**CTEE 7430/7436: CURRICULUM & TEACHING IN NATURAL SCIENCE**

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| **Macintosh HD:private:var:folders:gy:rwsl8rzj7jdfnlh2_7km3x4nzv3l6d:T:TemporaryItems:shopping-2.jpg** | **Instructor:** Dr. L. Octavia Tripp**Office:** Haley 5016**Office Hours:** By appointment/**Google Hangout** **Phone:** 334-844-6799**Cell:**  678.983.2611**E-mail:** tripplo@auburn.edu **Class Time:** TBD **Credit Hours** 3 semester hours  | **Macintosh HD:private:var:folders:gy:rwsl8rzj7jdfnlh2_7km3x4nzv3l6d:T:TemporaryItems:search.jpg** |

**Texts or Major Resources**:

* The text that we will be using this summer is Essential Environment: The Science Behind the Stories by Jay Withgott and Matthew Laposata. Pearson Publishers - ISBN: 13: 978-0-321-98457-9, 5th Edition
* Science Materials – See Materials file on Canvas.
1. **Course Description:** The learning goal of this course is for participants to better understand environmental science content, increase knowledge of the environment and to support learning and teaching children in grades K-6. Today we are living long enriched lives with astonishing technologies, in societies that are more free, just, and equal than ever before. More than ever before, the future of our society rests with how we treat the world around us. Environmental science gives us a big picture of understanding the world and our place within it. Today's students will shape tomorrow's world. Therefore it is up to us (educators) to help the future generations to understand our relationship with the world's vital resources because we depend on our environment for food, shelter, air, water, and everything essential for living. This course will provide background knowledge, creative ideas and a fresh perspective to support K-6 students to live better, have better health, enriched lives, and viable mobility. By doing this we will be helping to build a society that will survive and thrive in the long term.
2. **Student Learning Outcomes**:

The learning goal of this course is for participants to better understand environment science content and how children learn it for teaching grades K-6. Environment science is the least understood area of science by elementary educators, and thus, requires the most professional development. Therefore, this course requires a **minimum of 3-4 hours per week** of work to complete.

Course Objectives:

Participants will…

* Demonstrate improvement in environmental science content knowledge and understanding.
* Reflect on science content learning and children’s understandings.
* Apply content knowledge to teaching environmental science concepts in practice.

1. **Course Content Outline**:

OVERVIEW

Participants will learn the Environmental Science content needed by K-6 educators, and how to teach it for children’s understanding. The program of study used in this course will be the provided through a variety of readings, activities, and case studies.

 There will be further learning from video sessions and through additional individual ‘homework’ activities completed between video sessions, including additional reading, case studies, textbook reading, and written reflections on science learning and actual practice (journal and posting activities). All assignments for each of the video sessions will be completed on Canvas as a reflection.

Auburn University’s **Canvas** online system will be used for communicating and submitting course work in this distance course. Class communication will occur through use of Google Hangout. Therefore you will need to create a Google account if you do not have one and provide your Google information to the instructor so that you will be placed in the Google circle of students for CTEE 7430/36. Instructor communication will occur through the scheduled group meeting(s) using th*e Google hangout* feature, *Announcements* feature, *Discussion* feature, as well as written feedback on all submitted work. Weekly assignments found in each Module will be completed online and submitted to Canvas by the deadlines given. Students’ scores will be posted and automatically populate the student *Grades* spreadsheet with ongoing course grade average. Students can contact the instructor via Canvas or university email or telephone at any time for additional assistance.

VIDEO SESSIONS

Participants will keep an individual **notebook** (word document[[1]](#footnote-1)) of their video session notes that will include responses, reflections, and answer to focus questions. Most videos will be part of the discussion board. You should keep a word document notebook of your notes, comments and reflections to be submitted as part of the requirement for the course. You may be asked to include a drawing of illustration to further explain science concepts.

Course Schedule and Assignments

The dates listed below on the schedule denotes the weeks in the course.

**(#Exact calendar due dates for weekly assignments will be found on Canvas)**

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| --- | --- | --- | --- |
| **#**Date | Sessions | Discussion & Relevant Information | Assignments |
| Week 1May 18 |  Course Overview | Discussion # 1: Introductions | Google account information due for Google Hang Out. |
| Week 2May 18 | -Chapter 1 - Science and Sustainability. | Discussion #2 - Video | Assignment #1 See CanvasRead Chapter 2 |
| Week 3May 25 | Chapter 2 - Environmental Systems | **Google Hangout - *May 27, 2015 @ 5:45 pm CDT***Discussion #3 – Environmental Policy | Assignment #2: Testing your comprehension Read chapter 5 |
| Week 4June 1 | Chapter 5 – Economics, Policy, & Sustainable Development | Discussion # 4 | Assignment # 3 – Page 114 – Complete the Calculating Ecological FootprintsRead Chapter 6 |
| Week 5June 8 | Chapter 6 – Human Population | **Google Hangout *– June 10, 2015 5:45 CDT***Discussion #4 | Assignment # 4 Lesson Plan |
| Week 6June 15 | Chapter 7 – Future of Food | Discussion # 5 | Assignment # 5 – Case Study and the science behind the story. Read Chapter 9 |
| Week 7June 22 | Chapter 9 – Forests and Protected Areas | **Google Hangout – *June 24, 2015 @ 5:45 pm CDT*****\*\*Be prepared to discuss questions 1-5** Page 203, Testing your comprehension\*\* | Assignment # 6 Calculating Ecological Footprints and questionsRead Chapter 10 |
| Week 8 June29 | Chapter 10 – Environmental Health | Discussion # 6 | Read Chapter 12 |
| **Mid-Term** |  | **Science Test Questions** |  |
| Week 9July 6 | Chapter 12 – Fresh Water | No Discussion | Assignment # 7Read Chapter 13  |
| Week 10July13 | Chapter 13 - Air Quality | Discussion #7  | Assignment # 8Read Chapter 14 Or Chapter 17 |
| Week 11July 20 | Chapter 17 – Managing Our Waste | ***GOOGLE HANGOUT (TBD)***Discussion # 8  | Assignment# 9 |
| Week 12July 27 | Chapter 18 |  |  |
| **End-Term** | July 31, 2015 | **Final Project**  | **Due July 30, 2015** |

**Assignments/Projects**:

* **Notebook –** Participants will keep a notebook (word document) for each video session’s required work including: (1) documentation of *the video* and responses, (2) *Watch the Video* questions and responses.
* **Homework** – Participants will complete homework assignments (word document) for each session’s required work including: (1) *Reading Assignment* (for READING ONLY), (2) *Comprehension Questions* (3) *Case Study Reflections*, (4) Seeking Solutions and (5) *Calculating Ecological Footprints* activity response.
* **Discussion Science Posting –** Participants will post their response to question(s) given for noted video sessions, and be able to view their peers’ postings for response once they have posted to Canvas. Participants are expected to reply to at least two of their peers’ postings after the posting deadline but within two days using the 2+2 format ( see canvas files)
* **Science Test Questions –** Participants will complete test question during mid-way of the course. Questions will be opened on canvas a week before due date and will be due for completion a week after due date.
* **Google Hangout –** Several times during the course we will use Google Hangout as a means of class participation. The dates and times of the hangout will be scheduled and will last approximately 30 – 45 minutes depending on the discussion. At no time will the Hangout ever go past an hour unless some students want to remain longer to talk with the instructor.
* **Final Project -** A detailed Environmental Science unit for any grade K-6 will culminate the course CTEE7430/7436 (see Handout)
* **Additional Paper for Ed.S. and Ph.D. students** must be completed for course credit – See Dr. Tripp for details.

See **Class Policy Statements** below on point and grade penalties for late work, unexcused absences, and lack of Standard English usage and conventions.

All assignments must be completed for a participant to receive credit for this course, even if late and at a point loss. Students who do not complete/submit all required work will receive an incomplete (I) for a grade until completed.

1. **Rubrics and Grading Scale**:

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| --- | --- |
| Assignments and Point Values | Total Points Grading Scale |
| * **Video Session Notebook** (8 @ 30 points each) -------------------------- 240 points
* **Assignments** (9 @ 20 points each)------------------------- 180 points
* **Case Study Scientific Method** (2 @ 10 points each)----20 points
* **Science Test Questions** (1 @ 100 points each)---------100 points
* **Discussion Posts** (8@ 5 points each)-----------------------40 points
* **Google Hang Out** (5 total)------------- -----------------------Required
* **Final Project ---------------------------------------------------**100 points
* *Additional Paper for Ed.S. & Ph.D. majors* -------------------Required
 | 520-670= A469-519= B418-468= C367-417= D<366 = F |

Scoring Rubrics –

 Notebook

**A range** = all assigned activities and exercises are documented; responses- answer all of the questions and sub-questions given; reading responses refer to details from the article in a substantial paragraph; video responses link to specific details and examples from the video; group exercises show high levels of shared thinking, not copying; drawings are well done; photo images and data tables (numbers) of all experimental activities are included; exercises are clearly organized, neat, and easy to read

B range = most assigned activities and exercises are documented; responses mostly answer the questions; reading responses refer to details from the article in a few sentences; video responses link to some specific details and examples from video; group exercises show shared thinking, not copying; drawings are done; some photo images and data tables (numbers) of experimental activities are included; exercises are organized, somewhat neat, and easy to read

C range = most assigned activities and exercises are documented; responses skirt answering some questions; reading responses refer to few if any details from the article in a few sentences; video responses link to few if any specific details and examples from video; group exercises show some shared thinking; few to no drawings are done; photo images and data tables (numbers) of experiments may not be included; exercises are somewhat organized, neat, and readable

D range = some assigned activities and exercises are documented; few responses directly answer the questions; reading responses refer to few if any details from the article in a few sentences or less; video responses link to few or no specific details and examples from the video; group exercises show little to no shared thinking; few to no drawings; photo images and data tables (numbers) from experiments may not be included; exercises are little organized, not neat, and not very readable

[F range = falls below the standard of the D range]

 Homework

**A range** = all assigned sections of homework are completed; all questions/sub-questions are addressed; problem set shows original thinking with clearly marked additions/changes; guided journal entries demonstrate strong content and video-lesson understanding with ample examples (one-half page, 1.0 spacing); definitions are very complete with examples given; preparing ideas are very logical (make sense)

B range = all assigned sections of homework are completed; most questions/sub-questions are addressed; problem set shows original thinking with some marked additions/changes; guided journal entries demonstrate good content and video-lesson understanding with some examples; definitions are complete but with few or no examples; preparing ideas mostly are logical (make sense)

C range = most assigned sections of homework are completed; most questions/sub-questions are addressed; problem set shows some original thinking with few to no marked additions/changes; guided journal entries demonstrate some content and video-lesson understanding with few to no examples (too short); many definitions are incomplete and with few or no examples; preparing ideas are illogical (don’t make sense)

D range = half to most assigned sections of homework are completed; most questions/sub-questions are not addressed; problem set if present shows little original thinking with few to no marked additions/changes; guided journal entries demonstrate little content and video-lesson understanding with few to no examples (too short); many definitions are incomplete and with few or no examples; preparing ideas are illogical (don’t make sense)

[F range = falls below the standard of the D range]

Case Study Scientific Method

**A range** = adequately addresses the given question(s) or issue in a full frame shot; demonstrates very strong connections between knowledge and practice with ample classroom examples; incorporates accurate content knowledge; develops strategies or lessons that *certainly* ‘can work’ based on knowledge of practice; attaches sample lesson plans where requested; **responds to two or more other posts\***

B range = adequately addresses the given question(s) or issue in a full frame shot; demonstrates strong connections between knowledge and practice with some classroom examples; incorporates mostly accurate content knowledge; develops strategies or lessons that *likely* ‘can work’ based on knowledge of practice; possible attachment of sample lesson plan when requested; **responds to one or two other posts\***

C range = mostly addresses the given question(s) or issue in less than a full frame shot; demonstrates moderate connections between knowledge and practice with few classroom examples; incorporates some accurate content knowledge; develops strategies or lessons that *maybe* ‘can work’ based on knowledge of practice; no attachments; **responds to no or one other posts\***

D range = somewhat addresses the given question(s) or issue in less than a full frame shot; demonstrates weak connections between knowledge and practice with few or no classroom examples; incorporates little accurate content knowledge; develops strategies or lessons that *unlikely* ‘can work’ based on knowledge of practice; no attachments; **responds to no or one other posts\***

[F range = falls below the standard of the D range]

*\*Discussion Postings must be made within two days after initial posting deadline. Initial postings should end with a brief reflection on thinking, practice, or request for assistance in thinking or practice.*

Science Test Questions

Test questions are based upon points where the question is thoroughly responded using sentences; responses highly relate to questions asked; gives specific examples in all open-ended questions.

Google Hangout

Teacher observation and roll check (required unless discussed with instructor)

Final Project

The final project is based on the point criteria given in the assignment.

**Additional Paper – FOR ED.S. AND PH.D. STUDENTS ONLY**

Papers will be scored as *high pass, pass, low pass,* or *fail*.

Students must score at least a low pass to pass this additional requirement and to pass the course, CTEE 7430/6. All reading and research-based writing should be in APA format, particularly for citations and references.

1. **Class Policy Statements**:

Standard English: All written assignments must be typed and should adhere to Standard English usage and conventions or be subject to point loss. Assignments with excessive grammatical errors or typos must be redone. Writing should follow *APA Sixth Edition* conventions.

The ***Miller Writing Center*** provides free support on any writing you are doing while at Auburn, whether for a course or not. Trained consultants are available to work with you as you plan, draft, and revise your writing. For students in distance courses and students temporarily away from Auburn’s campus, the Miller Writing Center offers synchronous online consultations. Please check the Miller Writing Center website ([www.auburn.edu/writingcenter](http://www.auburn.edu/writingcenter) ) for instructions and information about scheduling online appointments. If you have questions about the Miller Writing Center, please email writctr@auburn.edu or call 334-844-7475 M-F 7:45am-4: 45pm.

Distance Learning Equipment: Participants must have the appropriate and working computer hardware, headset, software, and Internet connection for this course. Personal equipment failure (not Canvas) is NOT an excuse for meeting absences and late assignments.

Attendance: **Attendance at scheduled group synchronous meetings is required**, as detailed in the syllabus schedule. Students are expected to complete all assigned work and meet all submission deadlines, and will be held responsible for any content covered in event of illness. **Unexcused absences from synchronous group meetings are not allowed without penalty.** Group-based work will not be scored for an unexcused absence. **Three unexcused absences from synchronous meetings will mean a failing course grade**.

Excused Absences: Documented excuses (See *Student Policy eHandbook* – [www.auburn.edu/studentpolicies](http://www.auburn.edu/studentpolicies) ) are due to the instructor no more than 7 days after the absence, or it is unexcused. Students are granted university-approved excuses for the following reasons: Illness of the student or serious illness of a member of the student’s immediate family, the death of a member of the student’s immediate family, trips for student organizations sponsored by an academic unit, trips for university classes, trips for participation in intercollegiate athletic events, subpoena for a court appearance, and religious holidays. Students who wish to have an excuse from class for any other reason must contact the instructor in advance to request permission – such as for professional/job/work reasons. The instructor will weigh the merits of the request and render a decision.

Make-Up Policy: Arrangement to make up missed work due to properly authorized excused absences, except in unusual circumstances such as continued absence or the advent of university holidays, must be initiated within one week (7 days) of the end of the period of the excused absence. **Assignments if submitted late without excuse or prior permission will lose a letter grade (in points) for each day late up to three days.** {See exception above for unexcused absences from meetings.} Points earned for each assignment will be posted under the Grades menu on Canvas.

Academic Honesty Policy: The University Academic Honesty Code and the *Student Policy eHandbook (*[*www.auburn.edu/studentpolicies*](http://www.auburn.edu/studentpolicies)*)* Rules and Regulations pertaining to Cheating will apply to this class. Students are expected to submit their own work in their own words except where they acknowledge the contribution of another student, such as on group-shared research information or experimental data. **All submitted assignments are subject to a plagiarism check**. Plagiarized work will not be scored. Further penalties per the above Code apply. **See attached statement required with pre and post questions in this course.**

Disability Accommodations: Students who need accommodations are asked to electronically submit their approved accommodations through AU Access and 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 alternate time can be arranged. To set up this meeting, please contact me by e-mail. If you have not established accommodations through the Office of Accessibility, but need accommodations, make an appointment with the Office of Accessibility, 1228 Haley Center, 844-2096 (V/TT)."

Course contingency: If normal class and/or lab activities are disrupted due to illness, emergency, or crisis situation, the syllabus and other course plans and assignments

may be modified to allow completion of the course. If this occurs, an addendum to your syllabus and/or course assignments will replace the original materials.

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

Appendix A

PRE/POST SCIENCE TEST QUESTIONS

**STATEMENT OF ORIGINAL WORK**

I \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (fill in complete name) have completed these questions to the best of my ability without outside assistance from persons or additional materials or information. The written work on these questions is originally my own thinking and knowledge.

In addition, I understand the Auburn University Student Academic Honesty Code (See [www.auburn.edu/studentpolicies](http://www.auburn.edu/studentpolicies)) and the consequences if I violate these expectations.

Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*[Sign and date this form before scanning into a pdf file for uploading to Canvas.]*

***SEE Attendance, Make-up, and Academic Honesty Policies in the syllabus***.

1. When drawings are requested, they can be inserted into the document that is submitted on canvas [↑](#footnote-ref-1)