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 2012
Mondays 4:30-7:10pm
Fairfax Campus – Thompson L028

PROFESSOR(S):
Name: Dr. Brenda Bannan
Office phone: 703-993-2067
Office location: Thompson Hall L003
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:

Plattner, H., Meinel, C. & Liefer, L. (2012). Design thinking research: Studying co-creation in practice. Berlin: Springer.

McDonnell, J. & Lloyd, P. (2009). About: Designing Analysing Design Meetings. The Netherlands: Taylor and Francis Group.

RECOMMENDED TEXTS:

Cross, N. (2011). Design Thinking: Understanding How Designers Think and Work.
New York: Berg Publishers

Cross, N., Christiaans, H. & Dorst, K. (1996) Analysing Design
Activity. New York:John Wiley and Sons

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) literature review (30% of grade); and (3) collaborative paper (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 Wiki/Online Reference Tool and commenting on peers' contributions both in-class and online. Specifically:

o 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 discussion and in textual analysis of the readings. (10%)
o Social software/Reference contribution: Students must make contributions to a social software bookmarking site, online collaborative reference tool (e.g. Zotero) or equivalent in identifying, reviewing and annotating relevant sites or sources related to our directed study. (10%)
o Knowledge base: Students must also make significant contributions to an online environment or course site building their individual and our collective knowledge base on design and design thinking literature and synthesis which will be used as a medium for supporting the reporting/evolution of theoretical ideas, observational analysis and paper drafts . (10%)
o Peer critique: Students must also reflect upon, comment and edit analytic contributions/paper sections that others have written. (10%)

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

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

(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 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. Each student will be expected to contribute references and analysis to write an individual section of the paper determined by the team.

B. Course Content Availability/Instructor Availability

Due to intense nature of this primarily online 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 Thursday-Sunday will typically require some additional turn-around time.

C. 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=_230_1
2) GMU Top Questions and Additional Tools for Blackboard Mobile and Collaborate
   http://coursessupport.gmu.edu/
3) GMU Course Support form for problems
   http://coursessupport.gmu.edu/contactus.cfm
4) Blackboard Collaborate Support
   http://support.blackboardcollaborate.com/ics/support/default.asp?deptID=8336

D. 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%):

o 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.

o 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.

o 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.

o 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
Individual Presentation	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 its examination	Topic is related to design thinking and an emerging case with logical argument is presented establishing importance	Topic is directly related to gap in the literature on design process or thinking 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	Paper does not align with	Paper aligns with some requirements	Paper aligns with most requirements	Paper aligns with all requirements

comprehensive	requirement			
SCORE				

<div align="right">(Total Possible Points: 30)</div>

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 comprehensiv e 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 contribution s 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				

<div align="right">(Total Possible Points: 30)</div>

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

PROPOSED CLASS SCHEDULE

Date	Topic/Learning Experiences	Readings and Assignments for next class
Week1 Aug 26 **F-to-F**	Intro to Interdisciplinary Design	o Plattner, H. et al. (2012) Design Thinking. Research and Part I (Gericke et. al) Tele-Board Chapter o **Start to think about design context or design group for study**
Week 2 Sept 2	No Class – Labor Day	
Week 3 Sept 9 **F-to-F**	SCHEDULED IN JOHNSON CENTER ROOM 311B (third floor, technology training center) Designers and What they Do Begin to identify and review literature	o Part I (Edelman et. al) Understanding Radical Breaks Chapter o Narrow down design context or group for study
Week 4 Sept 16 **(Asynch)**	Design Thinking Begin to identify and review literature	o Part I (von Thienen, et. al) If You Want to Know Who You Are Chapter o Select design context and write HSRB application o Plan qualitative observation with participants o Write up protocol for qualitative observation
Week 5 Sept 23 **(Asynch)**	Design Process Literature synthesis	o Part II (Currano, et. al) Design Loupes Chapter o Finalized HSRB submission for Oct 2nd
Week 6 Sept 30 **(Asynch)**	Synthesis in Design Sensemaking, Frames, Models and Patterns in Design Annotated literature reviews posted	o Part II (Gabrysiak, et. al) Toward Next-Generation Design Thinking Chapter o Submit HSRB for qualitative observation study o Review literature in design area of interest
Week 7 Oct 7 **(Asynch)**	Reasoning, Innovation, Flow and Design Annotated literature reviews posted	o Part II (Dow, et. al) Parallel Prototyping Chapter o Begin the synthesize literature in design area of interest
Week 8 Oct 14* **(Synch)***	Making Meaning out of Data Observation of design team Annotated literature reviews	o Part III (Lande, et. al) Monitoring design thinking Chapter

	posted	o Begin writing literature synthesis draft
Week 9 Oct 21 **(Asynch)**	Observation of design team Begin to synthesize literature Plan observations	o Write literature synthesis draft o McDonnel & Lloyd (2011). Analysing Design Meetings. Chapter 1 Introduction
Week 10 Oct 28 **(Asynch)**	Design Process Research Synthesize literature Plan observation	o McDonnel & Lloyd (2011). Analysing Design Meetings. Chapter 2 o
Week 11 Nov 4 **(Asynch)**	Brainstorming and Social Draft literature review section Conduct observation	o McDonnel & Lloyd (2011). Analysing Design Meetings. Chapter 4
Week 12 Nov 11 **(Asynch)**	Co-evolution in Design Practice Draft literature review/methods section Conduct Observation	o McDonnel & Lloyd (2011). Analysing Design Meetings. Chapter 9
Week13 Nov 18 **(Synch)**	Shared Representations Conduct Observation/Analysis of Data	o McDonnel & Lloyd (2011). Analysing Design Meetings. Chapter 14 o
Week 14 Nov 26 **(Asynch)**	Collaborative Negotiation Analysis of Data	o McDonnel & Lloyd (2011). Analysing Design Meetings. Chapter 19
Week 15 Nov 25 **(Asynch)**	Cross-Discipline Design Teams Writing Analysis section	o Presentation of Data Collection and Initial Analysis
Week16 Dec 2 **(Asynch)**	Cross-Discipline Design Teams Peer Feedback Writing Paper	o Revise Paper based on feedback
Week 17 Dec 9 **F to F**	Final Paper Due!	

GMU POLICIES AND RESOURES FOR STUDENTS

a. Students must adhere to the guidelines of the George Mason University Honor Code [See **http://oai.gmu.edu/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.

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

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/**].

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 **[See** http://gse.gmu.edu/**].**

Mason email Account and IT Listserv

As a GMU student, you will need to acquire a GMU email account. Contact the IT Support Center to activate your account. If you are an IT student, please also subscribe to the IT Listserv which will post job opportunities, program announcements, etc. Directions about how to subscribe can be located on the IT Program Website.