EDUC 3570:
Learning with Technology in and out of School (Fall 2012)

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Course Rationale

Digital media are changing the way young people learn, play, make friends, and participate in civic life. In this class, we will study three widely implemented digital tools intended to support literacy, math, and science learning of children ages 3-18. Students will design a project that integrates these tools to transform learning in either a classroom or afterschool program.

In this course, we will pursue three questions:

1. *How are digital media changing the way children and youth people play, learn, make friends, and participate in civic life?*

2. *Are these changes improving equity in educational outcomes, or do they exacerbate existing inequities?*

3. *How can we design technology-supported learning opportunities that improve outcomes for all children?*

As a class, we will explore both well-researched and cutting edge technologies, from television to immersive games for learning. Working in small groups, you will draw upon your own experiences with using technology, research evidence on the effects of using digital media, and data from the field to design a sequence of activities with the potential to transform student learning in the settings you will be visiting.

Learning Performances

Learning performances are expressions of the content understandings you will develop through the key assignments of the class. They are:

1. Students will construct and critique arguments related to the potential of new or emerging technologies for improving outcomes for diverse learners.

2. Students will lead group discussions of selected readings that culminate in class summaries of different points of view with respect to those readings.

3. Students will revise materials to help a teacher or informal educator lead a sequence of technology-supported activities in a site where they conduct fieldwork.

Objectives: Performance-Based Standards for CO Teachers

A guiding theme of the course concerns school content standards adopted by the Colorado Department of Education (CDE). Educators and policy makers have developed these standards to guide curriculum development, instruction, and assessment. The CDE specifies "Performance-Based Standards for Colorado Teachers." For more information on these standards: http://www.cde.state.co.us/cdeprof/download/pdf/li_perfbasedstandards.pdf

The numbers within parentheses in this syllabus refer to these standards. The letters "D" and "P" following the number indicate that you will develop and practice these skills as part of this course. In this course, you will have opportunities to:

5.5 Understand the cognitive processes associated with various kinds of learning and ensure attention to these learning processes so that students can master content standards. (DP)

6.2 Design and/or modify standards-based instruction in response to diagnosed student needs, including the needs of exceptional learners and English language learners. (DP)

7.1 Apply technology to the delivery of standards-based instruction (DP)

7.2 Use technology to increase student achievement (DP)

7.3 Utilize technology to manage and communicate information (DP)

7.5 Instruct students in basic technology sills (DP)

8.1 Model and articulate the democratic ideal to students, including:

   - The school's role in developing productive citizens.

   - The school's role. (DP)

Class Norms

The teaching team will do our best to ensure robust, equitable participation in class by maintaining the following norms in class and in discussion sections. The norms below are ones that will be objects of self-study throughout the course (see 'discussion posts' below under grading and assignments).

Listen carefully to everyone's ideas and build on them.

Everyone's ideas are worthy of your consideration. Making use of others' ideas when you speak in class conveys your respect for the person and their contribution. Making use of another's idea doesn't mean you have to agree with it.

Ask questions to deepen your understanding of others' claims: of the authors of text, of the teaching team, and of your classmates.

If someone's idea doesn't make sense to you, ask a question to help you understand better. Take the position that the claim is reasonable, and be satisfied that you understand only when you grasp why it's reasonable.

When making claims, support them with evidence.

When you make a claim in class or in an assignment, support it with evidence. For this class, evidence from well-designed, empirical research studies is valued most highly. Experience counts, too, especially where it offers an alternative perspective on findings from empirical research.

When making claims, seek to articulate the premises behind them and limits of their applicability.

In psychology, we all have ideas, beliefs, and opinions about our topic that grow from our diverse experiences in life. Those experiences lead us to make certain assumptions that may or may not be supported by science. They will also lead you to make assumptions that differ from those of your classmates. Stating premises and assumptions helps others know where you are coming from, so they can understand your ideas. Consider also that your experience doesn't apply to everyone, or even most people. Therefore, consider qualifying your claims by saying for whom they might be relevant, and under what circumstances.

Take personal responsibility for contributing to the intellectual life of the classroom, improving your understanding of the material and learning new skills.

You are responsible for your own learning. What you get out of the class depends on what you put into it. Stretch yourself, try out new premises, ideas, and tools for thinking and expressing your thinking.

Hold yourself and your classmates accountable to make the most of this class.

You share responsibility for learning that happens in class and in breakout sessions. If things are not going well for you or for others, ask first what you can do to help everyone get the most of class. Expect others to do the same.

Class Attendance

You are required to attend class every session. I will take attendance each week. You may miss one session without penalty to your grade; however, for each additional session missed, you will lose half a letter grade from your final grade. Please notify me at least one week in advance if you know you must miss class.

Grading and Assignments

Your grade will be determined by your class attendance, contributions to online discussion, and performance on the course assignments. The rubrics associated with selected assignments are described in detail below. Your grade will be made up of:

- Discussion posts (32 points)

- Review of a Game's Learning Potential for Common Sense Media (13 points)

- Group Discussions of Papers (10 points)

- Assignments Related to Final Project (45 points)

Discussion Posts (32 points, Bonus Points for Building on Another's Ideas)

We will use discussion boards in D2L for two purposes: (1) to post arguments related to the readings or media assignments (your required discussion posts), and (2) as a context for critiquing one another's arguments.

One of the key benefits of technology is that it provides a medium for making our thinking public and sharable. Making thinking public and sharable is an important tool in your own learning and for others in the class. By making public your own thinking, ways you may need to revise your own thinking can become visible to you. By sharing it with others, you help others see ways their own thinking may need to be revised, or you may open them up to new perspectives.

You are required to post short (140 word) arguments prior to class on each of the dates listed below. Each post completed is worth 3 points, except for November 14. That post is worth 8 points. You can earn *one bonus point* for each of your posts that makes reference to another classmate's thinking or argument from the current assignment or for a prior assignment.

To earn 3 points for your post, your post must include:

- A *claim* (a clear answer to the prompt, formulated as a clear position or statement)

- *Evidence* (some piece of evidence from the readings that supports your claim; the evidence should be a summary statement or synthesis of something from the readings, not a long quotation)

- *Reasoning* (a statement that logically connects claim to evidence)

Assignment (Post Prompt)	Date Due
Discussion Board Post (140 words): What would it take to integrate serious games into schools? How would schools need to change?	9/5/12
Discussion Board Post (140 words): How could engagement with digital media make schools and communities more democratic and participatory?	9/12/12
Discussion Board Post (140 words): What are some design principles for integrating technology into formal (school) and informal education?	9/19/12
Discussion Board Post (140 words): Is increasing access enough to impact learning? Why or why not?	10/3/12
Discussion Board Post (140 words): Do you agree with Roschelle and Patton's assertion that the next best math curriculum won't be a textbook? Why or why not?	10/17/12
Discussion Board Post (140 words): When might simulations support science learning? When might they not work?	10/24/12
Discussion Board Post (140 words): What media and learning opportunities do you think a school, museum, or afterschool program might need to provide opportunities for youth to "learn through making"?	10/31/12
Discussion Board Post (280 words): What might be some benefits to engaging in collaborative design with teachers, informal educators, or youth? What might be some challenges?	11/14/12
Discussion Board Post (140 words): Discussion Board Post (140 words): What do you think are the supports that a teacher or informal educator would need to implement your sequence?	12/5/12

Review for Common Sense Media (18 points, Bonus Points for Published Review)

Common Sense Media is an organization that provides parents and educators with reviews of digital media that many children and youth use. To complete this assignment, you will pick a game that you either encounter in class or have encountered outside of class. The only requirement is that the game by something that is *intended* by the developers to promote learning. You will complete a review of the learning potential of the game, following the format and examples that can be found here:

Your review should be targeted to teachers or to informal educators, not to parents. To complete this assignment, you will likely need to play this game a few times, and you will also need to make reference to principles for technology integration we articulate as a class

as part of the 9/19 assignment. The review draft will be due 9/26/12, and a revision based on my feedback to you will be due 10/10/12.

Rubric. I will score your review according to the rubric below.

Level Descriptor/Elaboration	Points Earned
Your review correctly identifies the age group, content area (e.g., reading, mathematics), and specific skills (e.g., phonemic awareness) that are targeted in the game. Your review describes the game features in terms of the full range of what students can do in the game, at all levels of the game (for games with levels). Your review provides 1-2 detailed recommendations for a teacher <u>and</u> an informal educator as to how to integrate the game into their class or program to get the most of it. Your review correctly describes how a specific aspect of the game could address at least one Colorado content standard that the game targets. Your review also describes how teacher guidance could enhance learning from the game.	16-18 points
Your review correctly identifies the age group and content area targeted in the game. Your review describes the game features in terms of some of what students can do in the game, at a few levels of the game (for games with levels). Your review provides 1-2 detailed recommendations for a teacher <u>or</u> informal educator as to how to integrate the game into their class or program to get the most of it. Your review correctly describes how a specific aspect of the game could address at least one Colorado content standard that the game targets.	13-15 points
Your review correctly identifies either the age group or content area targeted in the game. Your review describes the game features in terms of one thing that students can do in the game. Your review provides a recommendation as to whether the game can be integrated easily into a class or afterschool program in ways that enhance student learning. Your review correctly identifies at least one Colorado content standard the game targets.	10-12 points
Your review does not correctly identify the age group, content area, or specific skills targeted in the game. Your review describes the game features only from the perspective of the designer. Your review provides a recommendation as to whether the game can be integrated easily into a class or afterschool program. Your review identifies at least one Colorado content standard you believe the game targets, but it is not strongly aligned with the standard.	7-9 points

Bonus Points. You can double your score for this assignment if (1) you pick a game that has not been reviewed, (2) prepare a complete review, and (3) Common Sense Media decides to publish your review.

Leading Group Discussions of Articles (10 points)

As part of your small group (see below), over the course of the semester you will read two assigned articles and lead the class in a 20-minute discussion of the article assigned for that week. The articles will be targeted to the general topic of the project; I've selected them to

help you with your final project. In preparing to lead the class discussion, you are likely to go deeper with the assigned reading than with other readings in the course. In addition, your team will likely have to discuss the article first with one another, in order to identify how it relates to your field site. Each article discussion should:

- Summarize the main points of the article for the class with supporting details and evidence (5 mins)

- Pose 2 to 3 questions that you want the class to discuss (10 mins)

- Share your group's perceptions about the relevance of the reading to your field site (5 mins)

Each discussion will be worth 5 points, and the rubric for each discussion appears below:

Level Descriptor/Elaboration	Points Earned
Presents an accurate summary of the big ideas of the article, focusing on relevant evidence that support the big ideas. Poses questions that generate rich discussion in the class. Perceptions of relevance show evidence of involvement and contributions of all group members in planning the discussion.	5 points
Presents an accurate summary of the big ideas of the article, but limited relevant evidence to support the big ideas. Poses one question that generates rich discussion in the class. Perceptions of relevance show evidence of involvement and contributions of most group members in planning the discussion.	4 points
Presents a summary of the big ideas of the article in which some big ideas are inaccurate, and no relevant evidence is presented. Poses questions that fall flat, rather than generating discussion. Perceptions of relevance show evidence of involvement and contributions of mainly one group member in planning the discussion.	3 points

Assignments Related to Group Project (45 points, Bonus Points for High Quality Draft)

Anchoring the class is a group project in which you will design a sequence of 5 technology-supported activities designed to promote learning and fit within the constraints of a real educational program.

1. A preschool program that uses public media content from the program *Sid the Science Kid* to teach early science (Boulder)

2. A citizen science program that relies on citizens to collect and report data relevant to climate change (Boulder)

3. A high-school afterschool program that is engaging young people in participatory action research to map learning opportunities in their community (Lafayette)

During the second half of the course, you will make 5 visits to the programs. During the visits, you will participate either as a teacher or student, or both. In addition, you will take notes about what you observe in the program, with an eye toward helping you re-design a

sequence of activities within the program. On weeks when we are in the field, regular class will meet for 1.5 hours, rather than 2.5 hours.

I will give each group a *design challenge* that must be met. The design challenge is a focused statement of what objectives your design must accomplish for learners, using a particular affordance (capability) of digital media. To meet the design challenge, you are encouraged to *re-design* a sequence of activities you lead or observe. Re-use of designs is a way to make designing learning experiences with technology more efficient, so I am encouraging re-design as a strategy. Re-designs should be based on observations about what's working and what's not working for participants in the program.

As with all good design, your group will *iterate* (make revisions) to your initial designs. In addition, there will be intermediate assignments that will help your team create the most powerful design possible. The list of those assignments, due dates, and number of points you can earn for each appears in the table below.

Assignment	Date Due	Possible Points
Synthesis of Notes, Observations, Interviews Team members will identify key themes from case notes, interviews, or observations at your internship. Your synthesis will identify key needs of learners to be addressed by the design, as well as constraints on design that relate to the program context.	11/7/12	10
Draft Sequence of Student Activities The draft sequence of student activities will include specifications of student activities for 5 different sessions (lasting 50 minutes each). The sequence should include all student materials and rubrics teachers can use to judge the quality of student work.	11/28/12	10
Final Sequence of Student + Educator Activities The final sequence should include revised versions of the student activities and materials. It should also include lesson plans for the teacher or informal educator and a plan for a 2-hour professional development session to help a teacher or informal educator implement the sequence.	12/12/12	20

All group members will receive the same score for project-related assignments. For the final project, the rubric will be as appears below.

Points	Description of Level
19-20 points	The learning objectives are clearly identified and aligned to current disciplinary content standards of Colorado; the activities are likely to be sufficient to meet the standard. A refined design challenge is identified, and a rationale for what makes it important is part of the project description. Student activities will provide students with an opportunity to take part in an authentic, shared endeavor that makes good use of technology. Student activities embed opportunities for students to learn how to use any technology that is likely to be unfamiliar to them. Educator materials provide sufficient guidance for an educator in the field site to implement the activities with integrity to the goals of the design.
17-18 points	The learning objectives are clearly identified and aligned both to current disciplinary content standards of Colorado; the activities are likely to be only partly sufficient to meeting the standard. A refined design challenge is identified. Student activities will provide students with an opportunity to take part in an shared endeavor that makes good use of technology. Student activities include direct teaching of how to use any technology that is likely to be unfamiliar to them. Educator materials provide scripted guidance for an educator in the field site to implement the activities with fidelity to the design.
15-16 points	The learning objectives are clearly identified, but there is no alignment to a Colorado standard. The original design challenge is identified. Student activities will provide students with an opportunity to take part in parallel, individual activities that make good use of technology. Student activities include direct teaching of how to use all technology used in the project. Educator materials provide some guidance for an educator in the field site to implement the activities.
5-9 points	The learning objectives are unclear, and there is no alignment to a Colorado standard. There is no clear design challenge identified. Student activities will provide students with an opportunity to take part in parallel, individual activities that make use of technology, but not its most powerful affordances. Student activities do not teach or embed opportunities for students to learn how to use any technology that is likely to be unfamiliar to them. Educator materials provide almost no guidance for an educator in the field site to implement the activities.

Expectations Regarding Written Work

Assignments should be turned in on time because they will form the groundwork for our class discussions. Late assignments will be accepted only if you have received approval in advance. Written work should be in Times New Roman, 12 point font, double-spaced, with 1 inch margins. Writing should observe APA guidelines (American Psychological Association, 6th Edition). This includes, for example, how references are cited (in the text and in reference section). The APA writing manual is available in the Education library. You can also find information at the following link: http://owl.english.purdue.edu/owl/resource/560/01/.

Course Readings

All readings will be available via D2L. You are expected to complete all readings prior to class and bring digital or paper copies of readings to class. They will be an essential part of classroom discussions and lectures. Readings for each week are posted in separate Learning Modules, labeled by week # and date. Sometimes I substitute readings in the course of the semester, so please rely on the Learning Modules as your source of up-to-date information about the week's readings.

Accommodations for Students with Disabilities

If you qualify for accommodations because of a disability, please submit to me a letter from Disability Services in a timely manner so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities. Contact: 303-492-8671, Center for Community N200, and

http://www.colorado.edu/disabilityservices.

If you have a temporary medical condition or injury, see guidelines at

http://www.colorado.edu/disabilityservices/go.cgi?select=temporary.html

Disability Services' letters for students with disabilities indicate legally mandated reasonable accommodations. The syllabus statements and answers to Frequently Asked Questions can be found at

http://www.colorado.edu/disabilityservices

Policy Regarding Religious Observances

Campus policy regarding religious observances requires that faculty make every effort to deal reasonably and fairly with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. In this class, you must inform me of any conflicts with religious observances 2 weeks before an assignment is due or 2 weeks before you must miss class. I will adjust due dates of assignments so as not to interfere with your religious obligations.

Classroom Behavior

Students and faculty each have responsibility for maintaining an appropriate learning environment. Those who fail to adhere to such behavioral standards may be subject to discipline. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with differences of race, color, culture, religion, creed, politics, veteran's status, sexual orientation, gender, gender identity and gender expression, age, disability, and nationalities. Class rosters are provided to the instructor with the student's legal name. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me of this preference early in the semester so that I may make

appropriate changes to my records. See policies at
http://www.colorado.edu/policies/classbehavior.html

and at

http://www.colorado.edu/studentaffairs/judicialaffairs/code.html#student_code

Concealed Carry Permits

Concealed carry of firearms is permitted under Colorado law if you have a concealed carry permit. I would appreciate it if you would let me know this privately during the first week of class. You have my assurance that your concealed carry status will be kept confidential, and it will in no way affect your grade or evaluation as a student. I recognize you are under no obligation to supply me with this information.

Discrimination and Harassment Policy

The University of Colorado at Boulder Discrimination and Harassment Policy and Procedures, the University of Colorado Sexual Harassment Policy and Procedures, and the University of Colorado Conflict of Interest in Cases of Amorous Relationships policy apply to all students, staff, and faculty. Any student, staff, or faculty member who believes s/he has been the subject of sexual harassment or discrimination or harassment based upon race, color, national origin, sex, age, disability, creed, religion, sexual orientation, or veteran status should contact the Office of Discrimination and Harassment (ODH) at 303-492-2127 or the Office of Student Conduct (OSC) at 303-492-5550. Information about the ODH, the above referenced policies, and the campus resources available to assist individuals regarding discrimination or harassment can be obtained at http://www.colorado.edu/odh

Honor Code

All students of the University of Colorado at Boulder are responsible for knowing and adhering to the academic integrity policy of this institution. Violations of this policy may include: cheating, plagiarism, aid of academic dishonesty, fabrication, lying, bribery, and threatening behavior. All incidents of academic misconduct shall be reported to the Honor Code Council (honor@colorado.edu; 303-735-2273). Students who are found to be in violation of the academic integrity policy will be subject to both academic sanctions from the faculty member and non-academic sanctions (including but not limited to university probation, suspension, or expulsion). Other information on the Honor Code can be found at http://www.colorado.edu/policies/honor.html and at http://www.colorado.edu/academics/honorcode/.