SYLLABUS

GEORGE MASON UNIVERSITY
COLLEGE OF EDUCATION AND HUMAN DEVELOPMENT

EDUC 797
Designing and Learning From Massive Open Online Courses (MOOCs)

Summer 2014
Meeting Time/Days: MWF: 7:00-9:40 pm
Location: Innovation Hall, Room 320

PROFESSOR:
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COURSE DESCRIPTION:
    A. **Prerequisites:** None
    B. **Course description:** This course reviews the development and current status of massive open online courses (MOOCs) from the perspective of learning theory, methodology, and policy.

NATURE OF COURSE DELIVERY:
This course consists of lectures, online formats, in class, whole group, small groups, and individual activities and assignments. Some blended instruction will also occur.

LEARNER OUTCOMES:
This course is designed to enable students to:
- understand the history of MOOCs;
- understand the general findings of the effectiveness of online instruction;
- understand current methods for analyzing data in MOOCs, including linguistic data;
- understand learning design principles for MOOCs
- understand current higher education perspectives on MOOCs.
- understand current issues related to privacy and human subjects issues

REQUIRED TEXT:

No required text. Reading lists will be provided on Blackboard or noted in the syllabus.

Recommended: Strunk, W., & White, E. B. (2009). *The Elements of Style* (5th ed.). Boston: Allyn and Bacon. p. xiii. ISBN 978-0-205-31342-6.

American Psychological Association. (2009). *Publication manual of the American Psychological Association* (6th ed.). Washington, DC: Author.

APA Style guide summary: https://owl.english.purdue.edu/owl/resource/560/01

It is expected that each of student will:

(1) Read all assigned materials for the course.
(2) Attend each class session and participate in classroom activities that reflect critical reading of materials.
(3) Participate in blended instruction.
(4) Complete homework assignments, including review of existing MOOCs
(5) Sign up for a MOOC class if course calendar allows
(6) Complete all course assignments

*Late assignments will not be accepted by the instructor. If an emergency occurs please notify the instructor in advance

Technology Policy: *When you are using cell phones, laptops, etc., please be respectful of your peers and your instructor and do not engage in activities that are unrelated to class. Such disruptions show a lack of professionalism and may affect your participation grade.*

Course Requirements

1. **Journals (24%):** Student will maintain a journal reflecting on their learning from the instructor, online assignments, fellow students, and related readings. To facilitate deeper thinking on the class material and class discussion, students are expected to keep a public Blackboard journal/diary in which they write their thoughts. Some weeks will have a specific journal assignment, others should involve making sense of the week's readings in whatever make sense to the writer. The journal will also be the place where each student considers and makes notes about their final research design paper. Journals will be graded for being consistently and thoughtfully kept.

   Nine journal entries should be made by 6/14. Three journal entries will be formally graded—2 the student selects, 1 the professor randomly selects (3 * 8 = 24). The evaluation criteria will be for links to class discussions (2 points), to comments of other students (2 points), and to readings from the assigned reading, or to other reading by the

student (2 points); an additional 2 points is available for depth of thinking and insights, attention to detail, and thoroughness. Time is set aside on 6/9 to prepare the journal for grading. Submit your selections via Blackboard by **6/14, noon**. Students are encouraged to continue to contribute to their journals for the rest of the semester, particularly as new ideas are discussed. The journal should prove to be a useful place to write notes about the research proposal paper. However, there will be no further grading of the journals/diaries. Students will be expected to bring up ideas generated through the journaling process in class discussions.

Students are encouraged to look at others' journals to extend their own thinking, or to help clarify difficult concepts. *If you do use an idea from another student's journal, cite it.*

2. **Attendance and Participation (11%):** Given the compact nature of summer courses, classroom participation (both actual and virtual) is mandatory. This includes contributing to class discussion in class and via Blackboard, and attending three MOOC classes (see below). The Blackboard discussions will help inform students' reflective journal. Because of the importance of lecture and classroom discussions to students' total learning experience, each student is expected to come to class on time and participate in class discussions and activities. Additionally, assigned readings are to be completed before class. Attendance, punctuality, preparation, and active contribution to small and large group activities are essential. These elements of behavior reflect the professional attitude implied in the course goals and will account for 11% of the course grade. In the event students miss a class, the professor should be notified, preferably in advance, and the student is responsible for any assignments and materials passed out or discussed that day. (See rubric for attendance and participation in Appendix A).

3. **Completion of Human Subjects Proposal (5%):** Students will write a human subjects (IRB) proposals to accompany either a proposed quantitative research study, or a qualitative research study directed at MOOCs. Template forms will be available on Blackboard. Upload assignments to Blackboard. Title the file with your name, qualitative IRB or quantitative IRB, and the date.

4. **Attendance in a MOOC (10%).** Each student will enroll in a MOOC (see mooc-list.com), and attend three sessions. The student will report on the experience. How prepared did you feel for the course? Did the orientation to the course help you? What did you think of the sessions you previewed? What aspects of the course were positive? Which were negative? [2 pages, double spaced using these headings]. Due 6/25.

5. **Design a research proposal (50%).** Discuss research theme with the faculty member early in the course. For this option, each student will write a research proposal that draws on the key themes covered in the class (15 pages, double-spaced, not including references or appendices). The theoretical framing and methods should reflect research studies read in class or from the students' reading of related literature. Proposals should assume that an adequate budget is available. Key elements of the proposal are the following:

1. Problem Statement with literature review: What is the problem addressed in study? Why it is important? Why is it appropriate for a MOOC?
2. Research question(s)/hypotheses
3. Conceptual Framework: What learning theories, policy studies (etc.) underlie or shape your research study?
4. Methodology: Participants, measures, procedures and design of the research study
5. Discussion: Potential results analyzed from the point of view of your conceptual framework, limitations, and future research.

Sample Method Section
1. Statement of purpose and research questions, including a statement indicating research you are replicating and extending and a relevant citation for the study. (See also APA manual pp. 247-249). A model for qualitative research methods will be given during class.
2. Method (5-6 pages)

      Participants characteristics
      Sampling procedures,
      setting
      Sample size
      Materials

            Content for all conditions
            Method of implementation for all conditions
            Deliverer
            Setting
            Time span, including number of sessions, duration of each session
            Unit of analysis
      Measures (Data sources) (dependent variables) instrumentation (where relevant) Procedures (proposed data collection process)
      Proposed preliminary data analyses (table of research question by data source by proposed data analysis
      3. References

Course Evaluation
The requirements for this class will be weighted in the following manner:

Attendance and Participation	11%
Journal/Diary	24%
Review of MOOC	10%
Human subjects forms	5%
Research proposal paper	50%

Your final grade for this class will be based on the following:
A+ = 98 − 100%   A = 93 − 97   A- = 90 − 92 B+ = 88 − 89%   B = 83-88%   B- = 80 − 82% C = 70 − 79%   F < 70%

RELATIONSHIP TO PROGRAM GOALS AND PROFESSIONAL ORGANIZATION

Principle 1: The Nature of Learning Process Principle 2: Goals of the Learning Process Principle 3: Construction of Knowledge Principle 4: Strategic Thinking

Principle 5: Thinking about Thinking

Principle 6: Context of Learning

Principle 7: Motivational and Emotional Influences on Learning

Principle 8: Intrinsic Motivation to Learn

Principle 9: Effects of Motivation on Effort

Principle 11: Social Influences on Learning

Principle 13: Learning and Diversity Course Requirements

RUBRIC research paper proposal

Exemplary paper (45-50 points): Appropriate topic, thorough and thoughtful purpose and research questions with appropriate study cited for replication and extension, appropriate and clearly described research design, participants, materials, data sources, implementation procedures, and careful brief description of data analyses. Good writing style, free of mechanical or stylistic errors, appropriate use of APA format. (15 pages, double-spaced, not including references or appendices).

Adequate paper (40-44 points): Good overall paper, lacking in one or two of the criteria for an exemplary paper. Not entirely reflective or thoughtful, or minor writing style or APA format errors may be present.

Marginal paper (20-39 points): Overall, acceptable but with one or more significant problems. Contains some useful information, but may have substantial problems with evaluation, writing style or APA format, or unclear or inappropriate description of implementation of project.

Inadequate paper (19 or fewer points): Paper with substantial problems in important areas such as writing, proposed implementation of intervention, procedures for evaluation of results, or overall thoughtfulness. Contains little or no information of value to field of education or learning or policy.

Unacceptable/no paper (0 points): Paper with no value whatsoever relative to the assignment, or no paper turned in at all. May describe a project of no value or that was not approved for this assignment.

RUBRIC FOR PARTICIPATION, AND ATTENDANCE – individual

Exemplary (9-11 points): The student attends all classes, is on time, is prepared and follows outlined procedures in case of absence; the student actively participates and supports the

members of the learning group and the members of the class.

Adequate (7-8 points): The student attends all classes, is on time, is prepared and follows outlined procedures in case of absence; the student makes active contributions to the learning group and class.

Marginal (5 points): The student is on time, prepared for class, and participates in group and class discussions. The student attends all classes and if an absence occurs, the procedure outlined in this section of the syllabus is followed.

Inadequate (5 or fewer points): The student is late for class. Absences are not documented by following the procedures outlined in this section of the syllabus. The student is unprepared for class and does not actively participate in discussions. The student may fail to exhibit professional behavior and dispositions. **Excessive absences can result in additional penalties and potential withdrawal from class.**

RUBRIC for HUMAN SUBJECT PROPOSAL (5 points)

Exemplary (4-5 points) Appropriately written document containing all components, including: protocol contains answers to all questions, clearly written, informed consent forms written in readability and format appropriate for target audience.

Adequate (2-3 points) Good overall proposal, but is lacking in one or two of the criteria for an exemplary proposal. Not entirely reflective or thoughtful, or minor writing style or APA format errors may be present.

Marginal (1 point) Overall, is acceptable but contains one or more significant problems. Contains some useful information, but may have substantial problems with procedures, writing style or APA format, or unclear or inappropriate description of implementation of project.

Inadequate (0 points) Proposal contains substantial problems in important areas such as writing, proposed implementation of intervention, procedures for evaluation of results, or overall thoughtfulness.

Rubric for MOOC attendance (10 points) [2 pages, double spaced using these headings]. Due 6/25.

How prepared did you feel for the course? Did the orientation to the course help you? What did you think of the sessions you previewed? What aspects of the course were positive? Which were negative?

Exemplary (9-10 points) Appropriately written document containing all components.

Reflective or thoughtful <u>with references to materials, readings or class discussions</u>. No APA errors.

Adequate (7-8 points) Appropriately written document containing all components. Lacking reflective or thoughtful commentary <u>with references to course materials, readings or class discussions</u>. Minor writing style or APA format errors may be present.

Marginal (6-7 points) Overall, is acceptable but contains one or more significant problems. Contains some useful information, but may have substantial problems with components; sparse references to <u>course materials, readings or class discussions</u>. Major writing style or APA format errors are present.

Inadequate (<6 points).   MOOC Review is shallow or perfunctory. Unacceptable work.

<u>**Tentative Course Organization and Schedule**</u>

DATE	TOPIC	notes	Activity
1. 5/19	Review syllabus-Introduction to online education/MOOCs AI and Education, http://iaied.org/about Educational data mining http://www.educationaldatamining.org www.solaresearch.org Society for Learning Analytics Research Searching library NSF.gov	Intelligent tutoring systems Historical antecedent of MOOCs Who's who? Where to find research studies?	Sign up for a MOOC of your choice during the course period (if available). Udacity.org; coursera.org, mooc-list.org https://www.coursesites.com/webapps/Bb-sites-course-creation-BBLEARN/pages/mooccatalog.html https://www.edx.org/course-list/allschools/allsubjects/allcourses http://net.educause.edu/ir/library/pdf/ELI7097.pdf [intro to MOOCs] Review history of MOOCs from the point of view of student modeling; content http://blog4222.blogspot.ca/2012/09/making-sense-of-moocs-musings-in-maze.html
2. 5/21	Learning research and MOOCs		Review http://www.educause.edu/library/resources/it-force-change (for all materials. For MOOC: https://educause.acms.com/p7tsy012ex9/?launcher=false&fcsContent=true&pbMode=normal) Learning themes for MOOCS Research topics http://mri2013.sched.org/ [hover] Review: https://educause.acms.com/p7tsy012ex9/?launcher=false&fcsContent=true&pbMode=normal http://cra.org/uploads/documents/resources/rissues/Postsecondary_Learning_Report.pdf

3. 5/23	Memorial Day	No class	See University Calendar
4 5/26	Memorial Day	No class	
5. 5/28	Connectionist MOOCs (cMOOCs) xMOOCs history and current status	http://www.oer commons.org/ What is "open" in MOOCs?	Work of Siemens and Downes http://www.downes.ca/cgi-bin/page.cgi?post=31741 http://www.connectivism.ca/ http://halfanhour.blogspot.ca/2012/09/questions-from-students-at-vancouver.html http://www.educause.edu/blogs/mcaulfield/xmooc-communities-should-learn-cmoocs Udacity, Coursera, https://www.canvas.net/ and others… IP issues http://www.educause.edu/blogs/cheverij/moocs-and-intellectual-property-ownership-and-use-rights http://www.techinasia.com/coursera-picks-steam-china-students-moocs-mobile/

6. 5/30	Data on xMOOCs use and effectiveness		Paper by Boruch et al. Pitt Nuclear course; Barbara Means online learning https://vialogues.com/vialogues/play/11067 Hype of big data? http://www.ft.com/cms/s/2/21a6e7d8-b479-11e3-a09a-00144feabdc0.html#axzz2y1JVyuL9 Siemens, G. (2013). Learning analytics: The emergence of a discipline. American Behavioral Scientist, 57 (10), 1380-1400.
7. 6/2	Introduction to automated linguistic analyses		Guest lecturer: Abby Konopasky, GMU
8. 6/4	Research methods designs for MOOCs		Guest lecturer: Barry Sloane, National Science Foundation http://www.ed.gov/edblogs/technology/evidence-framework/ http://www.nsf.gov/pubs/2013/nsf13126/nsf13126.pdf
9. 6/6	"big data" methods in MOOCs	No face-to-face class; Review a MOOC…	Sign up for and review Coursera Baker MOOC on Big Data in Education https://www.coursera.org/course/bigdata-edu Review: http://edge.org/conversation/reinventing-society-in-the-wake-of-big-data http://www.columbia.edu/~rsb2162/publications.html (assorted papers; Read: Baker, R.S.J.d., Yacef, K. (2009) The State of Educational Data Mining in 2009: A Review and Future Visions. Journal of Educational Data Mining, 1 (1), 3-17 Prediction using affect: http://www.columbia.edu/~rsb2162/3536-15645-1-ED-v3.pdf **Prepare your journals for grading!**

10. 6/9	Use of video search tools in MOOCs	InVideo tool	Guest lecturer: Shuangbao Wang, UMUC Wang, S., Kelly, W. and Zhang, J. (2014). inVideo - A Novel Big Data Analytics Tool for Video Data Analytics. Proc. of IEEE/NIST IT Professional Conference on Challenges in Information Systems Governance. Gaithersburg, MD, USA.
11. 6/11	Department of Defense and learning ; MOOCs	xAPI Metacognitive testing	Guest lecturer: Shane Gallagher, ADLNET.gov **Journals due 6/14 by noon**
12. 6/13	Review of course content to date		Student Q & A on content and materials, to date. Review of student research papers. Sign up by Doodle Calendar. **Journals due 6/14 by noon**
13. 6/16	IRB concerns, privacy		White House, NRC other reports http://www.nap.edu/openbook.php?record_id=13541 http://www.nap.edu/catalog.php?record_id=18614 http://www.whitehouse.gov/issues/technology/big-data-review https://chronicle.com/article/The-Document-A-Bill-of/136781/

14. 6/18	Massive open online research environments	Biometrics, affective, stealth and other data	EDU Star http://www.hamiltonproject.org/files/downloads_and_links/THP_ChatterjiJones_EdTech_DiscPaper.pdf Kaplan http://www.crlt.umich.edu/sites/default/files/resource_files/2-8-13%20SLAM%20Niemi%20Slides.pdf
15. 6/20	Preparation for final paper.		Student Q & A on your papers. Review of student research papers. Sign up by Doodle Calendar.
16. 6/23	Advanced automated linguistic analyses		Guest lecturer: Abby Konopasky
6/25	*Written materials due in Blackboard*	*Human subjects and research paper due*	*Journals were due on 6/14*

COLLEGE OF EDUCATION AND HUMAN DEVELOPMENT

Student Expectations

Students must adhere to the guidelines of the George Mason University Honor Code [See http://academicintegrity.gmu.edu/honorcode/].

Students with disabilities who seek accommodations in a course must be registered with the George Mason University Office of Disability Services (ODS) and inform their instructor, in writing, at the beginning of the semester [See http://ods.gmu.edu/].

Students must follow the university policy for Responsible Use of Computing [See http://universitypolicy.gmu.edu/1301gen.html].

Students are responsible for the content of university communications sent to their George Mason University email account and are required to activate their account and check it regularly. All communication from the university, college, school, and program will be sent to students solely through their Mason email account.

Students must follow the university policy stating that all sound emitting devices shall be turned off during class unless otherwise authorized by the instructor.

Students are expected to exhibit professional behaviors and dispositions at all times.

Campus Resources

The George Mason University Counseling and Psychological Services (CAPS) staff consists of professional counseling and clinical psychologists, social workers, and counselors who offer a wide range of services (e.g., individual and group counseling, workshops and outreach programs) to enhance students' personal experience and academic performance [See http://caps.gmu.edu/].

The George Mason University Writing Center staff provides a variety of resources and services (e.g., tutoring, workshops, writing guides, handbooks) intended to support students as they work to construct and share knowledge through writing [See http://writingcenter.gmu.edu/].

For additional information on the College of Education and Human Development, Graduate School of Education, please visit our website [See http://gse.gmu.edu/].