Syllabus: CECS 6000
Philosophy of Computing in Education
University of North Texas
Summer 2015, 06/02/2013   Online Course • 3 credits

Course online platform: https://learn.unt.edu/

Contents

CONTACT INFORMATION

Prof. J. Michael Spector, PhD
Department of Learning Technologies
University of North Texas
3940 N. Elm Street, G 182
Denton, TX 76207
Office Phone: 940-369-5070
Email: mike.spector@unt.edu Website: https://sites.google.com/site/jmspector007/

To reach me:
- Email any time and expect a response within 48 hours during the work week (please include CECS 6000 in the subject line)
- Post questions in the Blackboard Learn course discussions area and expect a response within 48 hours during the work week
- Schedule an advising appointment (Skype, telephone, office) through email.

SYNCHRONOUS MEETINGS (15 points in total)

We will meet face-to-face as a class (mandatory meeting for all) during the annual LT PhD meeting in Mt. Laurel, New Jersey according to the final, published meeting schedule. You will also be required to participate in asynchronous online meetings throughout the term. Regular participation is mandatory unless otherwise announced in the course. Failure to participate in two online discussions and activities will result in the reduction of your final course grade by a full letter grade. Missing additional participation opportunities will result in an additional letter grade penalty.

COURSE OVERVIEW AND POLICIES

Description:
This course is an examination of the philosophical underpinnings of educational technology and the use of computers in education. This includes why there is an interest in educational technology from both a learning and an instructional perspective, the various roles that technology can plan in learning and instruction, and some of the intended and unintended changes that will occur by its use.

Platform and Basic Technical Requirements:

This course uses Blackboard Learn (https://learn.unt.edu/) as its main platform for file sharing and communication, although other media may be incorporated based on class needs.

Meetings:
This class will integrate significant self-directed study and online activities and communications.

Electronic mail:
A university-assigned student email account is the official means of communication with all students. Students are responsible for all information sent to them via this university-assigned email account. If a student chooses to forward their University email account or to use some other email account, he or she is still responsible for all information sent to the official UNT email account.

Students with Disabilities:
University of North Texas recognizes its responsibility for creating an institutional climate in which students with disabilities can thrive. In accordance with university policy, if you have a documented disability and require accommodations to obtain equal access in this course, please contact the instructor at the beginning of the semester or when given an assignment for which an accommodation is required. Students with disabilities must verify their eligibility through the Office of Student Disability Services.

Plagiarism:
Under all circumstances, you are bound by the UNT policies on academic dishonesty and cheating. Any materials you have used or adapted must be fully credited and the original author and location fully cited. Any verified act of plagiarism, no matter how seemingly-small or inconsequential, will result in an F in the course (subject to appeal based on a finding of plagiarism) and possible additional sanctions by the University. The UNT Dean of Students requires official reporting of all instances of plagiarism.

All works submitted for credit must be original works created by the student uniquely for the class. Any exceptions to this (e.g., collaborative work or a variation of something submitted to another course) must be documented and approved by the instructor in advance. It is considered inappropriate and unethical, particularly at the graduate level, to make duplicate submissions of a single work for credit in multiple classes, unless specifically requested by the instructor. Work submitted at the graduate level is expected to demonstrate higher-order thinking skills and be of significantly higher quality than work produced at the undergraduate level. You are encouraged to become familiar with the university's Student Standards of Academic Integrity policy: http://policy.unt.edu/sites/default/files/untpolicy/pdf/7-Student_Affairs-Academic_Integrity.pdf

Of particular interest are the following terms:
- **Cheating** – intentionally using or attempting to use unauthorized materials, information, or study aids in any academic exercise. The term academic exercise includes all forms of work submitted for credit or hours.
- **Plagiarism** – the deliberate adoption or reproduction of ideas, words, or statements of another person or of oneself in a prior work as one's own current work without acknowledgement.

- **Fabrication** – intentional and unauthorized falsification or invention of any information or citation in an academic exercise.
- **Facilitating academic dishonesty** – intentionally or knowingly helping or attempting to help another to violate a provision of the institutional code of academic integrity.

Copyright Notice:

Some or all of the materials on this course Website may be protected by copyright. Federal copyright law prohibits the reproduction, distribution, public performance, or public display of copyrighted materials without the express and written permission of the copyright owner, unless fair use or another exemption under copyright law applies. Additional copyright information may be located at: http://copyright.unt.edu/content/unt-copyright-policies.

Note about medical emergencies:

If you have a medical emergency that will prevent you from completing the course as scheduled, you MUST notify your instructor at the time of your medical problem. Requests for a grade of incomplete or to drop the course should come at the time of the medical emergency and must be supported by a letter from your physician indicating that your medical situation will NOT permit you to work at your computer in order to submit your assignments as scheduled. Requests based on a medical emergency cannot be granted after the medical emergency except in the most rare cases when prior communication was not possible. All requests for a grade of incomplete must be initiated by the student and meet standard university policy as outlined in the Incomplete Grade Information section below.

GRADING CRITERIA

Grade Calculation:

25 points	Online synchronous meetings and face-to-face meetings June 23-27, 2015
25 points	Asynchronous discussion forums and activities (minimum of 3 postings/week)
40 points	Individual paper project (four parts @ 10 points each: 1. summary and critical review of a research article of personal interest; 2. an annotated bibliography of 10-20 academic articles on a specific topic; 3. a draft (white paper) on a selected topic; 4. a revised paper on the selected topic)
10 points	Peer reviews (of the papers of two colleagues in the course – 5 points each)
5 points	Extra Credit: Course feedback (fast feedback form posted in assignments)
105 points	

A – 90 - 100
B – 80 – 89
C – 70 – 79
D – 60 – 69
F – 59 and below

Grading Policies:

All assignments are due on the date specified in the syllabus area in Learn. 5% of the assignment grade will be subtracted for each day the assignment is late if submitted late without prior instructor approval. If an assignment is later than one week (5 working days), and prior

arrangements have not been made, the assignment will not be accepted. **NOTE: If you are overwhelmed or falling behind on a particular assignment, please contact the instructor <u>before</u> the due date to discuss options.**

All students are expected to meet graduate standards by obtaining a "B" average on all assignments. This graduate standard indicates that the work was well done, completed, met stated criteria, represented a professional effort, and was turned in on time. Students seeking an "A" will need to demonstrate superior performance through critical thinking, exemplary products, positive and supportive interactions with colleagues and sustained active participation across course activities.

Any on-time assignment that receives less than an 80% may be reworked and resubmitted by prior arrangement with the instructor. In order to gain additional points, participants must indicate what they would like to improve upon and how they plan to do so. Participants will then have one week following receipt of a grade and approval for a revision to make revisions.

Participants are encouraged to work with their peers and share their work in order to receive feedback prior to due dates.

Incomplete Grade Information
The department complies with university policy regarding the assignment of an Incomplete Grade in any course. Please see http://essc.unt.edu/registrar/academic-record-incomplete.html for information. Per UNT policy, a grade of Incomplete can only be awarded to a student who is 1) passing the course at the time of the request, and 2) has a justifiable and documented reason, beyond the control of the student, for not completing the course work on schedule. Notification and submission of documentation must be provided to the instructor at the time of the emergency.

REQUIRED TEXTBOOKS

1. Dörner, D. (1996). *The logic of failure: Recognizing and avoiding error in complex situations* [trans. R & R. Kimber]. New York: Metropolitan Books.
2. Spector, J. M. (2016*). Foundations of educational technology: Integrative and interdisciplinary perspectives* (2nd ed.). New York: Routledge. [The second edition will be available after July 1, 2015; see http://www.tandf.net/books/details/9781138790285/]

COURSE OUTLINE

UNIT 1 – HISTORY (June 1 – June 14)
- Introduction; syllabus questions; meeting nights; brainstorm paper ideas (provided with a list of topic categories)
- The educational use of computers; taxonomies
- Reflections on readings; discussions on individual paper ideas

UNIT 2 – PHILOSOPHY OF SCIENCE (June 15 – June 22)
- Research paradigms
- Research methodologies

- Discussions of individual papers and research methods based on readings

UNIT 3 – CURRENT TOPICS (June 23 – June 28)
- Games; online learning; digital natives; media multitasking
- Teachers' beliefs and skills in technology
- Discussions on the current literature

UNIT 4 – FUTURE DIRECTIONS (June 28 – July 26)
- Machine learning; AI
- Human-Computer Interaction
- Future directions; individual meeting time; peer reviews

UNIT 5 – REVIEW AND WRAP-UP (July 27 – August 8)
- Review of history, philosophy, current topics, and future directions
- Individual directions
- Final papers and presentations

ADDITIONAL READINGS AND RESOURCES

The Online Writing Lab (OWL) at Purdue University – see
https://owl.english.purdue.edu/owl/resource/560/01/
The American Psychological Association Ethical Principles of Psychologists and Code of Conduct –
see http://www.apa.org/ethics/code/
The Theory into Practice Database – see http://www.instructionaldesign.org/about.html
Instructional Design Models (Martin Ryder) – see
http://carbon.ucdenver.edu/~mryder/itc/idmodels.html
AERA's Definition of Education Research – see
http://www.aera.net/EducationResearch/WhatisEducationResearch/tabid/13453/Default.
aspx
The Clark-Kozma Debate in the 21st Century (Katrin Becker) – see
https://www.academia.edu/462857/The_Clark-Kozma_Debate_in_the_21st_Century
The Legacy of Robert M. Gagné – see http://eric.ed.gov/?id=ED445674
Merrill's *First Principles of Instruction* – see
http://mdavidmerrill.com/Papers/firstprinciplesbymerrill.pdf
How People Learn: Brain, Mind, Experience, and School – see
http://www.nap.edu/openbook.php?record_id=9853
A Roadmap for Education Technology – see
http://www.cra.org/ccc/files/docs/groe/GROE%20Roadmap%20for%20Education%20Tec
hnology%20Final%20Report.pdf
Philosophy of Science in the *Internet Encyclopedia of Philosophy* – see
http://www.iep.utm.edu/category/s-l-m/science/
Karl Popper's Conjectures and Refutations – see
http://worthylab.tamu.edu/Courses_files/Popper_ConjecturesandRefutations.pdf

UNIT 1: History

To be elaborated in the Discussion Forum.

UNIT 2: Philosophy of Science
To be elaborated in the Discussion Forum.

UNIT 3: Current Topics
To be elaborated in the Discussion Forum.

UNIT 4: Future Learning
To be elaborated in the Discussion Forum.

DISCUSSION AND FACILITATION REQUIREMENTS (50 points in total)

Activities and Goals:
- Actively participate in the face-to-face and online discussions
- Show that you can connect the readings with practice
- Contribute original ideas and critiques
- Incorporate and respond to the perspectives of your colleagues
- Show that you are a participating member of the scholarly community

Face-to-face Sessions in Mt. Laurel (25 points)
Actively participate in all sessions of the class at the summer meeting in Mt. Laurel, New Jersey. Read assigned readings prior to the sessions and ask relevant questions and request clarification of key points. Demonstrate familiarity with the issues discussed and the alternative perspectives involved.

Online Discussions (25 points)
All participants should progress at a similar pace (following the weekly schedule and assignments). This way you won't feel lost due to too much work at once and the whole class will benefit from more focused and synergistic discussions around the readings and topics. Therefore, please be sure you keep up with your readings and postings.

It is expected that every participant post 3 or more substantive but succinct postings on the discussion forum every week. You should post both original thoughts regarding the readings and respond to the postings of your colleagues. By substantive postings, I mean that you will need to support your posting with research as well as with your creative and spontaneous thoughts. Simple phrases such as "I agree" or "That's wonderful," though there is value in such a response, will not receive credit. It can be frustrating to read through a series of postings that offer little information. Build on the conversation and introduce new ideas, for instance, cite specific points or reasons for your opinion, or ask questions to clarify your understanding of what was said or to get other's ideas.

Keep your postings direct and to-the-point, with good formatting. Make it easy for others to read and follow your reasoning. For postings to the discussion forum, one to three paragraphs (or 100

to 250 words) is usually a reasonable length. One can summarize a longer piece that is attached to a posting as appropriate.

You should neither underestimate your ability to encourage and motivate others in this course nor the valuable experience you will obtain from discourse with colleagues. One of the greatest advantages of the blended learning format is the opportunity to engage in both synchronous and asynchronous conversations. Sometimes you have the time to think about your responses, and at other times you will have to think on your feet.

The following are suggestions (adapted from Stephen Brookfield's "Discussion as a way of teaching") which I expect in postings:

- Ask a question or make a comment that shows you are interested in what another person says;
- Ask a question or make a comment that encourages another person to elaborate on something that they have already said;
- Make a comment that underscores the link between two people's contributions;
- Make a specific comment indicating how you found another person's ideas interesting/useful;
- Contribute something that builds on, or springs from, what someone else has said. Be explicit about the way you are building on the other person's thoughts;
- Make a comment that at least partly paraphrases a point that someone has already made;
- Make a summary observation that takes into account several people's contributions & that touches on a recurring theme in the discussion;
- Ask a cause and effect question – for example, "can you explain why you think it's true that if these things are in place such and such a thing will occur?"
- Find a way to express appreciation for the enlightenment you have gained from the discussion. Be specific about what it was that helped you understand something better
- Disagree with someone in a respectful and constructive way.

Please use this list to help you determine what to write or say.

PAPER REQUIREMENTS (40 points in total)
40% of this course revolves around a writing assignment that will serve as a model for subsequent academic endeavors. This assignment involves four parts, each of which is described below.

Part 1 - PAPER REVIEW

Review a paper on a topic that is of interest and possibly worth pursuing. The following questions may help you get started:

1. What is the main topic you want to focus on?
2. Within that topic, what is your scope of your interest?
3. What do you believe is already well established in that area?
4. What do you believe is less well established and could be a problem would you like to tackle?

Given your answers to those questions, find a paper published in a reputable academic journal that addresses the topic and scope and perhaps a less well established area within that topic.

Write a summary of the paper, including the full APA 6 citation and your rationale for selecting that paper to review. The summary should include a critical analysis of the paper indicating the purpose and scope, the problem addressed, the questions and/or hypotheses involved, the methodology involved, the method of analysis, the findings, and the limitations involved. Include strengths and weaknesses (e.g., suitability of the methodology, credibility of findings, etc.) and specific areas and questions that should be pursued in follow-on studies. The idea of such a review is that it should or could become one of many papers reviewed in your literature review for the dissertation. The total length of the paper should be between 500 and 1,000 words, including references.

Post your paper to the discussion forum (for purposes of discourse and sharing) and also to the assignment area (for grading purposes). The posting to the discussion forum should contain a one-paragraph overview with the paper review attached to the posting. Read and comment on each other's postings. To do so, use the "Reply" feature to respond to a particular posting.

Part 2– ANNOTATED BIBLIOGRAPHY (10 points):

This part of the writing assignment involves the beginning of an annotated bibliography that can serve as the basis of your literature review to be developed in your dissertation. This assignment involves identifying search terms to be used in finding relevant journal articles and other high quality academic resources. Identify between 4 and 8 (roughly) search terms and use library resources to find relevant resources.

In the annotated bibliography, sort the entries by topics or search terms or themes and provide the following specific items for each entry: complete APA 6 citation, article type, research type, methodology, major/key findings, the DOI, a URL if available, and a one-paragraph summary. The compiled document should be searchable by topic, methodology, and research type and should contain between 10 and 20 entries. The document can be an EXCEL spreadsheet or a Word file in table format.

Post the annotated bibliography to the assignments area and also to the discussion forum for that topic (post a short version in the message area and attach the complete document). The reason for posting to both places is to share your findings with classmates (discussion forum) and for purposes of grading (assignments area).

Part 3 – DRAFT WHITE PAPER (10 points):

The purpose of this assignment is to development writing skills and a focus for further graduate studies. The task is to draft an informal research paper that is between 1,000 and 1,500 words in length including references and following APA 6 requirements. The following is a general outline of what you should include in your paper:

- Abstract – 150 – 250 words indicating purpose, scope and likely outcomes
- Keywords – 3 to 6 keywords
- Introduction – 150 – 250 words indicating the rationale for the inquiry, including what is well-established, what is not, and what specific problem and/or questions will be addressed
- Theory and Research – 150 – 250 words indicating relevant theories and prior research
- Method – 100 – 150 words indicating a methodology that is probably best suited to address the problem and/or questions identified
- Discussion – 150 – 250 words indicating the likely outcomes, limitations, and potential implications
- Conclusion – 100 – 200 words summarizing the effort and indicating areas for further work
- References – strictly follow APA 6 guidelines

As before, post your paper to the assignments area and also to the relevant discussion forum – so that a confidential grade can be assigned and also so that exchange of interesting work can occur.

Part 4 – FINAL WHITE PAPER (10 points):

This is a full-fledged Rough Draft of your final paper: a draft of 2,500 – 4,000 words (including references) showing that you have developed your ideas and you are ready for some serious input from your peers. The following is a general outline of what you should include in your paper:

- Abstract – 150 – 250 words indicating purpose, scope and likely outcomes
- Keywords – 3 to 6 keywords
- Introduction – 250 – 500 words indicating the rationale for the inquiry, including what is well-established, what is not, and what specific problem and/or questions will be addressed
- Theory and Research – 400 – 600 words indicating relevant theories and prior research
- Method – 400 – 600 words indicating a methodology that is probably best suited to address the problem and/or questions identified
- Discussion – 500 – 700 words indicating the likely outcomes, limitations, and potential implications
- Conclusion –400 – 600 words summarizing the effort and indicating areas for further work
- References – strictly follow APA 6 guidelines

PEER REVIEWS (5 points each, total 10 points):

Each of you will select (or be assigned) two classmates' draft papers to review. For this

assignment, you will reply to the original postings of your colleagues' paper drafts. For each review:

- Use the peer review criteria template as a guideline
- Show that you have read the paper, you have thought about it, and you have ideas for improving it
- Consider the developmental logic of the idea, the design of the methods, and the overall structure of the paper
- Be constructive, critical, encouraging, and helpful

You are NOT expected to deliver a line-by-line review of grammar or spelling, and you should not try to solve all of the problems with the paper. Instead, you should take on the role of a reviewer: what is working overall, and what isn't? What can be done to make the paper better? What do you suggest the author consider?

What you turn in: You will:

- Download the paper drafts of two colleagues assigned
- Read the papers and post your reviews using the template

APA FORMATTING REQUIREMENTS

On all of your assignments, you MUST follow APA style formatting guidelines in submitted work. If your work does not adhere to APA formatting, it will not be evaluated. If you find yourself in this situation, you will have the opportunity to resubmit your reformatted work according to the late work policy spelled out in this syllabus.

You are responsible for following the most updated version of APA Manual book. This website may be useful too: http://owl.english.purdue.edu/owl/resource/560/01/.