

Attendance: Your attendance will be taken each class and will contribute to your final grade 10 pts/day

Community Development Project: You will tasked with planning and implementing a community based sustainability project. This project will be graded in several phases, the largest portion of which is dedicated to completing the project with your chosen community.

- **Sustainability Project Plan**: What is the outline for your project? What materials will you need? How will you be acquiring said materials (fund raising, donations, etc)? Who is involved in your project? Does your project address a need within the community? How does your project maintain a level of cultural sensitivity? Does the project reflect aspects of sustainability? 100 pts
- **Project Summary**: This is a maximum one-page summary of your project. 100 pts
- **Proof of Community Support**: The community is an important part of your sustainability project,

therefore you must demonstrate that your stakeholders are aware, committed, and involved in your project. This support must be defined in written format and submitted no later than March 17th. 100pts

- **Implementation of Community Plan:** Is the implementation of your project in line with your project plan? Were you well prepared? Does your project address a need within the community, etc. 300 pts

Lesson Plan Development: You will be tasked with developing a series of lesson plans (minimum) that relate directly to the topics discussed in the class. Specific grading rubrics will be handed out prior to the due date. **100 pts each**

Synthesis Session/Lesson Plan Presentation: You will be responsible for presenting lesson plan ideas to the class, in abridged format, in front of the class. These lesson plans should directly relate to the topics discussed in class as specified in the course calendar. **75 pts each**

Homework Questions: You will be asked to prepare a list of five (5) interesting questions for the presenter at our next class meeting. You will ask your questions directly to the presenter and hand them in at the end of class. **25 pts each**

Weight of Assignments:

Grading Scale Based on 100%

Attendance	300 pts	94-100 A	73-76 C
Community Development Proj	700 pts	90-93 A-	70-72 C-
Lesson Plan Development	375 pts	87-89 B+	67-69 D+
Microteaching Lesson Presen	500 pts	83-86 B	63-66 D
		80-82 B-	60-62 D-
Total Points	1575 points	77-79 C+	Below 60 F

FALL 2011

Day	Date	Topic	Description
T	1.24	Introductions/ Lesson and Project Planning	Introductions/Syllabus Teaching Science Survey What does it mean to be sustainable? Activities - Brainstorming: How can we shift to a more sustainable lifestyle on Guam. Know, Want to Know, Learned HOMEWORK: 1. BRING IN A LESSON PLAN 2. SCIENCE SURVEY (ONLINE) 3. QUESTIONS FOR PLANNING AND IMPLEMENTING
Th	1.26	Project Planning/ Content	Examples of success, guest speakers: Video Interviews What does it take to IMPLEMENT A PLAN What Does Guam Have to Offer? (Resources, Field Trips, Specialists) HOMEWORK: 1.WRITE UP FIVE (5) QUESTIONS FOR ALTERNATIVE ENERGY SPEAKER 2.REFORMULATE LESSON PLANS ACCORDING TO LP RUBRIC (DUE: 2.2)
T	1.31	Project Planning/ Content	BRAINSTORMING DAY: Work in groups to discuss and develop your Community Action Plan The Pacific and Alternative Energy Sources Guest Speaker: Center for Island Sustainability HOMEWORK: SUSTAINABILITY PROJECT PLAN (DUE 2.7)

Th	2.2	Product Generation	Synthesis Session: Develop Lesson Plans and Educational Materials (Alternative Energy in the Classroom) HOMEWORK: 1.WRITE UP FIVE (5) QUESTIONS FOR RIDGE TO REEF SPEAKER 2.LESSON PLAN IDEAS
T	2.7	Presentations/ Content	Present Synthesis Session: Develop Lesson Plans and Educational Materials (Alternative Energy in the Classroom) Guam Water Systems: Watershed vs. Aquifer The Ridge to Reef Connection HOMEWORK: 1.WRITE UP FIVE (5) QUESTIONS FOR SCIENCE AND CHAMORRO CULTURE SPEAKER 2.ALTERNATIVE ENERGY LESSON PLAN 3. SUSTAINABILITY PROJECT SUMMARY
Th	2.9	Content	Science and Chamorro Culture, Native Practices Guest Speaker: Toni Ramirez DUE: 1.ALTERNATIVE ENERGY LESSON PLANS 2. SUSTAINABILITY PROJECT SUMMARY HOMEWORK: 1.WRITE UP FIVE (5) QUESTIONS FOR SUSTAINABILITY AND MUSIC SPEAKER
T	2.14	Product Generation	Science and Chamorro Culture, Learning from our Past Guest Speaker: Ruby and Jesse HOMEWORK: 1.WRITE UP FIVE (5) QUESTIONS FOR NATIVE AND INVASIVES SPEAKER 2.LESSON PLAN IDEAS
Th	2.23	Content	Synthesis Session: Develop Lesson Plans and Educational Materials (Native Practices and Science) Native/Invasive Species Guest Speaker: DAWR Staff HOMEWORK: 1. LESSON PLAN IDEAS 2. PROOF OF COMMUNITY SUPPORT
T	2.28	Content	Present Synthesis Session: Develop Lesson Plans and Educational Materials (Native Practices and Science) DUE: PROOF OF COMMUNITY SUPPORT
Th	3.1	CHARTER DAY	NO Class - Come to Charter Day March 9 th at UOG with your class - check in at Sea Grant Booth! HOMEWORK: 1.WRITE UP FIVE (5) QUESTIONS FOR EDUCATION AND CHAMORRO CULTURE SPEAKER 2. NATIVE PRACTICES AND SCIENCE LESSON PLAN

T	3.6	Content	Education and Chamorro Culture, Developing Culturally Sensitive Materials Guest Speaker: Marilyn Salas DUE: NATIVE PRACTICES AND SCIENCE LESSON PLAN HOMEWORK: 1.WRITE UP FIVE (5) QUESTIONS FOR PACIFIC SKIES SPEAKER 2.CULTURAL SUSTAINABILITY LESSON PLAN
Th	3.8	Product Generation/ Content	Synthesis Session: Develop Lesson Plans and Educational materials (Cultural Sustainability) Understanding the Pacific Skies @ UOG Planetarium 6:15pm (Bring your kids!) Guest Speaker: Pam Eastlick DUE: CULTURAL SUSTAINABILITY LESSON PLAN HOMEWORK: LESSON PLAN IDEAS
T	3.13	SPRING BREAK	NO CLASS
Th	3.22	SPRING BREAK	NO CLASS
T	3.27	Presentations	Present Synthesis Session: Develop Lesson Plans and Educational Materials (Cultural Sustainability Lesson Plan) HOMEWORK: 1.WRITE UP FIVE (5) QUESTIONS FOR NAVIGATIONAL SCIENCES SPEAKER
Th	3.29	Content	Navigational Sciences, Teaching and Culture Guest Speaker: Manny Sikau HOMEWORK: 1.WRITE UP FIVE (5) QUESTIONS FOR RECYCLING AND COMPOSTING SPEAKER
T	4.3	Product Generation	Synthesis Session: Develop Lesson Plans and Educational Materials (Navigation) Composting and Recycling in your Classroom Guest SPEaker: Peggy Denny HOMEWORK: LESSON PLAN IDEAS
Th	4.5	Presentations	Present Synthesis Session: Develop Lesson Plans and Educational Materials (Navigation)
T	4.10	NO CLASS	EASTER BREAK
Th	4.12	NO CLASS	EASTER BREAK HOMEWORK: 1.WRITE UP FIVE (5) QUESTIONS FOR UNSUSTAINABLE WAYS SPEAKER
T	4.17	Content	Our Unsustainable Ways, The Cost of Doing Nothing Guest Speaker: Kirk Johnson DUE: NAVIGATION LESSON PLAN
W/ Th	4.19 OR 4.20	CONTENT	CENTER FOR ISLAND SUSTAINABILITY CONFERENCE
T	4.24	FINALS	FINAL PRESENTATIONS/PROJECT EVALUATION (ON SITE)
Th	4.26	FINALS	FINAL PRESENTATIONS/PROJECT EVALUATION ON SITE)