**AUBURN UNIVERSITY**

**SYLLABUS**

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

**Fall 2016 Room 2462 6-7:50 Mondays**

           Course Title:                 Technology and Applications in Science

           Credit Hours:                2 Semester Hours

           Prerequisites:               None

           Corequisites:                 None

**2.        Instructors**

            Instructor: Dr. Christine Schnittka

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

  Preferred method of contact: Email  
 Office Hours: M and T from 3-5 and by appointment. Check schnittadoor.tumblr.com to

see if office hours have changed.  
  
 TA: Shannon Bales

            TA Office Address: 5086 Haley Center

Contact Information: [smb0015@auburn.edu](mailto:smb0015@auburn.edu)

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

  Preferred method of contact: Email

**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. iPads or tables *may* work, but then again, they may not.

**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**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Week # | Class Meeting | Module # for HW assigned | In-Class Activities | Homework due that day at 6:00 |
| 1 | 8/22 | 0 | Inventory of skills.  Introductions.  How have you seen technology change in schools?  Syllabus  Canvas  Edmodo Code vvxcbh  ExploreLearning Code **UN2GLQY5W4**  Overview of effective uses of technology  Use Plickers  Show how to use library to access NSTA articles | none |
| 2 | 8/29 | 1 | Look at Prezis  Show how to use Dropbox  Discuss presentation of cool tool and sign up for weeks.  Excel lesson 1  Show how to use 123D | Make a Prezi to introduce yourself. We will all look at these to study for the Name Quiz. Post URL on Canvas in Announcements. |
| 3 | Labor Day  9/5 | 2 | No class |  |
| 4 | 9/12 | 3 | Questions from HW?  Name Quiz  Show teacher website examples  Show how to make a Versal  2 presentations  Excel lesson 2 | Join Edmodo  Install Dropbox and invite professors to share  Read Flick and Bell  Read one NSTA article on technology and submit summary. |
| 5 | 9/19 | 4 | Guest kid: ask Meredyth  Show ExploreLearning and teach a demo lesson  Have Ss grade me.  Show Stellarium and teach a demo lesson  Show atsm.us/resources  Show elearning.alsde.edu  Show ALEX  Show lesson plan examples.  2 presentations | Start Fake teacher website. Submit URL  Do Versal  Submit name of EL Gizmo by end of class. |
| 6 | 9/26 | 4 | Effective use of PPT lesson  Prezi vs. PPT  Teach how to use Jing  How to use 3D printer  2 presentations  Excel lesson 3 | Write Gizmo lesson plan. |
| 7 | 10/3 | 5 | ExploreLearning Presentations | Present Lesson  Post sample Jing on Edmodo |
| 8 | 10/10 | 6 | Drones | Read Bell & Smetana  Upload 3D design. |
| 9 | 10/17 | 7 | Scratch  QR code lesson  2 presentations  Excel lesson 4 | Schnittka & Bell article. |
| 10 | 10/24 | 8 | Do Vernier activity | Read about Vernier.  Install LoggerLite |
| 11 | 10/31 | 9 | At-home Project Night (no class) | Work on your Jing and your Teacher Website or Excel project. Go Trick or Treating at 8:00 |
| 12 | 11/7 | 10 | Discuss flipping the classroom.  Google Greats!  2 presentations  Excel lesson 5 | Work on your projects. |
| 13 | 11/14 | 11 | Google Earth for Inquiry  2 presentations | Flipping Classroom HW due |
| 14 | 11/28 | 12 | All final presentations  Look at all students’ google forms | Google Form, etc. due  Excel project due |
| 15 | 12/8 at 9:30pm |  | Submit Jing and Teacher Website. | Make your Jing.  Teacher Website due |

**7. Additional Course Requirements for CTSE 6000 (Graduate Students in the MS or PhD or Traditional MEd)**

Graduate Students- Three research journal article reviews about educational technology:

30 points

8. Graduate Students- Teaching Experience: 30 points

8. **Grading**

**Undergrads**

**Professionalism/Participation 10%**

**Class activities 10%**

**Reading assignments 30%**

**Other assignments 30%**

**Final exam 20%**

**For graduate students, teaching lesson will be averaged in with Class Activities, and article reviews will be averaged in with Assigned Readings.**

A = 90% or higher

B = 80% - 89%

C = 70% - 79%

D = 65% - 69%

F = below 65%

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.

AU eValuate Fall Semester evaluation dates: TBA

Extra Credit if evidence of AU eValuate is turned in (printed copy of end of survey)

**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. Non-class activities on computers, phones, or laptops will result in deductions from the participation grade.

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.