COURSE SYLLABUS
ETEC 597: Maker Spaces: A New Movement in Educational Technology
Fall 2014

Instructor: Chris Bigenho, PhD
Office Location: Virtual
Office Hours: Virtual, daily
Phone: 214-232-9504
Email Address: cbigenho.unt@gmail.com (preferred); bigenhochris@tamuc.edu

COURSE INFORMATION

NOTICE: This syllabus may be adjusted as needed to provide the best possible learning opportunity for all students in the class.

Materials – Textbooks, Readings, Supplementary Readings:

Arduino Starter Kit [REQUIRED]
You will need to purchase the Arduino Uno Ultimate Starter Kit. This can be purchased from Amazon and other online retailers. I have provided a link to a couple of sources for this item. It is important that you have this kit in hand prior to the start of class. It is approximately $60.

Sources for Arduino Unio Ultimate Starter Kit
Amazon: http://tinyurl.com/amazon-arduino
Vilros: http://tinyurl.com/vilros-arduino

Textbook:
All texts and readings will be provided electronically through e-college and the library.

Course Description: This course will explore the emerging maker movement on several levels. Through reading and research you will begin to understand the culture and structure of the maker movement and how it can be implemented in existing schools. You will also have a chance to participate in several aspects of making through prototyping with electronics, microcontrollers and some simple computer programming in C++ on the Arduino. This class is designed to serve as in introduction with the hope that you may be motivated to explore this exciting field more on your own.

Student Learning Outcomes:
Learning outcomes are what you are able to do as a result of the activities, readings, instruction, etc. that have occurred in this course. Assignments/activities related to these outcomes are described in the assignments and assessments portion of the syllabus.

The learner will:

1. Understand the driving forces behind the maker movement and the characteristics of a “maker” with the goal of connecting making with your current practices
2. Participate in making through the development of small projects using the Arduino microcontroller, basic electronics and C++ for the Arduino.
3. Maintain a blog that can be used to share their stories of making- both successes and lessons learned from failures certain to occur.
4. Review literature on the theory behind problem based learning and the maker movement, maker space designs and implementations.

ETEC ePORTFOLIO for MS/MEd in Educational Technology

Students pursuing the MS/MEd degree in Educational Technology Leadership (ETLD) program are now required to submit an electronic portfolio prior to graduation. Students pursuing the MS/MEd degree in Educational Technology Library Science (ETLS) are strongly encouraged to develop an eportfolio of their work throughout the program as it will benefit the student in obtaining a position in Library or Media Services, and it may become a program requirement in the near future. This requirement does not pertain to students taking ETEC courses as an elective for other programs, including those pursuing only the School Library Certification who have already earned a masters degree.

Many courses in the ETEC program have identified artifact(s) that should be included in the eportfolio to provide evidence of acquired and developing knowledge, skills, and philosophical approaches. In courses where recommended artifacts are not identified, it is the student’s responsibility to collect artifacts throughout the course and appropriately select which artifacts to include in the eportfolio. This includes courses from other departments and/or institutions for which the student is receiving credit towards the ETEC masters degree. For example, if a student takes courses in ELED, EDAD, MGMT, or TDEV and applies credits earned toward their ETEC masters degree, the student should include artifacts from those courses in their ETEC eportfolio.

For **ETEC 597 Maker Spaces: A New Movement in Educational Technology**, you will complete several projects that you may decide to include in your program portfolio. As you look at your program portfolio, try to include artifacts that represent all aspects of your journey and one from each class. I would be happy to recommend projects from this class that you may want to include as you make your way through the course.

If you plan to major in the program, but have not yet applied, you are strongly encouraged to do so as soon as possible. Please contact MaryJo.Dondlinger@tamu-commerce.edu for more information about the program's portfolio requirement.

COURSE REQUIREMENTS

Instructional Methods / Activities / Assessments
Each week will have a series of readings, learning adventures and interactions. This course is designed to help you understand the emerging world of making in education and to provide you the opportunity to actually engage in aspects of making in the world of computer science. One of the major tenants of the maker movement is to share with the broader community your stories of success and lessons learned from failures. In short, the maker movement is largely a collaborative group of learners engaged in the process of making new and interesting things to solve real problems. Therefore, i**t is important that you reach out to your fellow classmates as your first source of help**. We tend to learn more in groups than we do individually. Please use the discussion boards for posting questions and supporting the learning of others by providing tips on what you have learned as you explore the world of making. This will be particularly important as you engage in the actual process of prototyping and programming with the Arduino Microcontrollers. We are all coming to this class with a range of skills and experiences and we must learn to leverage the expertise of the group.

Grading

20% Participation- Discussions, peer support, attendance/presence in the course

40% Learning adventures where you are engaged in making through prototyping, programming and other experiences. This includes the documentation of your journey through your blog for this class

40% Design/Proposal document for the development of a maker space and implementation of a maker program at your school or within a school district where you are interested in working.

TECHNOLOGY REQUIREMENTS

This is an online course; thus, access to a computer with a reliable Internet connection (preferably high-speed) is required. You must have access to a computer with the capability, and sufficient user authorization, to install and run the required software.

Required Software:

- Access to the **Internet** where you will be accessing the course through **eCollege** and setting up accounts on different Internet based platforms.
- **Word processing** software
- Access to a **wiki, blog, Google Site, OR other web-based platform** to maintain an electronic journal where you will post your reflections, projects and course portfolio.

- **Arduino programming IDE** (You will download and install this free program during the first week of your class. If you want to do that before class starts, download Arduino 1.0.5 for your OS from one of the links below:
    - Windows: http://arduino.googlecode.com/files/arduino-1.0.5-r2-windows.exe
    - MAC: http://arduino.googlecode.com/files/arduino-1.0.5-macosx.zip

As a student enrolled at Texas A&M University-Commerce, you have access to an email account via myLeo - all my emails sent from eCollege (and all other university emails) will go to this account, so please be sure to check it regularly.

ACCESS AND NAVIGATION

This course will be facilitated using eCollege, the Learning Management System used by Texas A&M University-Commerce. To get started with the course, go to: https://leo.tamuc.edu/login.aspx.

In the event the myLEO portal is ever inaccessible and you need to login to eCollege, you should also bookmark the direct URL for eCollege: http://online.tamuc.org/

You will need your CWID and password to log in to the course. If you do not know your CWID or have forgotten your password, contact Technology Services at 903.468.6000 or helpdesk@tamuc.edu.

To participate in the online course environment, login to eCollege and follow the instructions provided for each week of the course. Instructions, project guidelines, and relevant resources will be provided as needed throughout the course. Monitor and contribute to Q&A forum regularly. Special announcements or instructions may also be placed in the announcements area or sent directly to your Leo email.

How is the Course Organized?
This course is organized by weeks with a module for each week. You will find all of your assignments and tasks for the week listed under that week.

What Should You Do First?
After logging in, you will want to familiarize yourself with the learning environment then start working on the tasks in Week 1. Start with the introductions as we need to know who all is on this journey together.

COMMUNICATION AND SUPPORT

Interaction with Instructor Statement:
All instruction will take place in a distributed fashion. Most of the course will be asynchronous. However, you may be working in groups in which case you will need to coordinate schedules to facilitate group work. Additionally, there will be opportunities for

synchronous work with Dr. Bigenho should it be needed. These sessions will be optional and are available to you through prior arrangements.

You should use the course site for most communication. When using e-mail, use cbigenho.unt@gmail.com. Monday through Friday, I will return email in 24 hours or less. That being said, it will usually be much less time.

eCollege Technical Support

Texas A&M University-Commerce provides students technical support in the use of eCollege. The student help desk may be reached by the following means 24 hours a day, seven days a week.

- ***Chat Support***: Click on *'Live Support'* on the tool bar within your course to chat with an eCollege Representative.
- ***Phone***: 1-866-656-5511 (Toll Free) to speak with eCollege Technical Support Representative.
- ***Email***: helpdesk@online.tamuc.org to initiate a support request with eCollege Technical Support Representative.
- ***Help***: Click on the *'Help'* button on the toolbar for information regarding working with eCollege (i.e. How to submit to dropbox, How to post to discussions etc…)

Other Questions/Concerns:

Contact the appropriate TAMU-C department relating to your questions/concern. If you are unable to reach the appropriate department with questions regarding your course enrollment, billing, advising, or financial aid, please call 903-886-5511 between the hours of 8:00 a.m.- 5:00 p.m., Monday through Friday.

COURSE AND UNIVERSITY PROCEDURES/POLICIES

Course Specific Procedures:

It is important that you follow the directions of the course carefully as different assignments will require different tools for completion and different methods of submission. It is also important that you keep to the schedule as there are only 7 weeks to the class. Additionally, there may be times when you will need to work with others in the class. **Being late with your work WILL impact your grades negatively as it will also impact the ability of others to do their work. Bottom line, don't be late.**

Discussions: Discussions happen as they happen. Each week you are expected to participate in the discussions. These are NOT places for you to simply answer questions that I post. **I expect** to see a discussion- an exchange of ideas extended over time where there is evidence that you listened to others, reflected on material and offered new ideas/perspectives, provided help to your peers and posed your own questions to the group. There will be a discussion for each week. The only posts that will be considered for the discussion grade for that week MUST occur prior to the closing date of that week.

Attendance and Engagement: You need to check into the course on a daily basis (5 days out of 7). Since we will not have any face-to-face meetings, you must remain engaged in the course and with your peers through the eCollege learning environment. Engagement is often indicated by regular participation in the online discussions. Experience indicates that students who are not engaged regularly in the online environment generally have difficulties completing online courses successfully.

Academic Honesty Policy

Texas A&M University-Commerce does not tolerate **plagiarism** and other forms of academic **dishonesty**. Conduct that violates generally accepted standards of academic honesty is defined as academic dishonesty, which includes, but is not limited to, plagiarism (the appropriation or stealing of the ideas or words of another and passing them off as one's own), auto-plagiarism (duplicate submission of single work for credit in multiple classes), cheating on exams or other course assignments, collusion (the unauthorized collaboration with others in preparing course assignments), and abuse (destruction, defacing, or removal) of resource material. All works submitted for credit must be original works created **by the scholar** uniquely for the class. Works submitted are subject to submission to TurnItIn, or other similar services, to verify the absence of plagiarism. Consequences of academic dishonesty may range from reduced credit on the plagiarized assignment to petition for removal from the academic program or institution, depending on the circumstances and extent of the violation; however, in typical instances, an automatic F in the course is considered appropriate. Any works referenced should be properly cited in accordance with APA 6th edition style.

Scholarly Expectations

Work submitted at the graduate level is expected to demonstrate critical and creative thinking skills and be of significantly higher quality than work produced at the undergraduate level. To achieve this expectation, all students are responsible for giving and getting peer feedback of their work prior to submitting it for a grade. Students are also expected to resolve technical issues, be active problem solvers, and embrace challenges as positive learning opportunities. Educational technology professionals must be able to work cooperatively and collaboratively with others—skills which students are expected to practice in this course. Students are expected to ask for help when they need it and offer help when they notice someone in need.

Timeliness

Because a 7-week term goes by quickly--assignments must be submitted by the designated due dates. Full credit cannot be earned by late or incomplete assignments. Assignments may lose up to 10% of their possible value each day late if submitted after the posted due date/time. (e.g. Assignments can lose all of their value at 10 days past due.) When a project incorporates peer review, it is imperative that all projects be available at the beginning of the review period and that reviews are completed by the end of the review period so that others may incorporate feedback into project revisions. Late work that requires peer review may lose all review points if review period has passed. When you are late with peer review work, you inconvenience your peers.

Neglecting to provide meaningful feedback to peers and/or failing to make an assignment available for peer review will ***each*** result in 10% reduction in value (20% for both). You will have plenty of notification and time to complete course assignments. If you know you are going to be out of town, involved in a special event/project, or unable to access a computer, please plan ahead. Also ensure that you have a backup plan ready in the event you might lose power, Internet access, or your available technology.

Time Commitment

In a graduate level course, it is a reasonable and accepted expectation that a student will spend between three and four hours outside of class for each hour spent in a class that lasts 15 weeks. This applies to online and web-enhanced courses just as it does to a traditional course. The activities in this course are based on a 5-week instruction schedule, which cuts the number of weeks to only one third, thereby tripling the weekly time expectation. An understanding of this expectation can help serve as a gauge of how much time you will need to allow for and devote to each course. The average time commitment range calculation for a three Semester Credit Hour (3 SCH) course, such as this one, is show in the following table:

Average expected time spent on class or class related work.	**Minimum expected average time based on 3:1 time ratio.**	**Maximum expected average time based on 4:1 time ratio.**
"In" class per class week	5 hours	5 hours
"Outside" class per class week	15 hours	20 hours
TOTAL Weekly Expectation	**20 hours**	**25 hours**
TOTAL Term Expectation	**140 hours**	**175 hours**

University Specific Procedures:

ADA Statement

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services
Texas A&M University-Commerce
Gee Library 132
Phone (903) 886-5150 or (903) 886-5835
Fax (903) 468-8148
StudentDisabilityServices@tamu-commerce.edu
Student Disability Resources & Services

Student Conduct

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. (See *Code of Student Conduct from Student Guide Handbook).*

COURSE OUTLINE / CALENDAR

Because this course runs on a compressed, 7-week schedule, we'll be completing the full-semester equivalent of 2 weeks of work each week. There is no time to catch up if you fall behind.

Each week will begin on a Monday and end on the following Sunday. Each week will be closed at the start of the class and the current week will open on Monday for that week's work.

The schedule of specific assignments will be listed in eCollege at the start of class.

Course Schedule

Week	Start	End
Week 1	Mon. Oct 27	Sun. Nov 2
Week 2	Mon. Nov 3	Sun. Nov 9
Week 3	Mon. Nov 10	Sun. Nov 16
Week 4	Mon. Nov 17	Sun. Nov 23
Week 5	Mon. Nov 24	Sun. Nov 30
Week 6	Mon. Dec 1	Sun. Dec 7
Week 7	Mon. Dec 8	Fri. Dec 12

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