**AUBURN UNIVERSITY**

**SYLLABUS**

1. **Course Number: CTEE 4030**

**Course Title: Natural Science**

**Credit Hours:** 3 semester hours

**Pre/ Co-requisites:**  This section is restricted to Elementary Education majors enrolled in CTEE 4040: Curriculum Mathematics

1. **Term** Fall 2015

**Day/Time** Thursday 9:30-11:45/ Lab MWF 7:30-3pm

**Room:** HC 2414

**Instructor** Dr. Chris Schnittka

**Office Address** 5072 Haley Center

**Contact Information (phone, e-mail)** 844-8277, schnittka@auburn.edu

**Office Hours** Tuesday, 2:00 - 4:00; Thursday 2:00 - 4:00

1. **Texts or Major Resources:**

**Required Texts:**

Pearce, C. R. (1999). *Nurturing inquiry: Real science for the elementary classroom*. Portsmouth, N.H.: Heinemann.

Hein, G. E., & Price, S. (1994). *Active assessment for active science*. Portsmouth, N.H.: Heinemann.

Campbell, B. & Fulton, L. (2014). *Science notebooks: Writing about inquiry, 2nd ed.* Portsmouth, N.H.: Heinemann.

**Required Resources**

*The Next Generation Science Standards* (2013). <http://www.nextgenscience.org>

[Click Standards, Topics Arrangements, Download a pdf, view/print Grades K-5 only]

*Alabama Course of Study: Science* (2005). Alabama State Department of Education. <http://web.alsde.edu/home/Sections/SectionDocuments.aspx?SectionID=54&Subsection=4>

[Download/print four files: 01SciTOC.rtf, 02SciInt.doc, 03SciK-2.rtf, 04Sci3-5.rtf]

*Science and Safety: It’s Elementary!* Council of State Science Supervisors. [print pdf from <http://www.sde.ct.gov/sde/lib/sde/pdf/curriculum/science/safety/scisaf_cal.pdf> ]

National Science Teachers Association (NSTA).<http://www.nsta.org>.

*Science and Children*. (Elementary K-4); *Science Scope* (Middle 5-8). [Be able to search for articles on the NSTA website and then get the pdf copies of articles from the AU library e-Journal website]

Composition notebook, 1 DVD or flash drive for teaching artifact (Wait to purchase until this is discussed in class), school pouch with supplies (tape, mini-scissors, markers, pencil, black ink pen, white out, index cards), COE name-button *[LRC for buttons.]*

**Recommended Texts:**

Ansberry, K. R. & Morgan, E. (2005). *Picture-Perfect Science Lessons: Using Children’s Books to Guide Inquiry, 3-6.* NSTA Press. [Children’s books for this guide are in LRC or main library]

Ansberry, K. R. & Morgan, E. (2007). *More Picture-Perfect Science Lessons: Using Children’s Books to Guide Inquiry, K-4*. NSTA Press. [Children’s books for this guide are in LRC or main library]

**LRC Resources:**

Robertson, W. C. (2002). *Stop Faking It!*  Physical science content series from NSTA Press:

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Resources for Environmental Literacy. (2007). NSTA Press.

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1. **Student Learning Outcomes:**

**Goal:** CTEE 4030 was designed to assist prospective teachers in developing the confidence and competence needed to begin teaching science as a hands-on, process approach in elementary classrooms. This competence involves a basic level of understanding of the subject matter and the nature of learning science through **INQUIRY** using scientific practices; planning for science instruction and active assessment; teaching and managing students through lessons that follow a **LEARNING CYCLE MODEL**; and reflecting on practice toward continuous improvement of teaching and learning. Through an inquiry approach and the use of science notebooks, we will model and practice using a variety of curriculum resources and associated activities that you can use in teaching science in your future classroom. We will emphasize the use of teacher-tested, ready-made curricula in teaching science that meet national and state standards in grades K-6. This will include curriculum supported by the state of **Alabama’s Math Science and Technology Initiative (AMSTI)** and **Project WILD** programs. We will also model and practice lessons from the *Great Explorations in Math and Science* (GEMS) Guides, *AIMS Education Foundation Activities* Books, and the *Picture-Perfect Science Lessons* Guides, all available in our Learning Resources Center for free. We will continuously emphasize the integration of science with math (e.g., GEMS), reading (e.g, tradebooks), writing (e.g., notebooking), and technology use. You will be expected to demonstrate basic **competence** as a novice teacher in the three areas of planning, instruction, and assessment; and required dispositions as a **committed** and **reflective** professional.

**5. Course Objectives:** Student learning outcomes (SLO) for elementary education majors are based on the Alabama Quality Teaching Standards [state standards] (AQTS) and the Association of Childhood Education International (ACEI) [national standards]. After the completion of the course and the clinical based lab, the pre-service teacher should be able to:

a. Construct a vision of science education based on students’ curiosity of the natural world, the nature of science, and the role of inquiry and process in ‘doing’ science (e.g., The Inquiry Cycle) **[290-3-3-.06 (1) (a)1, 5, 14 (b)8]**

b. Develop the ‘habits of mind’ of curiosity, discovery, and further study in teaching and learning science with elementary students as a ‘community of learners’. **[290-3-3-.06 (1) (b)6]**

c. Practice the **Learning Cycle Model** for planning and sequencing lessons that is utilized in Standards-based science curricula, such as GEMS, Picture-Perfect Science, and those advocated by AMSTI: Full Option Science Study (FOSS) and Science and Technology for Children (STC). [[1]](#footnote-1) **[290-3-3-.06 (1) (a)1, 5, 14 (b)8]**

d. Teach science while integrating math (e.g., GEMS, AIMS), the outdoors (e.g., Project WILD), reading (e.g., children’s literature), writing (e.g., note-booking) and technology (e.g., GLOBE) toward the achievement of standards (National and State) across the curriculum. **[290-3-3-.06 (1) (a)4 (b)2]**

e. Continually assess science learning through ongoing formative, authentic, and active assessments of what children ‘know and can do’ in science. **[290-3-3-.06 (1) (b)3]**

f. Grow professionally through further study of science, connecting to science resources, reflecting on practice for continuous improvement, and increasing student achievement.

**6.** **Course Content Outline: *Instructor reserves the right to change schedule/ modify experiences***

**\* All homework listed is due at the beginning of the class period**

* Thursday, August 20 9:30-11:45 Notebooking, Inquiry
* Thursday, August 27 9:30 – 11:45 The Learning Cycle, Classroom Safety
* Monday, August 31 Lab Manual Meeting
* ***\*\*\*\*\*\*\* Field Placements begin on Wednesday September 2nd \*\*\*\*\*\*\*\*\*\*\*\****
* Thursday, Sept. 3 9:30-11:45 Constructivism, Teaching with Tradebooks
* Thursday, Sept. 10 9:30-11:45 ExploreLearning, Formative Assessment
* Thursday, Sept. 17 9:30-11:45 Levels of Inquiry
* Thursday, Sept. 24 9:30-11:45 Discovery Boxes
* Thursday, Oct. 1 9:30-11:45 GEMS Curriculum
* Thursday, October 8 9:30-11:45 Project WILD

***\*\*\*\*\* Fall Break October 15-16 \*\*\*\****

* Thursday, October 22 9:30-11:45 AIMS Curriculum
* Thursday, October 29 9:30 – 11:45 Engineering is Elementary

***\*\*\*Submit approved math/science lesson plans & Teaching Artifact assignment***

***(Part I) to GTA one week before teaching \*\*\*\*\****

* Thursday , Nov. 5 9:30 – 11:45 Interesting NonFiction for Kids, Assessing Writing

***\*\*\*Submit completed Teaching Artifact (Part II) to GTA one week after teaching \*\*\*\*\****

***\*\*\*\*\*\*\* Last Day of Field Placements on Friday November 9th \*\*\*\*\*\*\*\*\*\*\*\****

* Thursday, Nov. 12 9:30 – 11:45 Picture Perfect Science
* Thursday, Nov. 19 9:30 – 11:45 Final Test

***\*\*\* Thursday/Friday Nov. 19,20 Course Performance Conferences (by appointment)\*\*\****

***\*\*\* Thanksgiving Break November 23-27\*\*\****

* Monday, Nov. 30 AMSTI training 8:00 – 3:30 at the AMSTI Center in Opelika
* Wednesday, Dec. 2, AMSTI training 8:00 – 3:30 at the AMSTI Center in Opelika
* Thursday, Dec. 3 9:30 – 11:45 Wrap Up in Class
* Friday, Dec. 4, AMSTI training 8:00 – 3:30 at the AMSTI Center in Opelika

**7.  Teaching Artifact/ Professional Work Sample**: **Due 7 days** after teaching the lesson. Includes pre-thinking about a lesson, a lesson plan, videotaped teaching, written and oral observer feedback, evidence of student learning (i.e., assessment, analysis, samples), and written reflection on practice towards continuous improvement. The reflection should include information learned about planning, teaching, and learning mathematics. Details of this assignment are given in the *Field Placement Handbook*. ***The instructor reserves the right to request additional teachings based on unsatisfactory performance.***

**8. Lab Professionalism and Observation Forms**: Document your attendance, professional dispositions, and planning and teaching abilities in your field placement. You must meet weekly professional expectations in the field in order to pass this course – no continuous absences (more than 2) and no continuous NO marks on professionalism and teaching indicators. You must also demonstrate your abilities in teaching at the emerging level on all standards and indicators listed on the *EDUCATE Alabama* observation form in order to pass this course. ***See the Laboratory Placement Handbook for all lab forms and details.*** Field experience hours in this course are linked to certification standards. You must complete the minimum number of field experience hours as stated in laboratory handbook to receive credit for this course.

**9. Evaluation**

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| ^ASSIGNMENTS & POINTS | DUE DATES |
| * Homework/Reading Reflections **(20 points)** | **Throughout the semester** |
| * Discovery Boxes **(20 points)** | **Thursday Oct 22 – part I**  **Thursday Oct 29 – part II** |
| * Teaching Artifact **(20 points)** | **Oct 26 – Nov 17**  **(See Lab Manual)** |
| * Science Notebook **(20 points)** | **Nov. 12** |
| * Test **(20 points)** | **Nov. 19** |
| * \*Course Performance Conference Form   **(Satisfactory Performance Required)** | **Nov. 19/20** |
| * Science Trade Book Analysis **(20 points)** | **Dec. 3** |
| * \*\*Weekly Lab Hours & Professionalism Form   **(All completed copies required)**   * *\*\*\**Lab Placement Summative Assessment Rating Form   **(All standards at ‘approaching competence’)**   * \*\*\*\*Final Lab Placement Evaluation Form | *Weekly in field*  *Final cumulative report*  *Total lab hours/Standards* |

**^All assignments must be completed in order to get credit for this course, even if turned in late for less credit.**

**\*Students MUST have satisfactory marks on all areas of the COURSE AND FIELD PLACEMENT by the end of this course in order to receive credit for this course.** Students will be counseled throughout the course by written notification (email), and for more serious matters in person (signed letter or contract), if they are not meeting SATISFACTORY expectations on indicators before the end-of-course conference.

\*\*Meeting weekly attendance, planning, teaching, and professional dispositions in the classroom is required for all field students in this course to show readiness for internship. Students who are not continuously meeting all of these expectations may fail their lab placement and this course. **See Lab Placement Handbook.**

\*\*\*Students must meet professional performance expectations on all Standards listed on the *Lab Placement Summative Assessment Rating Form* at the ‘approaching competence’ or higher rating to pass this course. **See Lab Placement Handbook.**

\*\*\*\*Students must meet the total required lab hours and Standards on the *Lab Placement Summative Assessment Rating Form* in order to pass this course. **See Lab Placement Handbook.**

* Use of *Canvas* system, Internet, and email for communication and instruction. All assignments must be submitted in either rich text or Microsoft word format unless directions were given to use PowerPoint or Excel. It is the students’ responsibility to check the assignment, once submitted, to ensure it went through properly.
* Students will be expected to demonstrate basic skills in reading, writing, speaking, and mathematics. Assignments that have multiple mathematical, grammatical, or spelling errors will have to be revised correctly at a letter grade point loss.
* Graded course assignments are due on the assigned date and must be completed in a thorough manner. Major assignments that are incomplete or not done on time will lose points equal to one letter grade for each day late up to three days. All assignments must be completed, whether or not credit is given, in order to pass this course. **Late weekly assignments will not receive credit.**

**10. Rubric and Grading Scale:**

All rubrics are posted on Canvas. The Auburn Standard Grading Scale will be used to determine grades for this course.

A   =  90-100          B   =  80-89           C   =  70-79

D   =  60-69            F    =  below 60 points

**11. Class Policy Statements:**

1. Participation: Students are expected to participate in all class discussions and participate in all exercises. Assignments are due on announced dates. Unexcused late assignments are unacceptable. 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. Students must satisfy all course objectives to pass the course.
   1. **At two absences from class students will be required to meet in conference to discuss continuing in this course.** [See Lab Manual for similar lab attendance policy]. Students will be counseled and placed on an attendance contract in order to continue in the course. Expected professional dispositions and performance competencies in this field-based course require students to meet attendance requirements.
   2. Five points will be deducted from the final grade for any unexcused absence from class or lab. **At 2 unexcused absences students will be referred to the Office of Student Affairs to be withdrawn from the course.** Three unexcused tardies will be counted as one unexcused absence. Leaving class early counts as an absence without prior (not same day) approval.
2. **Excused Absences**:  Students are granted excused absences from class 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 excused absence from this class for any other reason must contact the instructor in advance of the absence to request permission.  The instructor will weigh the merits of the request and render a decision. When feasible, the student must notify the instructor prior to the occurrence of any excused absences, but in no case shall such notification occur more than one week after the absence.  Appropriate documentation for all excused absences is required. Please see the [Student Policy eHandbook](http://www.auburn.edu/student_info/student_policies/) for more information on excused absences (<http://www.auburn.edu/student_info/student_policies/>).
3. **Make-Up Policy:**Arrangement to make up missed major examination (e.g. hour exams, mid-term exams) due to properly authorized excused absences must be initiated by the student within one week from the end of the period of the excused absences.  Except in unusual circumstances, such as continued absence of the student or the advent of University holidays, a make-up exam will take place within two weeks from the time that the student initiates arrangements for it. Except in extraordinary circumstances, no make-up exams will be arranged during the last three days before the final exam period begins.  The format of the make-up exam will be (as specified by instructor).
4. **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. To set up the meeting, please contact the instructor 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).
5. Honesty Code:  All portions of the Auburn University student academic honesty code (Title XII) found in the [*Student Policy eHandbook*](http://www.auburn.edu/student_info/student_policies/) will apply.  All academic honesty violations or alleged violations of the SGA Code of Laws will be reported to the Office of the Provost, which will then refer the case to the Academic Honesty Committee. Some assignments will involve integrating readings & websites into your reflections & lessons. **Plagiarism is the act of representing words, data, works, ideas, computer program or output, or anything not generated by the student as his or her own.** Plagiarism may be inadvertent or purposeful; however, plagiarism is not a question of intent.  Please be sure to cite any outside sources used in work.  Also all work is to be done individually unless otherwise specified. All submitted assignments are subject to a plagiarism check.
6. 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, and addendum to your syllabus and/or course assignments will replace the original materials.

*In addition to the university recommended statements noted above, College of Education syllabi are to include the following statement:*

1. 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

     Each student is expected to exhibit courteous, mature, responsible, and professional behavior. This includes not texting messages during class, doing work for another class, and talking when someone else – a peer or instructor – is speaking. Students are expected to participate in all class discussions, exercises and readings. 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.

Teaching is a field that requires professional reading and reflection. Your thoughtful reading before class, your engaged participation in class discussions and activities, and the positive stance you take in interacting with your instructor and with others in the group are expected. Attend carefully to class presentations and discussions.  Professionalism is more than just showing up for class.  In this course you will be expected to treat the others in our group with respect and to support their successes. Respect does not mean always agreeing with others.  It means actively and courteously listening to what others say and responding with your own perspective.  It means taking an active role and enhancing others’ thinking by sharing your own rough draft thinking as it develops, and by clarifying the reasons that you might “agree to disagree” with others.  Developing strong relationships with colleagues is one of the most important things we do as a teachers.

Cell phones, laptops, and other personal technology devices need to be turned to off during class and lab experiences unless otherwise instructed by the professor. In addition, students should not work on university course assignments that are not field based during their lab experience. During lab experiences students are expected to be fully and actively involved in the classrooms in which they are placed.

1. This course will provide **AMSTI preservice teacher certification training** for the state of Alabama schools. [↑](#footnote-ref-1)