

Undergraduate Research in Teaching and Outreach in Marine Sciences

MARS 4960

Spring 2007

updated 01/05/2007

Course Description:

The purpose of this course is to introduce students with prior educational outreach and/or marine science course work to teaching and learning in a public school and/or college classroom environment. Class members working in small groups will design lessons for school aged students under the supervision of Dr. Catherine Teare Ketter. MARS 4960 students will also serve as peer mentors for MARS 3900 students who are working on outreach education for the first time. MARS 4960 students will present their lessons to groups of children in their schools and community centers. The students enrolled in MARS 4960 will design (with assistance) and implement a research project to explore an aspect of the teaching/learning process associated with the outreach experience (can be focused on the students enrolled in MARS 3900 or the public school teachers working with MARS 4960 and 3900). The goal of this project will be to generate a semester research project that can be presented a regional or national teacher education meeting in 2007 or 2008.

Principle Course Objectives:

Students enrolled in MARS 4960 will apply their knowledge of marine biology and marine science to community service through educational outreach. Working in small groups, MARS 4960 students will improve their written and oral communication skills through practice teaching prior to classroom visits. MARS 4960 students will utilize instructional technology and computer software in the design and presentation of their educational units. MARS 4960 students will learn the basic principles behind behavioral research projects, design and implement a project within the context of this course, analyze and interpret the results of the study, and present the results to the MARS 3900 students. An additional goal of this course is to be able to present the results of this study at a regional or national education meeting.

Instructors:

Dr. Catherine Teare Ketter
Room 110J, Marine Sciences Building
(706) 583-0862
cmscatk@uga.edu

Office hours: Mondays 1:00-2:00 PM and Wednesdays 2:30-3:30 PM, other times by appointment

Course Administration:

All course material will be posted as PDF files on the course web-ct page. We will use web-ct to communicate among our groups using the discussion (bulletin board "chat" feature) page to organize our small groups. If the course does not appear on you're my web-ct, you need to let me know. I can add you to web-ct manually if I have the following information (name, student ID number, and your UGA myID). I will post files using PDF, PowerPoint, and EXCEL formats. You will need to download Adobe Acrobat Reader (if you do not already have this software) in order to view the PDF files. If your home computer does not support MS Office applications or Adobe Acrobat files, you should use a UGA computer lab to access course files. Some of the files containing embedded images will be large. I don't recommend that you try to download these files from a remote (off-campus site) via a dial-up connection, you will be there all day. Use a UGA site (such as the library or the student-learning center) and save them to a zip disc or CD-R if you want to avoid the print charges.

I will also be sending out reminders regarding assignments, individual small group meetings, and organizational details using the MARS3900SP07@listserv.uga.edu address. Everyone in the course has been added

to the Listserv, so please check your email several times a week, particularly at the end of the week and at the beginning of the week. If you miss a class, I will email you concerning details you may have missed, handouts that you need to pick-up, or assignment deadlines. These dates will also be posted on the course web-ct page. It is your responsibility to make-up any missed work within one week of your absence. Information applying to the class research project can be posted on WebCT and/or by individual email.

Required Texts:

There are no assigned textbooks for this course. Handouts, chapters from books, and some research articles will be distributed to you during class, and it is your responsibility to organize and keep up with your course materials. I would suggest that you use a 3-ring notebook to organize your class materials. I will post a spreadsheet with contact information for the entire class so that you will be able to get in touch with one another to work on your projects outside of class time. The contact information will be distributed via the MARS3900 Listserv and as a PDF posted on web-ct page.

Computer/Digital Media Supplies

You also need to purchase a small **flash drive (memory stick)** by the second week of class; I recommend **256 Mb or larger**. You should be able to purchase a flash drive at Office Max, Office Depot, Target, WalMart, or one of the campus bookstores (Office Max and Office Depot generally have the lowest prices). We are in the process of scheduling formal computer lab time during the course so that you can work on your lesson plans and classroom presentations. You will need the flash drive to store your files, especially if you are downloading digital images to put into PowerPoint. Each instructional group will also need to have a blank CD and jewel case to save your final version of your instructional unit to submit as part of your course requirements.

Field Trip:

There is a field trip scheduled to the Florida State Marine Lab in St. Teresa, Florida April 12-15 OR April 26-29, 2007 (class and MARS 1020 Honors class will decide by majority vote on WebCT). Field trip participation is 10% of your course grade. You will canoe on the Wakulla River to survey local coastal plants and animals (if it is a warm spring, and we choose to go later in April, the manatees may be back), snorkel in the turtle grass beds offshore (weather permitting), collect live marine specimens for display in the teaching lab, and visit St. Joseph Peninsula State Park for a half day of snorkeling and beach fun. We will have a "snorkel" checkout prior to the trip to ensure that everyone is comfortable in the water with their equipment. Students who do not feel confident with their swimming skills are encouraged to wear life vests while on or in the water during the field trip. Details about the field trip, cost, trip list, etc. will be posted on the MARS 3900 web-ct page. This field trip will serve in place of a final exam; you will be marine science mentors to the student currently enrolled in MARS 1020 Honors who participate in the field trip.

Attendance:

Attendance is required. Class participation is 20% of your final course grade. You will be given assignments to work on during class, and your progress during class will be monitored. One class absence may be excused (with written documentation) as long as you do not miss a school visit. More information about absences and UGA student attendance policies can be found at <http://www.uga.edu/studentaffairs/index.shtml>. You have 48 hours to notify me following an absence to make-up missed work. Since class participation is a significant part of your course grade, two unexcused absences will result in a letter grade drop in your final course grade.

The class meets every Tuesday and Thursday from 12:30-1:45 PM in room 1501 of the Miller Plant Sciences Building. We will meet an additional hour each week (to be decided by the group) to work on the course research project. Depending upon when your group is scheduled for a school visit, you may need to depart from UGA prior to 12:00 so that we can travel to the school, set-up, and be ready to present your lesson. Travel to and from local schools will be provided by Marine Sciences.

Access Statement:

The University of Georgia School of Marine Programs and MARS 4960 are committed to providing access for all people with disabilities and will provide accommodations if notified in advance. If you will need large type, Braille, or audio materials, please call me (Dr. Catherine Teare Ketter, 706-583-0862, cmscatk@uga.edu) as soon as you register for the course so that I can get course materials in the appropriate format for you. Since a large component of this course involves work with public schools, we will check accessibility in advance of a school visit. Please notify me as soon as you enroll in the course if you will need a sign language interpreter, assisted listening device, or other classroom accommodations. If you would like to discuss classroom accommodations, please discuss your needs with me (706-583-0862, cmscatk@uga.edu) the first week of class. Due to the physical nature and location of the MARS 3900 Florida field trip locations, please notify me in advance of departure if you will need access accommodations. If you have any special medical and/or dietary restrictions, you will need to discuss those with me prior to the trip to ensure that you have a safe and fun field trip experience.

Incompletes:

The grade of Incomplete (I) is given to students who, for reason of accident or illness, were unable to complete a segment of the course. In no case will an Incomplete be given as a means of avoiding a failing grade.

Academic Honesty:

All academic work must meet the standards contained in "A Culture of Honesty". Each student is responsible for informing themselves about the standards contained in "A Culture of Honesty" before performing any academic work. Evidence of academic dishonesty will be turned over to the Office of the Vice President for Academic Affairs for consideration and possible action. The minimum penalty for a student found guilty of academic dishonesty is a grade of "F" in the course and a note on the student's transcript. There have been several recent changes in the academic honesty policy at the University of Georgia. This information is available on-line at <http://www.uga.edu/ovpi/honesty/acadhon.htm>. Click on the UGA Academic Honesty Policy Statement.

Changes to the Course Syllabus:

The course syllabus is a general plan for the course; deviations from the syllabus when necessary, will be announced by the instructor in class. Failure to regularly attend class may result in your being uninformed about changes in the course content or timing of assignments. Students who miss class are responsible for all announcements and assignments given in class.

Cell Phones and Other Personal Electronic Devices:

Cell phones should be turned off or placed on "silent mode" during lecture and lab class periods. Please be considerate of your fellow classmates and don't engage in cell phone conversations during class. If you receive an emergency phone call, please ask to be excused from class and conduct your conversation outside of class. Cell phones are expressly forbidden in class during exam periods. iPods and PSP (and other gaming devices) use during lecture and lab class is prohibited. It is distracting to your classmates and disrespectful to your instructor(s). We want to foster a learning environment that encourages active engagement; listening to music, playing electronic games, and text messaging during class or lab does not promote academic success.

Grades: Course grades will be determined as follows:

Class research project: 100 points

Lesson plan: 25 points from instructor/25 points from peers: 50 points

Group work: peer assessment of your contribution to other group members: 50 points

Written assignments throughout the semester: 100 points

Class research project presentation: 50 points

School visit participation: 100 points (input from supervising teacher and MARS 4960 instructor(s))

Field Trip participation: 50 points

Grades will be assigned using the following grading scheme (in accordance with UGA's new +/- grading policy):

100-97 percent - A+	500-484 points	79.4-77 percent - C+	397-385 points
96-93 percent - A	483-465 points	76-73 percent - C	384-365 points
92-89.5 percent - A-	464-448 points	72-69.5 percent - C-	364-348 points
89.4-87 percent - B+	447-435 points	69.4-67 percent - D+	347-335 points
86-83 percent - B	434-415 points	66-63 percent - D	334-315 point
82-79.5 percent - B-	414-398 points	62-59.5 percent - D-	314-298 points
		below 59.4 percent - F	297 or below

Extra Credit Options: There are opportunities to earn extra credit or additional community service credit by participating in: assisting with after-school Science Olympiad coaching in a local middle school in January and February, helping out faculty from UGA with hosting the Georgia Science Teacher Association meeting in February (details in the course WebCT page to follow), and participating in additional school visits.

Lecture Schedule and Corresponding Reading Assignments

Date	Lecture Topic	Reading Assignment	Homework Assignment
<i>Tuesday</i> January 09, 2007	Introduction to MARS 3900	Handouts: student learning styles, Cognitive development in Education, outline	Read chapter on cognitive development and bring outline with you to next class
<i>Thursday</i> January 11, 2007	Introduction to cognitive development and learning	Handouts: same as above; MARS 3900 survey	Bring completed assessment (survey) forms with you to next class
<i>Tuesday</i> January 16, 2007	Cognitive development continued	Handouts: Rosenshine article "Synthesis of research on explicit teaching"	Read Rosenshine article, write a 1-2 paragraph summary of the article for next class, list 2-3 subject areas you would like to work on for your project
<i>Thursday</i> January 18, 2007	Educational objectives & assessment: Georgia Performance Standards	Handout & Materials on web-ct; check out link to GPS on web-ct	Write two performance objectives and two content objectives for your topic and briefly outline how you would determine if the students mastered the objectives. Bring this information to the next class.
<i>Tuesday</i> January 23, 2007	Introduction to Inquiry: One instructional strategy	In-class handouts	Check WebCT page for homework assignment 01/23/2006
<i>Thursday</i> January 25, 2007	Dr. Michael Padilla, guest speaker, Director, Educational Partnerships, College of Education, University of Georgia, "Contrasting Inquiry ad Tradition Instruction"		To be announced

Date	Lecture Topic	Reading Assignment	Homework Assignment
<i>Tuesday</i> January 30, 2007	Dr. Norm Thomson, guest speaker, Science Education, University of Georgia <i>"Inquiry in the Classroom"</i>	Research article assigned to read and summarize – bring written summary to class (3 paragraphs)	To be announced
<i>Thursday</i> February 01, 2007	Structure of a lesson; Dr. John Ricketts, guest speaker, Agricultural Education, <i>"Experiential Learning"</i>	Materials posted on class web-ct page	Write a complete description of each part of a lesson (unit). Give examples from your own experience and bring it to the next class.
<i>Tuesday</i> February 06, 2007	More on educational objectives & assessment	Bring objective handouts to class	Work on writing objectives in your group for your lesson.
<i>Thursday</i> February 08, 2007	Work on rough draft of school outreach lesson plan.	Review handouts for parts of a lesson, educational objectives, and Georgia GPS for your age group	Complete rough draft of lesson plan and propose assessment/classroom activities for your lesson (unit) due in class the following week.
<i>Tuesday</i> February 13, 2007	Practice presentations (in-class) for first two groups in schools.	None	Work in group on revising lesson plan – make time and cost estimates for your lesson
<i>Thursday</i> February 15, 2007	SCHOOL VISIT		Remaining class members work in computer lab on lesson
<i>Tuesday</i> February , 20 2007	Feedback from first two groups on school visits/presentation – recommendations for later groups	None	1. Groups who have completed school visit should revise their lesson for final presentation and CD. 2. Groups scheduled for March school visits finalize lesson/unit plans and work on assessment.
<i>Thursday</i> February 22, 2007	SCHOOL VISIT		
<i>Tuesday</i> February 27, 2007	Peer review of lesson plans, strategic planning for remaining school visits – work in small groups to locate materials for final presentation	Bring lesson plans, reference materials, memory stick or empty CD to save work – we will work in the computer lab this week.	Have all materials scanned and entered into PowerPoint or Word or saved as PDF files for review following spring break
<i>Thursday</i> March 01, 2007	SCHOOL VISIT		

Date	Lecture Topic	Reading Assignment	Homework Assignment
<i>Tuesday</i> March 06, 2007	SCHOOL VISIT		
<i>Thursday</i> March 08, 2007	Practice presentations (in-class) for last three groups in schools.	None	1. Groups who have completed school visit should revise their lesson for final presentation and CD. 2. Groups scheduled for March school visits finalize lesson/unit plans and work on assessment.
<i>Tuesday</i> March 13, 2007	SPRING BREAK	SPRING BREAK	SPRING BREAK
<i>Thursday</i> March 15, 2007	SPRING BREAK	SPRING BREAK	SPRING BREAK
<i>Tuesday</i> March 20, 2007	SCHOOL VISIT		
<i>Thursday</i> March 22, 2007	SCHOOL VISIT		
<i>Tuesday</i> March 27, 2007	Discussion/development of final project peer review instrument; feedback from school visits; final project assignment Plan April field trip to FSU Marine Lab.	None	Continue to polish and complete materials for final class/course presentation in April.
<i>Thursday</i> March 29, 2007	SCHOOL VISIT		
<i>Tuesday</i> April 03, 2007	SCHOOL VISIT		
<i>Thursday</i> April 05, 2007	SCHOOL VISIT		
<i>Tuesday</i> April 10, 2007	SCHOOL VISIT		
April 12, 2007 <i>Thursday</i>	Class cancelled if group votes for this field trip date; Florida State Marine Lab field trip April 12-15, 2007 OR SCHOOL VISIT		
<i>Tuesday</i> April 17, 2007	<u>Group Presentations</u> Field Trip Snorkel Checkout; Marine Sciences Pool – TBA Attendance at snorkel checkout is mandatory!	Snorkel Safety Handout – distributed in class and on WebCT	Pack vans for field trip Wednesday, April 18 th .

Date	Lecture Topic	Reading Assignment	Homework Assignment
<i>Thursday</i> April 19, 2007	Group Presentations	Presenters prep their unit and make handouts for MARS 3900 classmates.	Presenters submit final unit materials electronically for curriculum materials CD.
<i>Tuesday</i> April 24, 2007	Group Presentations	Presenters prep their unit and make handouts for MARS 3900 classmates.	Presenters submit final unit materials electronically for curriculum materials CD.
<i>Thursday</i> April 26, 2007	Class cancelled if group votes for this field trip date; Florida State Marine Lab field trip April 26-29, 2007 OR GROUP PRESENTATIONS		
<i>Thursday</i> May 03, 2007 8:00 AM – Final Exam Period	Group Presentations MARS 4960 Research Project Presentation	Final peer evaluations (group instrument), individualized review of class work.	All units must be completed and submitted electronically or on media with hard copy.

Topics and dates will be added as the school/program visit schedule is confirmed. The course web site will be updated weekly to reflect scheduling updates. Please check at the beginning and end of each week.