Organization of Program in Secondary Science
Spring 2014 Course Syllabus and Timeline

AUBURN UNIVERSITY
SYLLABUS

Course Number: CTSE 7530 Course Title: Organization of Program in Secondary Science
Credit Hours: 3
Prerequisites: none
Corequisites: none
Class meeting times: M 5:00pm-7:50pm
Spring 2014
Date Syllabus Prepared: Spring 2014

Texts or Major Resources: Required textbook: NGSS-Can provide information as to where you can purchase or access this.
Students are required to have read any assigned readings out of this textbook in addition to the required textbook readings. A few copies of the following textbook will be placed on reserve in the LRC in the event that there are assigned readings from this textbook.
Supplemental textbook: Science Instruction in the Middle and Secondary Schools- 5th or 6th edition by Chiapetta and Koballa (2006). I will try to put the 5th edition on reserve and give the corresponding chapters to the 6th edition so that there is more than 1 copy on reserve.

*Additional readings on various programs in science education and related topics will be disseminated during class meeting dates.

Science Education Standards:

Alabama Course of Study: Science. Download and print off ALL sections except grades K-5 sections. You will only need grades 6-12 from the course of study.
http://www.alsde.edu/html/sections/documents.asp?section=54&sort=7&footer=sections
Please note new objectives will be out in sometime soon but we will work from the previous objectives until then.

Next Generation Science Education Standards/Conceptual Framework

Course Description: Program model components and standards in science education.
Various articles and readings will be disseminated and are considered required reading to prepare you for the material that will be covered in class.

*Please Note: This document is subject to minor amendments and we might need to adjust the schedule as we move through the summer semester, adjusting the pace for the readings and inserting into the agenda additional resources that may become appropriate. Pay close attention to assignment dates.

Course Objectives: This course is designed to teach you how to interpret and apply the Program Standards from the Next Generation Science Standards (NGSS) through exemplary curriculum resources and professional experiences. The material learned in this course can be integrated within your text-based curriculum and secondary subject area, middle or high school. Featured curricula will also emphasize student inquiry in learning and applying science like scientists. Much of the curricula will also focus on the study of environmental issues and problems as well as Science, Technology, and Society-STS contexts and applications of science.

To provide opportunities so that students will demonstrate:

1. Knowledge of the roles and responsibilities of members of different types of teams including, but not limited to, Building Based Student Support Teams. 290-3-3-.04(5)(c)1.(ii)
2. Knowledge of a range of professional learning opportunities, including job-embedded learning, district and state-sponsored workshops, university offerings, and on-line distance learning. 290-3-3-.04(5)(c)2.(ii)
3. Ability to articulate and reflect on a personal philosophy and its relationship to teaching practice and professional learning choices and commitment. 290-3-3-.04(5)(c)2.(iv)

We will use the frameworks provided by the National Science Education Standards **(p. 224 – See Table 1 below)** as a description for applying Program Standards (A-F) to our science courses and school programs.

In this course you will provide evidence for learning to:

1. Knowledge of the roles and responsibilities of members of different types of teams including, but not limited to, Building Based Student Support Teams. 290-3-3-.04 (5)(c)1.(ii)
2. Ability to articulate and reflect on a personal philosophy and its relationship to teaching practice and professional learning choices and commitment. 290-3-3-.04(5)(c)2.(iv)
3. Knowledge of a range of professional learning opportunities, including job-embedded learning, district and state-sponsored workshops, university offerings, and on-line distance learning. 290-3-3-.04(5)(c)2.(ii)
4. Utilize curricula that support the **National Science Education Content and Program Standards** across grade levels (e.g., life science and earth science) and disciplines (e.g. science and math) through use of inquiry-based approaches.
5. Connect science to community and student interests through application to social scientific issues and engineering.
6. Continue professional growth, collaboration, and networking through attending the state science teachers' conference.

Course Content and schedule:
Please note that this class meets every Monday 5:00pm-7:50pm. All class meeting dates are considered mandatory. Students will also be required to participate in online discussions/assignments which may occur during class meeting dates. Attendance is considered mandatory and all absences must be in accordance to the Tiger Cub policy for excused absences and all absences excused or unexcused are still at the discretion of the professor of the course.

*__Please note that additional readings and material will be disseminated and covered on the dates listed below even though they may not be included under the weekly agenda. Articles or readings will be passed or assigned no less than one week prior to the week that they will be discussed.__
Tentative schedule: Please keep in mind that we may have to adjust the pace of the course periodically.

Monday January 13:	Introduction to course/review of syllabus-
Monday January 20	**Dr. MLK Jr. Holiday-No class**
Monday January 27	Discussion on pedagogical strategies in science education. Assigned reading (TBA)
Monday Feb. 3	Programs in Science Education
Monday Feb 10	Programs in Science Education Assigned Article Review due
Monday Feb. 17	Programs in Science Education Microteaching Assigned reading TBA
Monday Feb. 24	Midterm
Monday March 3	Strategies in Science Teaching Equity in Science Teaching
Monday March 10-14	Spring break-No class
Monday March 17	Programs in Science Education Assigned Article review due
Monday March 24	Research Programs in Science Education
Monday March 31	Strategies in Science Teaching Equity in Science Teaching
April 7	Strategies in Science Teaching Equity in Science Teaching
April 14	Strategies in Science Teaching
April 21	Last day of class Strategies in Science Teaching

Please note the following:

Jan. 15-29	Dropping a course during these days will result in a $100 Drop Fee per course dropped.	(Wed - Wed)
Jan. 29	15th Class Day - Last day to drop from course with no grade assignment. - Last day for potential tuition refund for dropped classes.	
Feb. 27	Mid-Semester (36th Class Day)	(Thurs)

- Last day to withdraw from course with no grade penalty. "W" assigned.

- Student deadline for request to move finals

Apr. 25	Classes End	(Fri)
Apr. 26-27	Study/Reading Days	(Sat - Sun)
Apr. 28 - May 2	Final Exam Period	(Mon - Fri)
May 3-4	Graduation	(Sat-Sun)

***Final exam date-See Final Exam schedule**

Course Requirements:

A. Attend and participate in all class sessions
B. Complete mid-term and final exams
C. Complete additional reading and writing assignments

Cultural Diversity

"I don't care that you know. I want to know that you care"
Author Unknown

This course reflects the College of Education's commitment to cultural diversity. The goal of the professional education program at Auburn University is to prepare outstanding educators who are competent, capable, and caring in complex, diverse educational arenas. Such individuals are

- Effective in their roles as culturally responsive teachers, designing and implementing sound meaningful and balanced instruction with the full range of learners.
- Effective as they assist learners in their comprehension of issues surrounding diversity; and
- Effective in their contributions of thoughtful and informed discourse to their own educational communities as they work to build equitable and supportive environments learners.

Expectations

In this course I expect you to:

- Reflect critically on all experiences and readings.
- Be prompt and in attendance at all course sessions.
- Demonstrate critical reflection through discussion, writing and course assignments.
- Complete assignments to the best of your ability.
- Communicate expectations and ideas.
- Recognize and validate the values of other class members.

Course Requirements/Evaluation:

This class is intended to be both interactive and collaborative. You are expected to come to class prepared to discuss assignments. We may also designate small groups during the initial class session, and you will spend some time doing group work. Learning is most effective when we fully participate in the process of constructing knowledge. In this course it is my expectation that everyone actively participate. Participation starts with preparation. It is my expectation that each class participant will be fully prepared for each day by having read the assigned materials and completed other work requested and required. In the event that you are not prepared to discuss the assigned readings and facilitate group activities the professor reserves the right to deduct 5 points from your final grade for each class meeting that you are not prepared.

General grading rubric for assignments

100%: beyond the call of duty; strikingly impressive; excellent in every way
90%: both complete and showing evidence of original, active, critical thought
80%: all specified aspects of assignments minimally completed
<80% one or more aspects of assignments missing or unacceptable

Grading Scale:

A	92%-100%
B	80%-91%
C	70%-79%
D	60%-69%
F	<60

Course Evaluation

Your final course grade will be based on the following:

Assignments	Points
Required	
1. Unannounced pop quizzes (4 at 5 points each)	20
2. Midterm exam	30
3. Final exam	30
4. Article reviews or assigned readings 2 at 5 points each	10
5. Microteaching (1)	10

** Please note any incomplete assignments or assignments not typed up in the proper format will not be accepted. All papers must be in 12 font, Times New Roman, and double-spaced.
All submitted work should be typed and neatly arranged. NO creative margins. Please start all assignments at the very top of the first page and put your name, assignment, and date on the very last page.

Some examples of Featured Curriculum, Programs, and Professional Development:

Great Explorations in Science and Math (GEMS) Curriculum – Grades 6-9
http://www.lawrencehallofscience.org/gems/GEMS.html

Alabama Math, Science, and Technology Initiative (AMSTI)

WISE program (Web-based Inquiry Science Environment)

Project Wet

Project Wild

Gizmos

Edhead.org

Probe-Ware Laboratory Exercises – Grades 6-12 – Equipment and Texts in LRC – http://www.vernier.com/

Alabama (Auburn) Science in Motion Program – Grades 10-12 – (on-line): http://www.auburn.edu/ausim/

Alabama Water Watch Program – Grades 6-12 – (on-line): http://www.alabamawaterwatch.org

Cornell Environmental Inquiry Program – Grades 9-12 – (on-line): http://ei.cornell.edu ;
college students "practice" on-line: http://ei.ed.psu.edu/CPR/

Population Connection – Grades 6-12 – http://www.populationconnection.org/

Class Policy Statements:
Academic Honesty
Any questions related to academic honesty will be subject to the Policy on Academic Honesty as stated in the Tiger cub and Auburn University Bulletin.

Attendance
Attendance/Absences: Attendance is required at each class meeting. If an exam is missed, a make-up exam will be given only for University-approved excuses as outlined in the Tiger Cub. Arrangement to take the make-up exam

must be made in advance. Students who miss an exam because of illness need a doctor's statement for verification of sickness and should clear the absence with the instructor the day they return to class. Other unavoidable absences from campus must be documented and cleared with the instructor in advance.

*Attendance is mandatory and participation is paramount for success in this class. You are responsible for attending all class sessions.
Any absence not in accordance with AU Tiger Cub absence policies is considered unexcused and may result in a five point reduction (per absence) from the earned actual final grade (at the discretion of the professor for this course only). Should an extended illness or family emergency arise please notify your instructors as soon as possible. Medical and legal documentation must be provided within 7 days of the absence or it will be considered and unexcused absence. Students are still required to contact their professor in advance of an absence or soon thereafter, in the event of an emergency. Please follow the AU Tiger Cub for guidelines as to what qualifies as an excused absences based on AU policy. In the event of a medical emergency (or something pretty close to it) please make every effort to notify me in advance (prior to the class meeting). In that event, you are required to contact the instructor personally in advance for the absence via e-mail, telephone, or leave a message with the administrative asst. (Elaine Prust 844-4434) of the Dept. of Curriculum and Teaching, if you are unable to contact me personally.

*Please arrive at each class on time (6:00 pm) and be prepared to discuss and respond to issues and topics covered in the class. Excessive tardiness will not be accepted and two tardies (more than 10 minutes late) will be considered as one absence and will result in a 5 point deduction from your final grade. Moreover, late students may not be permitted to enter class and may be counted as an unexcused absence at the discretion of the professor of the course.

*If you miss a class, you are still required to turn in the assignments on time for full credit. Please contact me prior to turning in your assignment via e-mail as an attachment only. NO assignments will be accepted late at anytime. In the event that you are have an excused absence in accordance with AU's excused absence policy all assignments must be turned in no later than 3 days after the date you miss class.
Preferably, unless you have a medical emergency make every effort to turn assignments in on the date that they are due even if you have an excused absence.

Policies and Procedures
Confidentiality is essential in this course. Any assignments, discussions, cases or episodes are not to be shared outside of this class.

Late/remedial work policy
If you miss a weekly class, you are still required to turn in the assignments on time for full credit. NO late assignments will be accepted. All assignments are due at the start of each class meeting on the date they are scheduled.

Participation: Students are expected to participate in all class discussions and participate in all exercises. It is the student's responsibility to contact the instructor if assignment deadlines are not met. Students are responsible for initiating arrangements for missed work.

Unannounced quizzes: There will be at least 4 unannounced quizzes.

Honesty Code: The University Academic Honesty Code and the Tiger Cub Rules and Regulations pertaining to Cheating will apply to this class.

Professionalism: As faculty, staff, and students interact in professional settings, they are expected to demonstrate professional behaviors as defined in the College's conceptual framework. These professional commitments or dispositions are listed below:

- Engage in responsible and ethical professional practices
- Contribute to collaborative learning communities
- Demonstrate a commitment to diversity
- Model and nurture intellectual vitality

*Please note that lack of professionalism in this course will not be tolerated. This includes making any derogatory of negative comments with regards to the course and its course contents, students, or the instructor of the course which can be deemed as unprofessional and will be duly noted and reported to the appropriate administration.

Accommodations: Students who need accommodations are asked to arrange a meeting during office hours the first week of classes, or as soon as possible if accommodations are needed immediately. If you have a conflict with my office hours, an alternative time can be arranged. To set up this meeting, please contact me by e-mail. Bring a copy of your Accommodation Memo and an Instructor Verification Form to the meeting. If you do not have an

Accommodation Memo but need accommodations, make an appointment with the Program for Students with Disabilities at 1244 Haley Center, 844-2096 (V/TT).

Name:
Date:
Course:
Number of Students:

A. Alabama course of study objectives (ALCOS)
B. Next Generation Science Standards
C. Goals of the lessons
D. Objectives of the lesson (3-5) must be behavioral objectives
E. Materials and resources
F. Safety accommodations
G. Special needs accommodations
H. Motivation/Engage @5-10 minutes (must be engaging and can not be bellwork, quizzes, lecture notes, etc.)
I. Lesson Procedure (must be detailed and include all transitions from one activity to the next)
J. Closure (can not be merely doing a homework assignment)
K. Evaluation/Assessment (each lesson should include some type of evaluation)
L. Extension (should not be assigning students to merely begin their homework assignment).

In addition, all lesson plans must include time limits and transitions to facilitate the lesson and make sure that it runs as smoothly as possible.

Microteaching/Inquiry-based demonstration"Teach-a-Lesson" (1presentation at 10 points-Due)

You will perform an inquiry based demonstration which actually "teaches something" to the class. This mini-lesson is an opportunity for you to micro teach to your colleagues and receive constructive feedback. You are expected to be creative and the lesson must be interactive. The microteaching lesson may address any topic. Make sure that the portion presented is very hands-on and interactive. In essence, the lesson plan should be designed to effectively "teach something" to the class in no more than 10 minutes. Therefore you must plan appropriately and determine what knowledge/principle, etc. is critical for the learners involved and the most effective way to convey the primary goals of the lesson. ***The lesson will be timed and a sign-up sheet will be provided.*** *No exceptions or late presentations will be accepted). A* rubric will be provided. Students will have 10 minutes for the mini-lesson.

Microteaching/mini lessons rubric:
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Teach-a-lesson/Mini-Lesson
10
Each category is worth 1 point.
Name_____

1. Exhibits confidence in subject matter._____
2. Focuses students immediately before performing demonstration._____
3. Demonstration works effectively in producing phenomenon desired._____
4. Explains to students by showing._____
5. Demonstrates the ability to interest students._____
6. Uses questions to stimulate inquiry._____
7. Shows enthusiasm._____
8. Asks students to share their observations._____
9. Alerts students to essential learning._____
10. Closes with a question or summary to encourage students to reflect on what they learned and concludes demonstration with a link to the content objective of study._____

Total_____

Article Reviews or Assigned readings guidelines:

Students will be provided assigned readings or select articles where they will be required to write a 2 page minimum (3 page maximum) reflection. Guiding questions will be provided with each assigned reading. Questions for each assigned reading are as follows and each question is worth 2 points each.

1. Which three items surprised you the most about the assigned reading?
2. What did the piece tell you that you already knew?
3. What did the piece tell you that you did not already know?
4. What implications does this article have for teaching students?
5. What was the most memorable part of this piece/ or what impacted you the most in this reading?