**CTEE 4030: Natural Science Fall 2017**

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|  | **Class Time:** Tuesday 8:00 – 9:50 am**Class Location:** Haley Center 2414**Credit Hours**: 3 semester hours **Prerequisites:** Admission to Teacher Education |  |

**Instructor:** Dr. L. Octavia Tripp

**Office:** 5016 Haley Center

**Phone:** 334.844.6799

**Email:** tripplo@auburn.edu

**Office Hours:** Wednesday – By Appointment Only

Thursday – 1:00 – 4:00 pm

**Requirements for Course:**

 Koch, Janice. (2013). Science Stories: Science Methods for Elementary and Middle School Teachers. 6th Edition. Cengage Learning, Belmont CA. IBN: 978-1-305-96072-5

Recommended/Optional

Membership:

National Science Teachers Association (NSTA) Membership required

**Notes for consideration by the instructor:**

***Changes in the syllabus: The instructor has the privilege and right to make necessary changes to the course outline in order to provide the best possible teaching and learning situation for students in 4030.***

***All assignments are not listed on the syllabus. As with any teachable moment, the instructor may assign an assignment that will enhance the instruction of a concept.***

***All discussions will be preceded by questions and concluded with a quiz if necessary. Be prepared for these based on your readings and discussion of the course material.***

***You will be allowed to make up work if you have an excuse or if you have discussed the issue with the instructor.***

**Course Description**

This course explores teaching science as inquiry. It introduces preservice teachers to science content, teaching strategies, and inquiry activities, In addition the course will engage students in learning how temperament styles, teaching styles, and learning styles are essential to having successful student learning. National Science Standards and Alabama Course of Study Standards are infused in each lesson to provide students with a useful framework for making instructional decisions.

**Course Objectives**

* Demonstrate the ability to use a variety of resources and instructional strategies in planning and teaching inquiry based hands-on elementary science lessons consistent with the Alabama Course of Study.
* Demonstrate the ability to design and implement authentic assessment strategies for science knowledge and skills.
* Demonstrate the ability to use computer technology to access information for planning lessons, to communicate via e-mail, and to integrate into the elementary science curriculum.
* Demonstrate an understanding of environmental education and the ability to use community agency resources in planning and implementing an environmental lesson.
* Demonstrate an understanding of how temperament styles, teaching styles and learning styles are connected in teaching science.
* Demonstrate an effective way of helping students learn to construct their own understanding by connecting their many ideas into concepts, attitudes, and skills.

**COURSE SCHEDULE – See Canvas**

**COURSE REQUIREMENTS**

**Class Attendance:** Class attendance is required. Arriving late, leaving early, or missing a class will result in lowering your grade.

**Assignments:** All written assignments must be typed and should adhere to Standard English usage and conventions. Assignments must be presented on time. Two points will reduce late assignments for each day they are late.

**Science Philosophy Statement** – Canvas Files

**Class Participation** – Involves readings and discussion in class.

**Science Autobiography** – Canvas Files

**Lesson Plans:** Lesson plans should follow the format included in Lab Placement Manual. You create 2 lesson plans. One of the lesson plans must include integration of another content area. Lesson Plans must follow format given in the field experience manual.

**Science Reflective Video Lesson (35)**

You are to do a **Science Reflective Video Lesson** of which you willvideo yourself while teaching a whole group lesson. This will provide for you a thoughtful self-reflection, accurate analysis, educative dialogue, and professional growth and development as a preservice teacher. For the taping, you will demonstrate various behaviors, methodologies, and pedagogies. Videotaped lessons must be of good visual and audio quality.

After reviewing the video, you are to prepare a written reflective and critical analysis of the taped teaching performance using a set of guided reflective questions and prompts from the **Video Critique Guide** below. Your written reflective analysis should 4 pages in length and you must include a copy of the lesson plan for the videotaped science lesson.

*VIDEO CRITIQUE GUIDE*

1. Comment on the quality of the videotape. Does it show what you wanted it to show?
2. Why did you choose to videotape this particular lesson?
3. Describe the context of the video lesson where it fits in a unit of study (middle, introduction, or end).
4. Which video segments(s) represent your instructional strengths and why?
5. Which video segment (s) represent your least creative instructional strategies and why?
6. What feedback did you receive from students about the lesson? How did students respond to the lessons?
7. Did you meet your lesson objectives? Did students accomplish the intended outcomes? How do you know? Which video segment(s) provide evidence of student learning?
8. Describe your use of instructional technology (if applicable). How did the use of technology impact your students’ ability to learn the concepts taught in the lesson?
9. Describe any visual teaching aids incorporated in the lesson. How did the aid(s) impact learning?
10. What would you do differently if you could teach this lesson again and why?
11. Identify area(s) where you would like to show professional growth. Rate each area a “very important,” Important,” or “somewhat important.” Provide a rationale that explains how you judged the importance of each professional support area, which you have identified. Describe how you actively plan to improve this area(s).
12. 12 React to the videotaping process. What was best about the process and why? Explain any limitations(s) and why you considered them to be limitations(s).

Please see handout for aides to identify Instructional strengths and or areas in need of improvement, identifying areas for professional growth, video recording, and analysis tips

**Journal critique - Individual and Group: (50)** There are two kinds of critiques, group and individual.

Your critiques will come from your NSTA journal. The instructor will provide the format for the critiques.

**Using Trade Books To Teach Science (10)** You are to take a trade book and create 5-lesson that you will present to the class. Trade books can be found in the LRC. I will reserve them for you. More information will be given later.

**Standards Direct Teaching Documents (20)**

 The teaching standards begin with a focus on the long-term planning that teachers do. The discussion then moves to facilitating learning, assessment, and the classroom environment. Finally, the teaching standards address the teacher's role in the school classroom and community. The standards are applicable at all grade levels, but the teaching at different grade levels will be different to reflect the capabilities and interests of students at different ages.

**Science Pedagogy Exam (100)**

Your final is the science pedagogy Exam. You will be given an exam at the end of the course that assess you science knowledge for teaching science. Your final may include diagrams, essays, and multiple chose questions. All exam items will come from discussions in class, critiques, lesson activities, and notes.

 **Professionalism:** Regarding class and lab, students are expected to: turn work in on time, have all assignments typed, actively participate; demonstrate preparedness; interact positively with professors, peers, administrators, teachers, and children; and inform professors and teachers of absences accordingly.

# Course Assignments and Evaluation

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| * Philosophy Statement 20 points
* Science Reflective Video Lesson 35 points
* Science Pedagogy Exam 100 points
* Journal Critique 50 points
* Class Participation 40 points
* Science Autobiography 15 points
* Teaching using Trade 10 points
* Teaching Standard Documents 20 points

*\*\* These are the main assignments for the course. Other assignments will be added to complete the total points for the course. I will work to complete the total points for the course after two weeks in the course.* |  |
| **TOTAL POINTS**  |  |

# Class Policy Statements

Attendance Policy: Students are expected to attend all class meetings and scheduled labs. Provisions for excused absences will follow procedures that are outlined in the *Tiger Cub*.

Student Disabilities: AU policy for students with disabilities or special needs will be followed. If a student feels that he/she has a disability and needs special accommodations of any nature whatsoever, the instructor will work with the student and the Program for Students with Disabilities to provide reasonable accommodations to ensure that the student has a fair opportunity to perform in class. The instructor should be advised of such a disability and the desired accommodations immediately.

Academic Honesty: Refer to the *Tiger Cub*