**AUBURN UNIVERSITY**

**SYLLABUS**

 **1.       Course Number:              CTSE 5000/ 6000**

           Course Title:                 Technology and Applications in Science

           Credit Hours:                2 Semester Hours

           Prerequisites:               None

           Corequisites:                 None

 **2.         Term:        Fall 2015**

             Day/Time: Mondays 6:00pm – 7:50pm

             Instructor: Dr. Christine Schnittka

      Contact Information: schnittka@auburn.edu or (334) 844-8277

 TA: Shannon Bales

             TA Office Address: 5086 Haley Center

 Contact Information: smb0015@auburn.edu

 Office Hours: Mon. & Tues. 9:00am-11:45am and by appointment

 Preferred method of contact: Email

              Check [schnittkadoor.tumblr.com](https://auburn.instructure.com/courses/929663/assignments/schnittkadoor.tumblr.com) to see if Dr. Schnittka is in her office.

**3.       Texts:        None required. Readings will be provided through *Canvas*.**

This course will require the use of the learning management system, ***Canvas*** which can be accessed from the Auburn University website (www.auburn.edu). An orientation can be provided by the Secondary Education Program if requested.

**Computer requirement:** You need a laptop computer you can bring to class (Mac or PC) and install software on for use. Please see your instructor if you do not have a laptop computer that you can bring to class and install software on.

**4.          Course Description:**

This course serves as an introduction and application of current and emerging instruction and communication technologies for integration in the secondary science program.  It is an introduction to technology tools supporting inquiry, the Alabama Course of Study, the Next Generation Science Standards, and the National Science Education Standards in the secondary science classroom.

**5.         Course Objectives**

A. Facilitate and inspire student learning and creativity by providing a variety of learning environments that foster collaboration and innovative thinking to solve real world issues and authentic problems using digital tools and resources. 290-3-3-.42 (4)(b)1.

B. Design, develop, use, manage, and assess authentic digital-age learning experiences that are aligned with subject-area content and the Alabama Course of Study: Technology Education to maximize content learning and address diverse learning styles, incorporating the use of formative and summative measurement tools to better inform learning. 290-3-3-.42 (4)(b)2.

C. Model and facilitate innovative digital-age work and learning experiences through the effective use of current and emerging tools to ensure success in a global and digital world whereby the teacher and learner locate, analyze, evaluate, manage, and report information as well as communicate and collaborate online fluently using a variety of technology-based media formats. 290-3-3-.42 (4)(b)3.

D. Promote, model, and communicate the safe, legal and ethical principles of digital citizenship, equitable access, digital etiquette, and responsible online social interactions in a global culture including respect for copyright, intellectual property, the appropriate documentation of sources, and Internet user protection policies. 290-3-3-.42 (4)(b)4.

E. The role, nature, limitations, and use of media and technology for instruction and scientific investigation, including the use of virtual labs, computers, probeware, and other emerging technologies. 290-3-3-.14 (2)(e)2.(ii)

F. Engage in professional growth and leadership activities, including modeling lifelong learning by participating in face to face and online learning communities to continuously improve professional practice using existing and emerging digital tools, resources, and current research that focuses on improved student learning, as well as promotes professional development of other educators. 290-3-3-.42 (4)(b)5.

**6.      Course Content Outline (standards for all) [additional standards for grad students]**

**Week 1 (8/17/2015)**

Assignment: Read Flick & Bell (2000). Work on blog. Due Sunday
 Graduate Students: Reading Reflection 1 will be due this week on Sunday

Activities: Course overview, discussion of syllabus and assignments. Join Edmodo. Install Dropbox. Start blog.

**Week 2 (8/24/2015) Bring Computer**

Assignment: Read Bull & Bell (2008). Due Sunday

Activities: Explore Google Sites,Schoology, Moodle, Weebly and start creating Teacher Webpage.

**Week 3 (8/31/2015) Bring Computers**

Assignment: Read Copyright laws-online document and blog entry about copyright laws. Due Sunday.

Activities: Create a wordle, look at Prezi, Set up Dropitto.me and Inquiry with ExploreLearning. Correlate activity to state and national standards.

**Week 4 (9/7/2015) -Labor Day-No Class**

Assignment: Write lesson plan for ExploreLearning and work on Fake teacher website.
EL due Monday (Sept. 14th)
Graduate Students: Reading Reflection 2 will be due this week on Sunday

Activities: Sign up with Versal

**Week 5 (9/14/2015) Bring Computer**

Assignment: Read Bell & Smetana (2008). Due Sunday.

Activities: Explore Stellarium, and Celestia. ExploreLearning peer teaching (20 points)

Due Today: Lesson plan with ExploreLearning. (20 points)

**Week 6 (9/21/2015) Bring computer**

Assignment: Install Jing and create an audiovisual presentation with Jing and Audacity. Due Sunday
Graduate Students: Mini Tech Lesson Presentation will be Monday Sept 28th

Activities: Jing, Audacity, Microsoft MovieMaker

**Week 7 (9/28/2015) Bring computer**

Assignment: Begin working on Midterm
Graduate Students: Reading Reflection 3 will be due this week on Sunday

Activities: Discuss Midterm, Graduate Student Mini Lessons

**Week 8 (10/5/2015) Bring Computer**

Assignment: Read Schnittka & Bell (2009) and find a science app and post it to Canvas
 Due Sunday

Activities: Teaching and Learning with SMARTboard and iPads (Apps: Paper, ShowMe, Mindly, Brainscape, notebook, DecideNow, Chemist Free, Noise Down, Grader, Dyknow, ExitTicket, Kahoots, NOVA, Zipgrade
Smartboard tutorial and SmartScope tutorial.

**Week 9 (10/12/2015) Bring Computer**

Assignment: Finish Webquest. Due Sunday

Activities: Webquest & WISE

**Week 10 (10/19/2014) Bring computer**

Assignment: Prepare for next week by reading the article on Canvas about “Flipping the Classroom”

Activities: Inquiry activity with Vernier probes

**Week 11 (10/26/2015) Bring Computer**

Assignment: Finish Assignments from Class: Summarizing and critiquing videos from each platform. Discuss in Blog. Due Sunday.

Activities: TedEd, YouTube, Khan Academy

**Week 12 (11/2/2015) Bring computer**

Assignment: Install Google Drive. Install OpenOffice. Continue to work on teacher website.

Activities: Explore all the productivity products provided by Google, and OpenOffice.

**Week 13 (11/9/2015) Bring computer**

Assignment: YouDoodle Assignment with GoogleEarth. Due Sunday

Activities: Explore Google Earth and YouDoodle

**Week 14 (11/16/2015) Bring Computer**

Assignment: Begin finding and reviewing items for resource collection (Due 11/30) and Finish EdPuzzle due Sunday

Activities: Discuss Resource Collection assignment, Kahoot, Plicker, EdPuzzle, QR Codes, ZipGrade

**Week 15 (11/23/2015)- THANKSGIVING BREAK**

No assignments. Rest, relax, and get ready for Finals!!!!

**Week 16 (11/30/2015)- Last Class!**

Assignment: Finish Fake Teacher Website (Due Dec 7th)

Activities: Resource Collections Due! Review tools learned throughout the semester,
 Post-assessment

**\*\*\*One additional Graduate Assignment-TBA\*\*\***

**7. Course Requirements/Evaluation:**

The Alabama State Board of Education requires all students completing teacher certification programs to be assessed using the Alabama Quality Teaching Standards and program-specific standards.

1. Reading Reflections from assigned practitioner-based articles: 50 points

To gain a better understanding of best practices in the classroom.

2. Peer Teaching in the classroom and Audiovisual Presentation: 60 points

To practice using educational technology in front of peers

3. Lesson plans (3): 20 points

To apply techniques learned to create full length lesson plans for science that embed educational technology for learning science

5. Activity Collection: 35 points

To find, evaluate, and collect educational technology resources about a particular topic, and share the collection with classmates

6. Teacher Website: 40 points

To learn how to create a website for communicating with students and parents

7. Webquest: 30 points

            To learn how to create compelling webquests for student use.

8. Video reviews: 20 points

            To practice evaluating educational videos

9. [Graduate Students- Research journal article reviews: 45 points]

To understand trends in educational technology research for science teaching, to critique research studies, and begin to plan for an independent action research study

8. [Graduate Students- Teaching Experience: 15 points]

9. [Graduate Students- Additional Assignment: 15 points]

To practice theory and pedagogical techniques learned in class.

**Total Undergraduate Points: 398**      **Total Graduate Points: 458**

A = 357 - 398 points                          A = 412 – 458 points

B = 317 - 356 points                          B = 366 – 411 points

C = 277 - 316 points                          C = 320 – 365 points

D = 258 - 276 points                          D = 297 - 319 points

F = below 258 points                         F = below 297 points

Any assignment presented or turned in late will be penalized 10% for each day late. Late assignments presented or turned in late after two days will not be accepted without prior approval of the instructor.

The final grade will be determined by the following grading scale:

A = 90-100, B = 80-89, C = 70-79, D = 65-69, F = below 65%

AU eValuate Fall Semester evaluation dates: TBA

**8.   Class Policy Statements:**

Participation:  Students are expected to attend class, bring required materials, and participate in all class discussions and participate in all activities.  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.

Attendance/Absences:  Attendance is required at each class meeting.  Contact the instructor as soon as you know that you have to miss class for any reason. If an exam is missed, a make-up exam will be given only for University-approved excuses as outlined in the Student Policy Handbook [www.auburn.edu/studentpolicies](http://www.auburn.edu/studentpolicies) .  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.  All absences must be documented and cleared with the instructor **in advance**. All work missed, even class work, will need to be made up and turned in within one week. Homework is always due on the due-date, even if class is missed. Do not wait until the night before class to complete your assignments!

Unannounced quizzes:  There may be unannounced quizzes covering assigned readings.

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).

Honesty Code:  The University Academic Honesty Code and the Student Policy Handbook Rules and Regulations pertaining to Cheating will apply to this class. All work must be original. All infractions of the Academic Honesty Code will be reported to the Provost. (Note: All written work will be scanned for plagiarism. Be sure you know what plagiarism is.) Cheating will likely result in dismissal from the Teacher Education Program, and may result in dismissal from the university.

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

**9. Justification for offering CTSE 6000 as a graduate course:**

This course is designed to give the beginning teacher practical experience learning about and using educational technology to teach science. However, it gives the more advanced learner experience reviewing research related to the use of educational technology, and the opportunity to reflect upon his or her own teaching practice and analyze student results. The extra assignments for graduate students scaffolds them in the process of reading literature, carrying out a lesson with educational technology, collecting student data and analyzing the results. The graduate student will complete the course not only with the basic knowledge of implementing technology tools in the classroom, but with the more advanced application of reading, analyzing, and conducting research.