

GEORGE MASON UNIVERSITY
COLLEGE OF EDUCATION AND HUMAN DEVELOPMENT
Instructional Technology Program
EDIT 801 (3 credits)
Nature and Process of Design
Fall 2012
Day/Time: Mondays 7:20-10:00pm pm or alternative
Location: Thompson L003

PROFESSOR(S):

Name: Dr. Brenda Bannan
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Office hours: By appointment
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PREREQUISITE: EDIT 752, EDCI 716, or EDCI 705 or approval by instructor

COURSE DESCRIPTION:

Examines multi-disciplinary and cross-disciplinary perspectives on the nature and process of design to promote an expanded view of the process of designing and developing learning technologies including perspectives from multiple fields involved in technology design.

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. Approximately half the course sessions will be conducted face-to-face introducing related concepts, models and constructs about design. Approximately half of the remaining course sessions will be conducted online using a course Wiki and observations of a design team to permit students to reflect, generate and collaboratively draft a potentially publishable paper related to examining an aspect of design through a multi- and cross-disciplinary view. Participants will share perspectives through in-class and 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 to intersect with the theoretical and applied literature with actual design process
- Examine the construct of “design thinking” and its instantiations
- Demonstrate a written synthesis of an applied design experience and 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:

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

Kolko, J. (2011). *Exposing the Magic of Design: A Practitioner's Guide to the Methods and Theory of Synthesis*. New York: Oxford University Press.

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

RECOMMENDED TEXTS:

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 Wiki 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 (5%):** 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:

- 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%)
- 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%)
- Knowledge base: Students must also make significant contributions to an online knowledge-building environment (e.g., a Wiki) which will be used as a medium for supporting the reporting/evolution of theoretical ideas, observational analysis and paper drafts . (10%)
- 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%):**

- 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 wiki 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 analysis which then will be incorporated into a cohesive qualitative analysis.

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

- Each student will contribute to an individual or collaborative, potentially publishable 15 page qualitative research paper on their observations of the nature of design intersected with the applied and research literature on design process. The student team should identify an important issue or aspect of design or design thinking for observation in an actual design team and exploration in the literature to synthesize important 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 continually contribute references to write an individual section of the paper determined by the team.

B. 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.

- Note: Students who do not participate or contribute will receive zero points in the applicable area.
- Table 1 below provides the point assignment and distribution across the 4 categories of this rubric.

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
Wiki 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				
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				
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				
Paper adheres to APA style				
Paper aligns with length requirement				
Bibliography is comprehensive				
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				
Identified themes are used to analyze the identified area interaction or process of design team				
Observational data collection procedures are clearly described and logically align with core elements of analysis				
Evidence of organized, pre-planned research design through timely individual contributions to knowledge base, analysis and paper				
Bibliography is comprehensive and related to individual paper				
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

PROPOSED CLASS SCHEDULE

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

Date	Topic/Learning Experiences	Readings and Assignments for next class
Week1 Aug 27 F-to-F	Intro to Interdisciplinary Design	<ul style="list-style-type: none"> ○ Cross, N. (2011) Design Thinking. Chapters 1-3 ○ Determine collaboration or individual design team study and draft associated HSRB documents – email to Dr. Bannan by Tuesday, Sept 4th for submission by Sept. 5th.
Week 2 Sept 3	No Class – Labor Day	
Week 3 Sept 10 Online	Designers and What they Do Begin to identify and review literature	<ul style="list-style-type: none"> ○ Cross, N. (2011) Design Thinking. Chapters 4-5
Week 4 Sept 17 Online	Design Thinking Begin to identify and review literature	<ul style="list-style-type: none"> ○ Cross, N. (2011) Design Thinking. Chapters 6-8.
Week 5 Sept 24 Online	Design Process Literature synthesis	<ul style="list-style-type: none"> ○ Kolko, J. (2011). Exposing the Magic of Design. Chapter 1-2
Week 6 Oct 1 Online	Synthesis in Design Sensemaking, Frames, Models and Patterns in Design Literature synthesis	<ul style="list-style-type: none"> ○ Kolko, J. (2011). Exposing the Magic of Design. Chapter 3-5
Week 7 Oct 9* (Tues) F-to-F	Reasoning, Innovation, Flow and Design Plan observation of design team Literature synthesis DRAFT DUE	<ul style="list-style-type: none"> ○ Kolko, J. (2011). Exposing the Magic of Design. Chapter 6
Week 8 Oct 15 Online	Making Meaning out of Data Observation of design team	<ul style="list-style-type: none"> ○ Kolko, J. (2011). Exposing the Magic of Design. Chapter 7-8

Week 9 Oct 22 Online	Observation of design team Post Memos about observation	○ McDonnel & Lloyd (2011). Analysing Design Meetings. Chapter 1 Introduction
Week 10 Oct 29 Online	Design Process Research Observation of design team Post Memos about observation	○ McDonnel & Lloyd (2011). Analysing Design Meetings. Chapter 2 ○
Week 11 Nov 5 F-to-F	Brainstorming and Social Order Begin analysis of data	○ McDonnel & Lloyd (2011). Analysing Design Meetings. Chapter 4
Week 12 Nov 12 Online	Co-evolution in Design Practice Analysis of Data	○ McDonnel & Lloyd (2011). Analysing Design Meetings. Chapter 9
Week13 Nov 19 F-to-F	Shared Representations Analysis of Data Writing Paper	○ McDonnel & Lloyd (2011). Analysing Design Meetings. Chapter 14 ○
Week 14 Nov 26 Online	Collaborative Negotiation Writing Paper	○ McDonnel & Lloyd (2011). Analysing Design Meetings. Chapter 19
Week 15 Dec 3 F-to-F	Cross-Discipline Design Teams Peer Feedback Writing Paper	○ Presentation of Data Collection and Initial Analysis
Week16 Dec 10 F to F	Final Paper Section Due!	

GMU POLICIES AND RESOURCES FOR STUDENTS

- a. Students must adhere to the guidelines of the George Mason University Honor Code [See <http://academicintegrity.gmu.edu/honorcode/>].
- b. Students must follow the university policy for Responsible Use of Computing [See <http://universitypolicy.gmu.edu/1301gen.html>].
- 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.