



MINI COOPER HARDTOP

- MINI COOPER**
The only four-door MINI - and the first available with ALL4 all-wheel drive.
- MINI COOPER S**
The only four-door MINI - and the first available with ALL4 all-wheel drive.
- MINI COOPER D**
The only four-door MINI - and the first available with ALL4 all-wheel drive.
- MINI COOPER SD**
The only four-door MINI - and the first available with ALL4 all-wheel drive.
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Human Computer Interaction
2013

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Course Information

Course Number, Section Number, and Course Title

CTEC 4323-001 Human Computer Interaction

Instructor

Dr. Brian Horton | brianhorton@uta.edu | 817-272-2163 (Main Office)

Class Time

Tuesday, Thursday, 3:30PM ~ :50PM

Office Hours

11:00AM to 12:00PM, or by appointment

Class Location

FAB 412

Overview of Course

Human Computer Interaction (CTEC 4323) examines human factors that undergird user interfaces employed in communication and information technologies. Throughout the semester, students explore theories that explain or describe how computing technologies assist users in carrying out their goals. Additionally, students carry out basic research to discover how communication and information technologies are being used in contexts such as education, medicine, government, and business. Using this knowledge, students create a web application (using multimedia content) that enhances the human computer interaction experience. This semester, we will be applying theoretical knowledge about human-computer interaction and interaction design through a service learning community partner. Over the course of the semester, we will be working on a custom home website for Hickory Galleries, a new housing development in the Cedars, a transitional neighborhood just south of downtown Dallas. In a previous semester, the client worked with UTA's School of Architecture. We will be building upon their excellent work.

Student Learning Objectives

Students will demonstrate their knowledge of human computer interaction through classroom discussion, regular blog postings, small projects related to our client work, exams, and website construction. Discussion questions will be provided to help students work through a set of conceptual issues related to human computer interaction and interaction design. Answers to these questions should be integrated into assignments and projects. Students will be evaluated on conceptual development and the translation of conceptual development into deliverables for a client.

Textbook, Readings and Instructional Materials

There are 2 main books for this class,. * = Required.

Rutter, J (2011). **Smashing jQuery**. Wiley.

Moule, J. (2012). **Killer UX Design**. Sitepoint.

Recommended References

Shneiderman, B. (2002). **Leonardo's laptop: Human needs and the new computing technologies**. Cambridge, MA: MIT Press.

Ware, C.. (2008). **Visual thinking for design**. Burlington, MA: Morgan Kaufmann.

Tidwell, J. (2011). **Designing Interfaces**. O'Reilly: Sebastopol, CA.

Recommended Websites

Yahoo! Design Patterns Library <http://developer.yahoo.com/ypatterns/>

User Interface Design Patterns <http://ui-patterns.com>

Patternry <http://patternry.com>

Design 4 Mobile <http://design4mobile.com>

Quince <http://quince.infragistics.com>

jQuery <http://jquery.com>

jQueryUI <http://jqueryui.com>

jQuery Mobile <http://jquerymobile.com>

Saffer, D. **Designing for interaction**. Berkeley, CA: New Riders.

Blanchard, J. (2012). **Applied jQuery: Develop and design**. Berkeley, CA: Peachpit Press.

Suggested Course Topics

Foundations of Interaction Design

This week, you will be introduced to the interdisciplinary field of interaction design. Interaction design involves overlapping the overlapping disciplines of user-experience design, industrial design, and human-computer interaction. Then, we will discuss four approaches to ID, namely user-centered, activity-centered, systems, and "genius". Each approach has its relative strengths and weaknesses. You should be able to identify them. I will also provide you with a handout on the Laws of Interaction Design, which we will refer to throughout the course. In this first week, I want you to start thinking about the big picture of this course. To accomplish this, I want you to read the last two chapters of each book.

Understanding and Designing for the User

We will examine the elements and characteristics (good ones) of interaction design. All interaction design involves motion, space, and time. You can't have interaction without these basic elements. Additionally, appearance provides cues and clues about how we should interact someone or something in the course of interaction. Cues is the pivotal word here. In discussing appearance, you will be introduced to one of the most important concepts in perception, affordances. This is a concept that we will come back to time and time again throughout the course.

Interaction design is part art and science. It is a craft, meaning it requires proficiency in a skill. A particularly useful skill in visually communicating the nature of the problem (and proposed solution) to not only the client, but also to team members. I will introduce you to techniques used by interaction designers to better understand the interaction problem. These include collaging, competitive analysis, brainstorming, task analysis, storyboarding, personas, sitemap/wireframe construction and web comps.

Usability and User-Centered Designs

This is perhaps the most important week of the semester as we will uncover why usability and user-centered designs are so important. Although usability has come a long way since 2004, it is important to not repeat the mistakes of the past. In extreme cases, poor usability can result in the loss of life. Alternatively, poor usability and frustrating user experiences can cost a company millions of dollars.

This week, we will also start learning JQuery, a “designer-friendly” javascript library. If you are familiar with CSS and writing CSS declarations, JQuery makes it easy to add interactivity to websites and web applications. Before we can do anything fancy with JQuery, we have to be able to select objects in a browser. Therefore, our first lesson will focus on JQuery selectors.

Activities and Relationships. What Are We Doing Online and with Whom and Why?

In Week 4, usability and user-centered design were the key themes. These two themes are central to this week as well. In thinking about usability and user-centered designs, we need to think about “What is it that we are doing with the product/service/application?” and “Who are we engaged in this activity with?” This sets the stage for discussing Activities and Relationships. This chapter is the basis for exploring the computing contexts in Week 6. The basic table is listed below.

	Collect (information)	Relate (communication)	Create (innovate)	Donate (dissemination)
Self				
Family and Friends				
Colleagues and Neighbors				

Citizens and Markets				
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For JQuery, we will build on our knowledge of selectors and start manipulating objects in the DOM (document object model). We will create content, manipulate attributes, insert content, wrap content, and remove or replace existing content.

Human Computing Contexts

Context, context, context. That is the theme of this week. We are concerned about contextualizing interaction by exploring the intercorrelation of user activities and their relationships in contexts including but not limited to education, business, healthcare, and government. By systematically working through these contexts (and others), it is possible to solve design problems. A solution is only as good as a solid understanding of the problem. In order to assist you in critically diagnosing a problem, I will introduce you to different types of exigencies, such as urgency, magnitude, and severity.

For programming, we will concentrate on events and event handlers. Essentially, events are actions that can be detected by javascript, such as mouse clicks, pressing a key, resizing a browser, or loading a page. As a programmer, you should be aware of the various types of events that one can “listen” for. There are literally dozens. Once you are able to “detect” that something has happened, you can then do something as a response. We will work on a few practical examples over the semester. For this week, we will detect whether the “user agent” is a computer, tablet, or smartphone. Depending on the user agent, the layout will be optimally adjusted for the user.

Getting Plugged In: Enhancing Interactivity Through JQuery Plugins

Now that we have covered the basics of JQuery, we will investigate how we can use plug-ins for our client’s websites. First, we will explore JQueryUI. This is a repository that provides additional functionality for user interaction. Our lecture on controls, widgets, and icons from Week 3 are relevant to this week. Widgets from the JQueryUI library include widgets like accordions, date pickers, sliders and tabs as well as support for complex behaviors like drag and drop, and sorting. Furthermore, it includes an additional library for animated transitions.

After covering the JQueryUI library, we will explore plug-ins from other developers. In particular, we will examine navigation and media plugins.

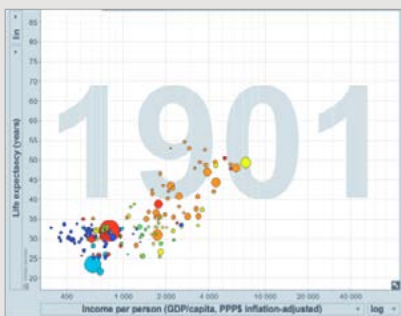
What I'm Looking For, When I Need It: Visual Queries and Search

What is it that we see? How and why do we see? Why do we pay attention to some things and not others? These are crucial questions and developing a set of rich answers to these questions will lead you to become better designers. We will begin by learning how our eye sees things, which is quite different from the way a camera sees the world. Through a series of processes, sensation gives way to perception. Bottom-up processing helps us to recognize patterns whereas top-down processing focuses our attention on solving problems. Or rather, top-down processing biases our ways of seeing (which is often a good thing).

We started out with the question, "What is it that we see?" A follow-up question to this is "What can we easily see?" The answer to this is rather subtle. Research tells us that color, shape, texture, motion, and depth are processed in different parts of the brain. Additionally, there are two basic pathways in the brain, what and where. Put in the form of a question, "What is it that we see?" is determined by identifying the visual properties of objects. "Where do we see this information?" is determined by identifying the locations of objects in the world. The "WHAT" pathway and the "WHERE" pathway communicate to each other.

We will also discuss the concept of pop-out effects. Visual communication professionals can create interfaces in such a way to plan the eye-movements of a user/viewer. Contrast is the major technique, but there are many ways to accomplish visual contrast. Feature channels are the major way in.

Maps are information graphics are particularly relevant to this week's topic. They contain layers of information and complex relationships. How can a designer assist the user in answering a question? In essence, that is what this week is all about. See the graphs below, which show life expectancy versus income per person for different countries in the world. What design elements make it easy to answer questions about the data? How has the designer biased our attention?



HD2D: Two Dimensional Space in High Definition

We live in a 3D world, but not all dimensions are equal. Looking up-down and sideways is easy. Looking inward and outward less so. At the basic level, perceiving object across the XY dimensions of space is enabled by the brain detecting a generalized contour. This is fundamental to all seeing. The perception of a generalized contour can be enhanced by supporting low-level processing of information, as discussed in week 9. Experience of seeing repeatedly seeing patterns can also help one to identify objects in an environment..

I See Trees of Green, Red Roses Too: The Wonderful World of Color

What is more important to perception, color or value? If you were a bird, the answer would be color. If you were a dog, the answer would be value. What about human though? How we see color is discussed on Opponent Process Theory. Essentially, the receptors in our eyes take in stimuli at different wavelengths and process them accordingly. Black, white, red, green, yellow, and blue are special colors according to OPT. These colors have corresponding luminance values. Luminous contrast is more important than color for perceiving objects in space. It leads to visual clarity. However, color leads to symbolic associations. Then there is the question of beauty.

To tease out how we see color, we will gather a group of e-commerce websites. We will take a screen capture of the websites and blur them in Photoshop so that the we cannot read the details. Next, we will take the same set of screen captures and convert them to grayscale. We will test which one, color or black and white, leads to quicker query finding.

 **Assignment Blog post 5 due April 2nd at 5PM.**

Head and Shoulders, Knees and Toes: Visual Aerobics

Although we live in a 3D world, we do not see the world in 3D. Scholars describe the way we see 3D space as 2.5D. More accurately, it is 2.05D. Because we can only sample one point along the Z axis in an image plane (i.e., looking into space), it is harder to perceiving objects moving back and forth. We have to rely on pictorial and non-pictorial depth cues. Pictorial depth cues include occlusion, size gradation, texture gradients, linear perspective, cast shadows, shading, depth of field, and degree of contrast, inter alia. Non-pictorial cues include motion (such as moving a viewport).

A practical consideration of moving through space is that it comes at a cognitive cost. For example, hovering the computer mouse over a link takes less cognitive effort to process information than does driving a car. The more complex the movement through time, the higher the cognitive cost.

A new realm of interaction design is exploring the possibilities of using spatial navigation as a metaphor for interface design. We will watch a video and discuss the implications for this new type of navigation. The video comes from the design team that served as consultants for Minority Report.

Inception: Meaning of Meaning of Meaning

Over the past few weeks, we have concentrated on how we process visual features, patterns, and objects. For a review, see the figure on page 9. What we see in the world are objects. Objects have visual and non-visual properties. In terms of visual properties, we utilize our memory systems to recognize objects. Our brain is pretty flexible when it comes to recognizing familiar objects so long as the way in which we view objects is like we usually do. For example, it is possible to rotate an object 20° in any direction and still recognize the object. However, if you flip the object upside down, then all bets are off. There is also some debate about whether we can form 3D representations in our mind, as discussed in geon theory. Despite a firm conclusion regarding this matter, research demonstrates that objects can be identified more quickly if connections between parts of an object are clearly connected.

We do not identify solely objects. We also identify scenes. For example, in less than a 10th of a second, we can tell whether a road is busy or that we are approaching a gas station. In other words, we form a rapid generalization or gist perception. Scenes contain objects. What do we perceive first, the scene or some primary object?

Not discussed thus far is the concept of meaning. When we see an object (or scene), it means something. Here we are less concerned about how things come to mean things (something that was covered in CTEC 3300). We are interested in how we label the world and how labels influence how and what we visually perceive. At

some point, the visual working memory connects with the verbal working memory, which in turns drives our attention-guiding mechanisms. As a practical example, if I shout out to you “Watch out for that car!!!”, your brain starts to ignore everything that is not related to a car. Our pattern-detection machinery kicks in and we are able to efficiently see that a car is coming.

Another important concept this week is novelty-seeking behavior. Adults (and especially newborns) seek novelty in everyday life for either hedonic (pleasure-seeking) or safety reasons. We are attracted to what is new. One way to accomplish this as a designer is mismatch the gist and object or create some kind of visual puzzle. In other words, that which we are perceiving should look strangely familiar and unfamiliar at the same time.

Your final will take place at 8:00AM on Thursday. The class time will be used for presenting your final projects to your client.

Grading Criteria

Quizzes	25%
Exams.....	30%
Activities	20%
Final Project	20%
Participation	5%

Assignment Types

Blog Postings

For each blog posting, I will give you a set of questions to think about. Your task is answer the questions, supporting your answers by referring to the book. The questions will largely be application-oriented, focusing on the client project. Because this is a blog, you should participate in other classmates’ blogs, extending their answers by contributing your perspective.

Project Work

Each individual project will be assigned a pass/fail grade. If you receive a failing grade, you must make revisions until you pass.

Category	Deliverable	Proposed Due Date
Concept Development / Design	Collaging	01.25.2013
Concept Development / IA / Marketing	Competitive Analysis	01.25.2013
Concept Development	Brainstorming	02.01.2013
IA	Task Analysis	02.08.2013
Narrative / IA	Personas	02.15.2013
IA	Sitemap and Wireframe	02.15.2013
Design	Web Comps	03.07.2013

Collaging

Using images and words, create a collage that is related to the keywords identified in the client interview (e.g., clean, simple, aesthetically pleasing, high design, professional, piece of mind, trusting, interactive, creative professionals, empty nesters, artsy, transitional neighborhood, residential, couples). Materials for the collage should come from a variety of sources (magazines, web sites, photographs) and should be high quality. The images and words should contain a wide variety of subjects and emotions. You should glue these onto a posterboard. This will serve as a reference for future projects.

Competitive Analysis

A competitive analysis is a tool for discovering how competitors stack up to your company or client. I have provided you with an Excel spreadsheet to get you started. Refer to <http://www.usabilitynet.org/tools/competitoranalysis.htm> for more information on conducting a competitive analysis.

Brainstorming

Brainstorming is a process for creating an intuitive semantic network. The goal of brainstorming is to generate as many ideas and variations as possible related to a theme. Once ideas and variations are externalized, connections between ideas are formed. Ideas can either be inventions (coming from imagination) and reinventions). In conducting the brainstorming session, you should have all of the research and problem definitions at hand for reference and inspiration.

Task Analysis

A task analysis is a raw list of activities that the final design will have to support. Tasks may be simple or complex. Rare but important tasks often get overlooked. The goal of this exercise is to make sure that they do not get overlooked. Examples of tasks include but are not limited to the following:

- ☛ Printing pages
- ☛ Saving a bookmark
- ☛ Adding an item to a shopping cart
- ☛ Returning to the home page
- ☛ Searching for a product
- ☛ Sorting items by some criterion
- ☛ Resizing text
- ☛ Call a person
- ☛ E-mail a person
- ☛ Share a story
- ☛ Changing a feature

Storyboards

Storyboards help to illustrate a product or service in use, combining a narrative with images. It is a technique derived from film and advertising. A storyboard shows key moments of an action. Your storyboards should be based upon your task analysis and should use illustrations or staged photos (not stock photos).

Personas

Personas are a documented set of archetypal people who are involved with a product or service. You should devise personas from observe and talking to users. You should create 4-7 personas. Personas are typically composites of multiple people who share similar goals, motivations, and behaviors. Different personas are created by analyzing the difference between what people do and why they do them. A persona is only useful when the designer sets up scenarios and uses the personas to test features for appropriateness and utility. For example, "Would this persona do this task?" "Could this persona do this task as designed?" The persona should clearly note the behaviors, motivations, and goals that differentiate one persona from another. A persona should include a picture, descriptive title (e.g., "Bob the Conservationist"), demographic descriptions, information usage, device usage, and quotations.

Wireframes

Wireframes are a set of documents that show structure, information hierarchy, functionality, and content. Wireframes are a means of documenting the features of a product, as well as the technical and business logic that went into those features, with only basic visual design (e.g., controls). Wireframes typically have three main areas:

- ☛ wireframe itself
- ☛ accompanying annotations
- ☛ information about the wireframe (wireframe metadata)

Wireframe

Wireframes rough out the form of a product, which is shaped by the content, the functionality, and the means of accessing or navigating to those two things. Thus, it needs to include placeholders for the content and functions as well as the elements for navigating them (buttons, menus, keystrokes, etc.). Content refers to text, movies, images, icons, and animations, inter alia. Functionality refers to controls for interacting with the product (buttons, sliders, speech-to-text recognition, etc.). Navigation refers to how a user can find and use the content and functionality. It may include hyperlinks, drop-down menus, toolbars, and widgets, inter alia.

Annotations

Annotations are brief notes that describe nonobvious items on the wireframe. It briefly describes what something does and why it is there. Controls, conditional items, and constraints should be annotated.

Metadata

Metadata is information about the wireframe and should include the following:

- ☛ Designer's name
- ☛ Date wireframe was created or modified
- ☛ Version number
- ☛ What has changed since the last version
- ☛ Unresolved issues (problems with the wireframe that need to be addressed)
- ☛ General notes (place for designers to express any final reservations about the product, especially constraints)

Web Comps

A web comp is a detailed mockup of a website design that visually represents how the website will look once complete. It is a tool for communication between you and your client. Once the web comp is completed, coding and programming can commence. A web comp affords your client the opportunity to discuss what they like and dislike about your designs. Your web comp is a product of your research and planning. It should be based off your competitive analysis, personas, task analysis, collage, and wireframes. It should also include your navigation sprites and custom icons. A web comp may be constructed in Photoshop, Illustrator or some other software. You may also choose to create a simple website to demonstrate features, such as navigation and conditional logic.

Attendance Policy

Attendance will be taken each class . You are granted two freebies . Documentation for absences must be on an official letterhead and contain contact information in case I need to verify the absence . If you have a preexisting health condition, please alert me at the beginning of the semester so that we can make appropriate arrangements.

Drop Policy

If for any reason you need to drop this course, you will need to initiate the drop and follow the proper procedures as outlines in the UTA Undergraduate Catalog and Schedule of Courses before the "last day to drop a course".

CENSUS Date: [January 30, 2013](#)

LAST DAY TO DROP: [March 29, 2013](#)

Class Decorum

Come to class on-time

No outside guests

Be considerate to others while discussing topics

- Conversation management strategies (be willing to distribute turns-at-talk):

- Offer constructive comments when discussing other's contributions

- Make your comments relevant to the discussion at hand

Americans With Disabilities Act

The University of Texas at Arlington is on record as being committed to both the spirit and letter of federal equal opportunity legislation; reference Public Law 92-112 - The Rehabilitation Act of 1973 as amended. With the passage of federal legislation entitled Americans with Disabilities Act (ADA), pursuant to section 504 of the Rehabilitation Act, there is renewed focus on providing this population with the same opportunities enjoyed by all citizens.

As a faculty member, I am required by law to provide "reasonable accommodations" to students with disabilities, so as not to discriminate on the basis of that disability. Student responsibility primarily rests with informing faculty of their need for accommodation and in providing authorized documentation through designated administrative channels.

Information regarding specific diagnostic criteria and policies for obtaining academic accommodations can be found at www.uta.edu/disability. Also, you may visit the Office for Students with Disabilities in room 102 of University Hall or call them at (817) 272-3364.

Academic Integrity

It is the philosophy of The University of Texas at Arlington that academic dishonesty is a completely unacceptable mode of conduct and will not be tolerated in any form. All persons involved in academic dishonesty will be disciplined in accordance with University regulations and procedures. Discipline may include suspension or expulsion from the University.

"Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such actions, Series 50101, Section 2.2)

Student Support Services

The University of Texas at Arlington supports a variety of student success programs to help you connect with the University and achieve academic success. These programs include learning assistance, developmental education, advising and mentoring, admission and transition, and federally funded programs. Students requiring assistance academically, personally, or socially should contact the Office of Student Success Programs at 817-272-6107 for more information and appropriate referrals.

E-mail Policy

I am happy to respond to your e-mails. When sending e-mails, be sure to include the following in the subject line:
course ID (CTEC4323) followed by the actual subject of your e-mail (e.g., research topic).
=> CTEC4323 research topic

I use a filtering algorithm on my e-mail client to sort my e-mails into appropriate folders. I try to check my e-mail once a day during the school semester, although I rarely check e-mails over the weekend. I have experience of UTA e-mails landing in my "spam" folder. I also try to check that as much as possible. However, if you do not receive a reply from me in an expedient manner, please try resending the e-mail. I do not want to miss the opportunity to respond to you.

Participation Rubric

Criterion	4	3	2	1
Degree to which student integrates readings and lecture material into classroom participation (30pts)	Often cites from readings and lectures; uses readings and lecture materials to support points; often articulates "fit" of readings or lecture materials with topic at hand	Occasionally cites from readings and lectures; sometimes uses readings and lecture materials to support points; occasionally articulates "fit" of readings or lecture materials with topic at hand	Rarely cites from readings and lectures; rarely uses readings and lecture materials to support points; rarely articulates "fit" of readings or lecture materials with topic at hand	Unable to cite from readings or lecture materials; cannot use readings or lecture materials to support points; cannot articulate "fit" of readings with topic at hand
	30/30	22.5/30	17.5/30	0/30
Interaction/participation in classroom discussions (25pts)	Always a willing participant; responds frequently to questions; routinely volunteers point of view	Often a willing participant; responds occasionally to questions; occasionally volunteers point of view	Rarely a willing participant; responds able to respond to questions; rarely volunteers point of view	Never a willing participant; never able to respond to questions; never volunteers point of view
	25/25	17.5/25	12.5/25	0/25
Interaction/participation in classroom learning activities (30pts)	Always a willing participant; acts appropriately during classroom activities; responds frequently to questions; routinely volunteers point of view; routinely extends the comments of classmates	Often a willing participant; acts appropriately during classroom activities; responds occasionally to questions; occasionally volunteers point of view; occasionally extends the comments of classmates	Rarely a willing participant; acts inappropriately during classroom activities; rarely able to respond to direct questions; rarely volunteers point of view; rarely extends the comments of classmates	Never a willing participant; often acts inappropriately during classroom activities; never able to respond to direct questions; never volunteers point of view
	30/30	22.5/30	15/30	0/30
Demonstration of professional attitude and demeanor (15pts)	Always demonstrates commitment through thorough preparation; always arrives on time; often solicits my perspective outside of class.	Rarely unprepared; rarely arrives late; occasionally solicits my perspective outside of class.	Often unprepared; rarely arrives late; occasionally solicits my perspective outside of class.	Rarely prepared; often arrives late; never solicits my perspective outside of class.
	15/15	11.25/15	7.5/15	0/15

Blog Rubric

Criterion	4	3	2	1
Comprehension and Understanding (16pts)	Demonstrates mastery of the reading material. Uses terms and concepts from readings and lecture material appropriately. Supports answers by elaborating on points and providing examples.	Demonstrates basic understanding of the reading material. Makes an attempt to use terms of concepts from readings and lecture. May provide examples but does not elaborate.	Make an attempt to answer the question, but makes points that are only loosely connected. Uses terms or concepts from readings but does not elaborate or provide examples.	Does not answer the question or does so without displaying reasoning or support.
	16/16	12/16	8/16	0/16
Extension (12pts)	Makes a persuasive case how the topic at hand can be applied in other contexts. Uses proof, examples, and/or logical reasoning to support points.	Makes a persuasive case how the topic at hand can be applied in other contexts. However, support for the claim uses faulty reasoning.	Explains that the topic can be applied in another context, but does not make an attempt to support this claim.	Does not make an attempt to show how the topic can be applied to other topics.
	12/12	9/12	6/12	0/12
Application (8pts)	Explains how the topic is relevant to our service learning project. Uses concepts from the book and lecture to support points.	Explains how the topic is relevant to our service learning project. Tries to use concepts from the book and lecture to support points, but misapplies some of the concepts.	Explains how the topic is relevant to our service learning project but does not use concepts from the book and lecture to support points.	Does not explain how the topic is relevant to our service learning project.
	8/8	6/8	4/8	0/8
Participation (4pts)	Comments on several classmates's blog postings. Comments help the classmate think about the content from a different perspective.	Comments on a few of the classmates' blog postings. Comments help the classmate think about the content from a different perspective.	Comments on a few of the classmates' blog postings but does not contribute much to the discussion.	Does not comment on classmates' blog postings or only makes irrelevant comments.
	4/4	3/4	2/4	0/4