

GEORGE MASON UNIVERSITY
COLLEGE OF EDUCATION AND HUMAN DEVELOPMENT
Instructional Design and Technology Program

EDIT 801 Section 001: Nature and Process of Design
3 Credits Fall 2015
Mondays 4:30-7:10pm
Fairfax Campus – Thompson L028

PROFESSOR(S):

Name: Dr. Brenda Bannan
Office phone: 703-993-2067
Office location: Thompson Hall L043
Office hours: By appointment
Email address: bbannan@gmu.edu

PREREQUISITE: EDCI 716, EDIT 752, or EDSE649

COREQUISITE: EDIT 802 or permission of instructor

COURSE DESCRIPTION:

Examines multi-disciplinary and cross-disciplinary perspectives on the nature and process of designing and developing learning technologies.

NATURE OF COURSE DELIVERY:

This course focuses on presenting an overview of multi- and cross- disciplinary views of design processes to inform and engaging students involved in the design and research of learning technologies in the observation and analysis of the process of design and design thinking. The course is designed to provide an opportunity for students to examine the philosophical as well as pragmatic aspects of both systematic and non-systematic approaches to design to promote inquiry, synthesis and action for the purposes of design and research. Multiple domains incorporate design processes and this course will allow students to build a deeper understand of design as a “generative human agency.”

This course will be conducted in a blended, face-to-face and online manner involving short-lectures, discussions and group work. The course will involve graduate students in observations of a design context or team to permit reflection, generation and individual effort or collaboration on a draft a potentially publishable paper related to examining an aspect of design through a multi- and cross-disciplinary lens. Participants will share perspectives through on-line discussion of the readings, carry out qualitative observations of a design team, conduct a literature review on design within a particular discipline and contrast it with other perspectives on design presented by their peers in a cumulative final paper.

LEARNER OUTCOMES:

This course is designed to enable students to:

- Understand the multidisciplinary nature of design process
- Examine the interaction between design team members and how observations of a design team intersect with the theoretical and applied literature with actual design process
- Examine the construct of “design thinking” and its instantiations through qualitative observational research
- Demonstrate a written synthesis of an applied design observation experience grounded in applicable literature on the practice of design

PROFESSIONAL STANDARDS:

This course adheres to the following Instructional Technology Program Goals and Standards for Programs in Educational Communications and Instructional Technologies established by the Association of Educational Communication and Technologies (AECT) under the National Council for the Accreditation of Teacher Education (NCATE).

Standard 1 – Design

- 1.1.2.a Demonstrate in-depth synthesis and evaluation of the theoretical constructs and research methodologies related to instructional design as applied in multiple contexts.
- 1.1.3.b Utilize the research, theoretical, and practitioner foundations of the field in the development of instructional materials.
- 1.1.5.c Articulate the relationship within the discipline among theory, research, and practice as well as the interrelationships among people, processes, and devices.

REQUIRED TEXTS:

Liedtka, J., King, A. & Bennett, K. (2013). Solving problems with design thinking. New York: Columbia Business School Publishing.

Crouch, C. & Pearce, J. (2012). Doing research in design. London: Bloomsbury.

Maina, M., Craft, B. & Mor, Y. (2015). The art and science of learning design. Rotterdam: Sense Publishers. (Only Requires: Introduction and Chapters 1 & 2 freely distributed at https://www.sensepublishers.com/media/2398-the-art-and-science-of_learning-design.pdf)

RECOMMENDED TEXTS:

Koh, J.H.L., Chai, C.S. & Wong, B. (2011). Design thinking for education. Singapore: Springer.

REQUIRED READINGS:

Current supplemental readings may be selected by the instructor for review on the course site and commentary by students.

COURSE ASSIGNMENTS AND EVALUATION:

A. Requirements: There are three main requirements in this course: (1) class participation (40% of grade); (2) observational research (30% of grade); and (3) collaborative paper including an annotated literature review (30% of grade). These requirements are examples of performance-based assessments (PBA) and are described in detail below.

(1) Class Participation (40%): Being an effective class participant is very important in this course because much of what you will learn will be from the other students in class. Effective class participation involves not only preparation and speaking skills, but also listening skills, contributing to the course site/Online Reference Tool and commenting on peers' contributions both in-class and online. Specifically:

- In-class participation: Students must make significant contributions towards building a shared interpretation of the texts and theories being discussed. This includes participation in class online discussions and in textual analysis of the readings related to individual areas of interest. (10%)
- Social software/Repository/Reference contribution: Students must make contributions to a determined course site repository or online collaborative reference tool or equivalent in identifying, reviewing and annotating relevant sites or sources related to our directed study. (10%)
- Design Knowledge base: Students must also make significant contributions to the online course site building their individual and our collective knowledge base on design and design thinking literature review (annotated citations) and synthesis drafts in area of interest which will be used as a medium for supporting the reporting/evolution of theoretical ideas, observational analysis and paper drafts while showing the progression of these ideas through posted evolving drafts. (10%)
- Peer critique: Students must also reflect upon, comment and edit analytic contributions/paper sections that others have written at the end of the semester. (10%)

(2) Observation of actual design team environment: (30%):

- In teams, students will (a) identify or be assigned an existing design team (interpreted broadly) to observe in an educational, organizational, corporate, medical, non-profit, military or other approved setting. Each team will then collect observational qualitative data in an applied study related to an identified construct in design process, design context and/or design thinking lens. These observations will be documented on the course site and analyzed using qualitative case study methods to inform the writing of an analytic paper described below. Each student will be expected to post the progression of their analysis and drafts (either individually or in a collaborative effort) which then will be incorporated into a cohesive qualitative paper.

(3) Analytical Individual or Collaborative Research Paper (30%):

- o Each student will contribute to an individual or collaborative, potentially publishable 15-25 (depending if one or more students are contributing) page qualitative research paper on their observations of the nature of design in their selected context intersected with the applied and research literature on design process. The student or student team should identify an important issue or aspect of design or design thinking for observation in an actual design team and frame in the literature to synthesize important insights and evolving constructs related to design. The paper will take the form of a qualitative case study informed by the literature (other applied research or empirical research methodologies may be considered as well). If a collaborative paper is selected, each student will be expected to contribute equal amounts of references and analysis to write an equivalent individual section of the paper determined and allocated by the team.

Course Content Availability/Instructor Availability

Due to intense nature of this blended project-based course, the instructor will release content progressively in the Blackboard course site typically the day of the course session (e.g. by Wednesday 4:30pm of specific class session content or sometimes earlier). Any course questions should be posted to the course question section on Blackboard for all class participants to view and benefit from the collaborative responses. The instructor will typically respond to the majority of questions/concerns on the day of the class allocated to that particular topic and remaining responses will likely occur periodically on Monday-Thursday. Response to questions/concerns posted on Friday-Sunday will typically require some additional turn-around time.

GMU POLICIES AND RESOURCES FOR STUDENTS

- a. Students must adhere to the guidelines of the George Mason University Honor Code (See <http://oai.gmu.edu/the-mason-honor-code/>).
- b. Students must follow the university policy for Responsible Use of Computing (See <http://universitypolicy.gmu.edu/policies/responsible-use-of-computing/>).
- c. 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 use their MasonLive email account to receive important University information, including messages related to this class. See <http://masonlive.gmu.edu> for more information.*
- d. 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/>).

e. 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/>).

f. Because this is a computer classroom, we will frequently be using the internet as a means to enhance our discussions. We will also be using the computers for our in-class assignments. Please be respectful of your peers and your instructor and do not engage in activities that are unrelated to the class. Such disruptions show a lack of professionalism and may affect your participation grade.

g. 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/>).

h. The University Catalog and University Policies may be found at the following links: <http://catalog.gmu.edu/> and <http://universitypolicy.gmu.edu/>

i. The calendar of religious holidays and observations is listed <http://ulife.gmu.edu/calendar/religious-holiday-calendar/>. It is the student's responsibility to speak to the instructor in advance should their religious observances impact their participation in class activities and assignments.

j. As in many classes, a number of projects in this class are designed to be completed within your group. With collaborative work, names of all the participants should appear on the work. Collaborative projects may be divided up so that individual group members complete portions of the whole, provided that group members take sufficient steps to ensure that the pieces conceptually fit together in the end product.

PROFESSIONAL DISPOSITIONS

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

CORE VALUES COMMITMENT

The College of Education & Human Development is committed to collaboration, ethical leadership, innovation, research-based practice, and social justice. Students are expected to adhere to these principles: <http://cehd.gmu.edu/values/>.

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

INSTRUCTIONAL DESIGN AND DEVELOPMENT PROGRAM EXPECTATIONS:

PROPOSED CLASS SCHEDULE

*Due to the fluid, real-world and dynamic nature of the design process/research context, the instructor reserves the right to change the syllabus/schedule during the course if needed based on needs/requirements. Every effort will be made to keep students abreast of changes as soon as possible but professionalism and demonstration of your adaptive expertise as a design researcher and flexibility in complex, real world research is expected in this course.

Blackboard Support

This course intensively implements Blackboard (for asynchronous sessions) and Blackboard Collaborate (for synchronous sessions). Beyond the introduction to these tools in class, students can access the following support resources:

- 1) GMU Course Support for Blackboard in General
https://mymasonportal.gmu.edu/webapps/portal/frameset.jsp?tab_tab_group_id=2301
- 2) GMU Top Questions and Additional Tools for Blackboard Mobile and Collaborate
<http://coursesupport.gmu.edu/>
- 3) GMU Course Support form for problems
<http://coursesupport.gmu.edu/contactus.cfm>
- 4) Blackboard Collaborate Support
<http://support.blackboardcollaborate.com/ics/support/default.asp?deptID=8336>

Criteria for evaluation

The course includes 3 performance-based assessments (PBA) as described in the requirements section above. These include: (1) course participation through individualized and collaborative contributions both in-class and online; (2) qualitative observation of a design team; and (3) a collaborative paper intersecting qualitative analysis of the design team case study with literature on design process and design thinking. Each PBA will be evaluated through a rubric provided in the next section.

Participation rubric for both in-class and online participation and contributions (40%):

- Outstanding contributor: contributions reflect exceptional preparation. Ideas offered are always substantive, providing one or more major insights as well as direction for the class. Frequent references are made to the readings and/or to knowledge from other sources, often showing the ability to generalize or extend the material under discussion. If this person were not a member of the class, the quality of discussion would be diminished markedly.
- Good contributor: contributions reflect thorough preparation. Ideas offered are usually substantive, providing good insights and sometimes direction for the class. Occasional references are made to the readings and/or to knowledge from other sources, sometimes

showing the ability to generalize or extend the material under discussion. If this person were not a member of the class, the quality of discussion would be diminished.

- Adequate contributor: contributions reflect satisfactory preparation. Ideas offered are sometimes substantive, providing some useful insights but seldom offer new direction for the discussion. Some references are made to the readings and/or to knowledge from other sources but seldom generalize or extend the material under discussion. If this person were not a member of the class, the quality of discussion would be diminished somewhat.
- Unsatisfactory contributor: Contributions reflect inadequate preparation and/or there is little contributions in class or online. Ideas offered are seldom substantive, providing few insights and no direction for the class. References to readings are rare or non-existent. If this person were not a member of the class, the quality of discussion and knowledge building would be unchanged.

Table 1 Participation Rubric (40%)

	Category 1	Category 2	Category 3	Category 4
CRITERIA	Unsatisfactory Contributor	Adequate Contributor	Good Contributor	Outstanding Contributor
Contributions to Group Process	6	7	8	10
Annotated Literature	6	7	8	10
Knowledge base	6	7	8	10
Research Paper review	6	7	8	10
Score	24	28	32	40

(Total Possible Points: 40)

Table 2 Research Paper Rubric (30%):

Criteria	No Evidence	Beginning (Limited evidence)	Developing (Clear evidence)	Accomplished (Clear, convincing, substantial evidence)
Topic addressed in sections written is important to the study of design and design thinking	Topic is not related to design and design thinking	Topic is identified related to design thinking but a weak case is presented for	Topic is related to design thinking and an emerging case with logical	Topic is directly related to gap in the literature on design process or thinking

		its examination	argument is presented establishing importance	with a logical argument clearly establishing the importance of the topic
Literature examined is pertinent to topic and grounded in the research on design process and technology in assigned individual section and submitted by due date	Literature review is not grounded in relevant research in section, not submitted by due	Small amount of literature examined (less than 5 sources) with dubious grounding but submitted by due date	Adequate number and quality of sources in literature, synthesized and submitted by due date	Excellent synthesis of valuable sources of relevant work, well-reasoned and written and submitted by due date
Individual contribution to collaborative conclusions is evident vis a vis the impact of the analysis of qualitative observations on the design process is cogent and cohesive	No contribution to conclusions and qualitative analysis	Little contribution to conclusions falling from qualitative analysis	Involvement in stages of qualitative analysis and aligned conclusions based on participation in observations and analysis	Significant insights resulting from deep thinking of qualitative analysis based on important participation in observation and analysis
Paper adheres to APA style and length requirement, bibliography is comprehensive	Paper does not align with requirement	Paper aligns with some requirements	Paper aligns with most requirements	Paper aligns with all requirements
SCORE				

(Total Possible Points: 30)

Table 3 Observation of Design Team Rubric (30%):

Criteria	No Evidence	Beginning (Limited evidence)	Developing (Clear evidence)	Accomplished (Clear, convincing, substantial evidence)
Qualitative themes are well developed, comprehensive, interdisciplinary, and grounded in design process literature	No qualitative themes are presented	Very little evidence of qualitative themes	Some evidence of emergent qualitative themes	Rich evidence of comprehensive qualitative themes

				grounded in literature
Identified themes are used to analyze the identified area interaction or process of design team	Themes are not used to analyze design interaction or process	Few themes are used to analyze design interaction or process	Some themes are presented that are used to analyze interaction or process	Significant, well-supported themes are used to analyze identified area of interaction and process
Observational data collection procedures are clearly described and logically align with core elements of analysis	Data collection procedures are not described	Data collection procedures are described but do not align with analysis	Data collection procedures are described and align somewhat with analysis	Data collection procedures are thoroughly described and well-align with core elements of analysis
Evidence of organized, pre-planned research design through timely individual contributions to knowledge base, analysis and paper	No contributions to knowledge base, analysis and paper are evident	Little contribution to knowledge base, analysis and paper are evident	Contribution to knowledge base, analysis and paper are evident	Significant contribution to knowledge base, analysis and paper are evident
SCORE				

(Total Possible Points: 30)

B. Grading scale: A = 94-100; A - = 90-93; B+ = 86-89; B = 83-85; B- = 80-82; C = 70-79; F = <70

BLACKBOARD REQUIREMENTS

Every student registered for any Instructional Design and Technology course with a required performance-based assessment is required to submit this assessment, Research Paper, to Blackboard (regardless of whether a course is an elective, a onetime course or part of an undergraduate minor). Evaluation of the performance-based assessment by the course instructor will also be completed in Blackboard. Failure to submit the assessment to Blackboard will result in the course instructor reporting the course grade as Incomplete (IN). Unless the IN grade is changed upon completion of the required Blackboard submission, the IN will convert to an F nine weeks into the following semester.

PROPOSED CLASS SCHEDULE

Date	Topic/Learning Experiences	Readings and Assignments for next class
Week1 Aug 31 (F-to-F)	Overview of Syllabus Brainstorm design contexts or groups for study and blog post	<ul style="list-style-type: none"> ○ Chapters 1 & 2 Crouch & Pearce ○ Chapter 1 Liedtka, et al. ○ Maina, Craft & Mor (Eds.), Introduction ○ Brainstorm design context or design group for study ○ Describe your own experiences as a designer/innovator/design thinker/problem solver
Week 2 Sept 7	No Class – Labor Day	
Week 3 Sept 14 (Asynch)	Intro to Interdisciplinary Design and Design Thinking Positioning the Designer	<ul style="list-style-type: none"> ○ Narrow down design context or group for study and post selected direction ○ Chapter 3 Crouch & Pearce ○ Chapter 2 Liedtka, et al. ○ Maina, Craft & Mor (Eds.), Chapter 1 ○ Narrow down design context or group for study and post selected direction
Week 4 Sept 21 (F-to-F)	Practice and Praxis Reflection and Reflexivity Art & Science in Learning Design Discuss and select design context or group for study by end of class Begin to identify and review literature Begin annotating identified articles in selected area of interest	<ul style="list-style-type: none"> ○ Chapter 4 Crouch & Pearce ○ Chapter 3 Liedtka, et al. ○ Maina, Craft & Mor (Eds.), Chapter 2 ○ Begin to write HSRB application ○ Plan qualitative observation with participants ○ Write up protocol for qualitative observation
Week 5 Sept 28 (Asynch)	Research Methodologies Literature synthesis Write HSRB for ORIA-Office of Research Integrity and Assurance	<ul style="list-style-type: none"> ○ Chapters 5 & 6 Crouch & Pearce ○ Chapter 3 Liedtka, et al. ○ Other designated readings ○ Finalize HSRB submission for Oct 7th
Week 6 Oct 5 (F-to-F)	Methods Research Questions Ethnography & Observation Submit HSRB by Oct 7th DUE	<ul style="list-style-type: none"> ○ Chapters 7 Crouch & Pearce ○ Chapter 4 Liedtka, et al. ○ Other designated readings ○ Finalized HSRB submission ○ Submit HSRB for qualitative observation study by Oct 7th

		<ul style="list-style-type: none"> ○ Review literature in design area of interest
<p>Week 7 Oct 12 (Asynch)</p>	<p>Annotated literature reviews DUE and posted Narratives Synthesize literature Plan observations</p>	<ul style="list-style-type: none"> ○ Chapters 8 Crouch & Pearce ○ Chapter 5 Liedtka, et al. ○ Other designated readings ○ Continue to review and begin the synthesis of literature in design area of interest
<p>Week 8 Oct 19 (Asynch)</p>	<p>Case Studies Mixed Methods Plan observations Synthesize literature</p>	<ul style="list-style-type: none"> ○ Chapters 9 Crouch & Pearce ○ Chapter 6 Liedtka, et al. ○ Other designated readings ○ Continue to review and begin the synthesis of literature in design area of interest
<p>Week 9 Oct 26 (Synch)</p>	<p>Action Research Plan observations Observational Research Observation of design team Synthesize literature</p>	<ul style="list-style-type: none"> ○ Chapters 10 Crouch & Pearce ○ Chapter 7 Liedtka, et al. ○ Other designated readings
<p>Week 10 Nov 2 (F-to-F)</p>	<p>Observation of design team Analysis of Observational Data Synthesize literature</p>	<ul style="list-style-type: none"> ○ Chapter 8 Liedtka, et al. ○ Other designated readings
<p>Week 11 Nov 9 (Asynch)</p>	<p>Observation of design team Begin to draft literature review and post drafts</p>	<ul style="list-style-type: none"> ○ Chapter 9 Liedtka, et al. ○ Other designated readings
<p>Week 12 Nov 16 (Synch)</p>	<p>Observation of design team Draft literature review/methods section Analysis of Data</p>	<ul style="list-style-type: none"> ○ Chapter 10 Liedtka, et al. ○ Other designated readings
<p>Week13 Nov 23 (Asynch)</p>	<p>Analysis of Data</p>	<ul style="list-style-type: none"> ○ Chapter 11 Liedtka, et al. ○ Other designated readings
<p>Week 14 Nov 30 (Synch)</p>	<p>Analysis of Data Writing Paper Writing Analysis section</p>	<ul style="list-style-type: none"> ○ Chapter 12 Liedtka, et al. ○ Other designated readings
<p>Week 15 Dec 7 (Synch)</p>	<p>Analysis of Data Writing Paper Writing Analysis section Peer Feedback Incorporate Feedback</p>	<ul style="list-style-type: none"> ○ Description of Data Collection and Progression of Analysis
<p>Week16</p>	<p>Final Paper Due!</p>	<ul style="list-style-type: none"> ○ Revise Paper based on feedback

Dec 14 (Asynch)		
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