

# **LTEC 4100.021 - Computers in the Classroom (Spring 2015)**

## **Syllabus**

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### Course Overview/Objectives

This survey course will introduce preservice educators to techniques for integrating technology into daily classroom activities. Topics covered in this course will be areas that impact or have the potential to impact educators working in the classroom environment. Special emphasis will be placed on constructing relevant and appropriate instructional environments in specific content areas such as the four foundation areas required in most US states (math, science, social studies, and English & language arts, with emphasis on emerging areas of national importance such as STEM (science, technology, engineering, and mathematics)).

The objectives for this course include the opportunity for participants to be introduced to computer applications in education relevant to student learning in k-12 classroom environments. In addition students should gain knowledge in the selection of educational software including tools, instructional programs and apps, hardware ranging from desktop systems to mobile devices, and training ranging from initial usage to ongoing professional development. The participant should feel comfortable modeling an educational presentation system; understand the integration of technology into the classroom and the use of other electronic sources for educational classroom resources. Students will develop a unit plan of instruction and assemble a portfolio of materials on a chosen topic that integrates technology.

Note that although the focus of the course is on integrating technology into classroom teaching and learning, the extension of learning beyond classroom time is major way in which technology can be effective in amplifying the learning resulting from guided classroom activities. The U.S.

National Science Foundation has designed this as Out of School Time (OST) learning coordinated In School Time (IST). The lab activities, hybrid classes, home exams, and social networking activities incorporated into this course are designed to provide you with role models for not only bringing the world into your classroom through technology, but also for extending your classroom activities outside the confines of school walls, into the community and the home.

### Course Topics

1. Computers in the Classroom: Technology-infused techniques within and beyond the classroom for enhancing learning.

- Purpose: CAI vs. CMI, historical distinctions for instruction vs. managing the business of learning

- Mode: Tutor, Tool or Tutee (and the 4th T of Topic), including MicroWorlds Tutee Mode Learning

- Pedagogy: Sage on stage, guide on the side; informal learning to formalized classroom instruction; alien pedagogy & adventure learning

- Device/System: Multi-station drill & practice to mobile & wearable computers; thumb drives, hard drives & the cloud

2. Technology Integration: What is it and why do we care?

- Models based on removal of barriers

- Models based on proficiency development

3. Standards and Curricula: Do states, nations, or professional associations run the show?

- Educated Citizenry, Foundation Areas, Workforce Priorities such as STEM

- Technology Applications (TA) Texas Essential Knowledge and Skills (TEKS)

- National Standards for Teacher Competencies

- National Standards for Student Competencies

4. Theories of Learning and Models of Technology-Enhanced Learning & Instruction

- Behaviorism: What do Pavlov's dog & Skinner's pigeons have to do with technology & learning?

- Cognitive Psychology: Wertheimer's Sultan, Bruner's 3 ways of knowing; was Chomsky right or Vygotsky & Piaget?

- Information Processing Theory and Algorithmic/Computational Thinking: What do we gain from learning to think like a machine?

- Games and Simulations: With or versus Drill, Practice, Tutorial, Problem-Solving, and Socratic Dialog?

- Active Learning and PBL: Real world problems and engaging technology-

based activities.

5. Educational Software and Systems: How should we evaluate them?

- Searching for Educational Resources: Thornburg's 3 Guiding Principles

- Copyright Laws and Educational Technology

6. Telecommunications and the Internet in the Classroom: Are social media a teacher's friend or foe?

- Managing the Technology-Enriched Classroom: Where goes your normal attention as a Millennial student?

- Cyberbullying and Privacy Rights

7. Computer Ethics and Equity: Are learning technologies for the wealthy or for all?

- Technology and Diverse Needs of Learners

- Special Accommodations and the Law

8. Assessment in a Technology-Enriched World

- Rubrics, Badges, and Apprentice Models in our Technology-Enriched World

- Embedded and Authentic Assessment vs. (recently) traditional forms

- Copying, Cut and Paste, Turn it in Tools for all: At what point is student work not their own?

- Portfolios, Integrated Units: Why are Closure and Cumulative Proficiency important?

Course Prerequisites

CECS 1100 (may be taken concurrently with consent of department). If you have not taken this course, it is your responsibility to make sure you learn the prerequisite skills to be successful in CECS 4100.

Course Policies

Educational technology is not simply "doing computer activities"--it is much more. Hence, you need to participate in scheduled class discussions and learning activities. Some days will be scheduled as hybrid or synchronous online class activities, but you can earn an "A" in this class without f to f or synchronous (live) participation. Participation online (online +any synchronous or f to f you choose) will count for a portion of your grade

(Approximately 5%). You are expected to conform to all policies of the University of North Texas and work within the honor code.

## Requirements/Grading

Chapter Readings: You are responsible for the chapter assignments even if they are not covered in recorded lectures.

Workload for CECS 4100: Like all college courses, expect to spend 2-3 hours per week for each credit hour in a course; if totally asynchronous, you should expect to spend 6-9 hours each week outside of class time completing readings, assignments, and hands-on computer time.

There will be 2 exams plus 5-6 assignments and a final project (portfolio). Several in-class and/or take home practice exercises/activities will also be included. I will keep your highest 2 exam grades (20 points total). No makeups or late exams will be allowed. Students earning 10 or more points from the weekly practice quizzes over chapter readings may elect to skip the second (final) exam and concentrate on work for other classes during the last two weeks of this course.

Hold on to your in-class practice exercises/activities as proof of the quality of your class participation in the event your letter grade is borderline at the end of the course. Plan to provide (or bring in person) a packet of these with you to the day of your final project presentation, since it is usually that day when class participants look at their scores to date and decide whether or not to take the final exam. Note that this final presentation can also be delivered without physical or time-synchronous presence, but the student is responsible for recording and delivering the final presentation in advance. Class participation is expected (possibly including debates) and this will count for 10% of your grade.

### **Class requirements will be weighted as follows:**

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Exams (Two at 10 points each)

(A1) Data-Driven Decision Making: Survey Analysis & Comparison

(A2) Designing Unit of Instruction: PowerPoint outlining chosen topic

(A3) Finding Resources supporting your final unit of instruction

[Checklist](#)

(A4) Teaching & Learning: Mastering Teaching in SimSchool

(A5) Project/Problem-Based Learning: Energy Monitoring/Digital Fab

(A6) Website supporting your unit of instruction

[Website Rubric](#)

Final unit of instruction and portfolio of materials supporting your unit, in notebook / paper plus web site or comparable (approved) format

[Checklist](#)

Class Participation

(Including Discussions/ Exercises / Debate(s)) / Etc.

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**Note: Although neither f to f attendance nor attendance at synchronous sessions is required to earn 100 points, participation in these optional activities will earn bonus points for those who participate.**

**Important:** Late assignments will receive a maximum grade of 80%. Late assignments are those that are turned in after the beginning of class on the day in which they are due. However, turning in a late assignment is much better than not turning in one at all. No late assignments will be accepted more than 3 weeks late and none will be accepted after the end of dead week (last week of classes prior to final exams). Assignments beyond these late submission deadlines will receive a grade of zero (0). Most assignments will be submitted (at least in part) on paper and in the Moodle content management system (CMS). The latter provides a time stamp of the date, hour and minute submitted.

## GRADES

Grades will be calculated by the following scale:

A = 90% or more

B = 80 to 89.4%

C = 70 to 79.4%

D = 60 to 69.4%

F = Below 60%

## Required Materials

Textbook: Integrating Educational Technology into Teaching (4th Ed. or higher), by M. D. Roblyer, Prentice Hall.

Please complete the Student Information Sheet for Learning Technologies.

## EEO/ADA Statement

EEO/ADA: The University of North Texas does not discriminate on the

basis of race, color, religion, sex, age, national origin, disability or disabled veteran status in its educational programs, activities, admissions, or employment policies. Please see me outside of class to make any arrangements involving special accommodations.

Cheating: Plagiarism and cheating are serious offenses which may be punished by any of the following:

1. failure on the exam, project or paper
2. failure in the course, or
3. expulsion from the University of North Texas

For more information on EEO/ADA or academic dishonesty, please refer to your current Undergraduate Catalog.

Updated: Jan 23, 2015

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