Syllabus v.1.0 (as of 08/03/13)

Course No:	ATEC 2384.003
Course Title:	**Basic Design Principles and Practices**
Instructor:	Sherri Segovia, Instructor
Primary Contact:	sherrisegovia@utdallas.edu Office TBA / (214) 418-0895
Secondary Contact:	shersego@gmail.com
Class Day & Time:	Fall Semester 2013/Tuesdays & Thursdays 1:00pm – 2:15pm
Location:	ATC Rm 2.811

Course Description
This class is an overview of design principles and practices common to most design professions, to give students a foundation understanding of design rules, laws, and guidelines that they can use throughout their education and career pursuits. Students will learn the language of design, how to think like a designer, how to judge between good and bad design execution, and where to go for additional resources of specialized design practice.

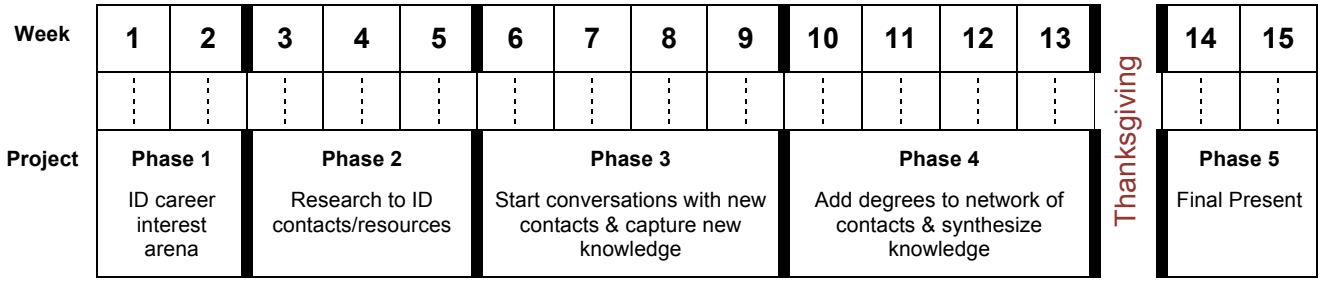
The course work will consist of:
- Weekly textbook reading assignments from – *Universal Principles of Design*, by Lidwell/Holden/Butler)
- Weekly lectures and class discussion
- Weekly research to identify examples of design principles in practice
- Build a personal Design Reference 'Morgue' in area of interest
- A semester-long 'Personal Career Networking' project (see figure 1.0 below)

Course Requirements
- Attendance to all classes*
- All assignments need to be completed on time**
- All students need to participate individually and as a contributing member of the class, especially in sharing discoveries with one another

Grading Procedure
Because this course's emphasis will be on providing the student with an awareness and understanding of Design methods and practices, it is very important that students participate individually and collectively to insure that everyone has a successful learning experience. Therefore, students will be evaluated on attendance, participation in class, assignments, and the quality of work completed from week to week. Assignments will be discussed throughout the course, with specific requirements spelled out. See grading breakdowns at the end of this document.

Classroom Conduct
- Students are to focus their attention on the subjects at hand in the classroom, i.e., lectures, presentations, discussions, and set aside all other activities.
- All open communication (talking) should be relevant to the subject at hand and have value to the class as a whole.
- Competitiveness between students will be friendly and encouraging at all times.

Course Schedule & Outline



8/27 **Week 1** **Introductions:** syllabus, overview, goals, expectations, textbooks, etc.

Design Principles Discussion – Form Follows Function

106. *Form Follows Function* – beauty is purity of function
172. *Ockham's Razor* – choose simplest of functionally equivalent designs

New Principles Discussion – Less is More

14. *80/20 Rule* – 80 percent of products use involves 20 percent of its features
102. *Flexibility-Usability Tradeoff* – as flexibility increases, usability decreases
224. *Signal-to-Noise Ratio* – choose design that has high signal to noise ratio

Assignment #1: Find examples of **Less is More** design principles and send digital samples embedded in PowerPoint slide template to instructor before next week (be ready to explain in the next class).

Project Assignment – Phase 1: Identify an ATEC professional goal or academic area of interest (by Class 3 in two weeks).

9/03 **Week 2** **Assignment #1 Critique**: Defense of examples chosen by class

New Principles Discussion – Design Process

78. *Development Cycle* – heuristic steps of discovery
112. *Garbage-In-Garbage-Out* – quality output depends on quality info in
142. *Iteration* – repeated operations to reach desired result
150. *Life Cycle* – stages of product existence
194. *Prototyping* – simplified models to explore ideas
230. *Storytelling* – create imagery, emotions and understanding

Assignment #2: Find examples of **Design Process** design principles and send digital samples embedded in PowerPoint slide template to instructor before next week (be ready to explain in the next class).

9/10 **Week 3** **Project Progress Report**: Share with class area of interest (Phase 1)
Project Assignment – Phase 2: Research & identify target contacts (will review progress during Class 6 in three weeks).

Assignment #2 Critique: Defense of examples chosen by class

New Principles Discussion – Aesthetic Bias / part 1

20. *Aesthetic-Usability Effect* – aesthetic design perceived to be easy to use
32. *Attractiveness Bias* – why beautiful people excel
34. *Baby-Face Bias* – attraction to all things cute
184. *Picture Superiority Effect* – remember pictures better than words
212. *Savanna Preference* – aboriginal preference for open spaces

Assignment #3: Find examples of **Aesthetic Bias** design principles and send digital samples embedded in PowerPoint slide template to instructor before next week (be ready to explain in the next class).

9/17 **Week 4** **Assignment #3 Critique**: Defense of examples chosen by class

New Principles Discussion – Aesthetic Bias / part 2

94. *Fibonacci Sequence* – sequence of numbers that are sum of two preceding
114. *Golden Ratio* – geometric theorem for balance in design
116. *Good Continuation* – Gestalt of perceived connectivity of elements
44. *Closure* – seeing groups of design elements as one large design element
58. *Constancy* – perception of constancy in spite of actual expression
144. *Law of Pragnanz* – tendency to interpret ambiguous info

Assignment #4: Find examples of **Aesthetic Bias** design principles and send digital samples embedded in PowerPoint slide template to instructor before next week (be ready to explain to class).

9/24 **Week 5** **Assignment #4 Critique**: Defense of examples chosen by class

New Principles Discussion – Dimensional Perception Preferences

96. *Figure-Ground Relationship* – perceived objects in front of a field
176. *Orientation Sensitivity* – discrimination of directional elements
238. *Three-Dimensional Projection* – tendency to perceive world in 3-D
240. *Top-Down Lighting Bias* – tendency to understand source of lighting
250. *Visibility* – spatial cognitive understanding
260. *Wayfinding* – special information to enhance navigation

Assignment #5: Find examples of **Dimensional Perception Preferences** design principles and send digital samples embedded in PowerPoint slide template to instructor before next week (be ready to explain to class).

10/01 **Week 6** **Project Progress Report**: Show progress with contacts (Phase 2).
Project Assignment – Phase 3: Start conversations with targeted contacts (will review progress during Class 10 in four weeks).

Assignment #5 Critique: Defense of examples chosen by class

New Principles Discussion – Aesthetic Toolbox / part 1

24. *Alignment* – design elements align along hidden lines
48. *Color* – symbolic meanings in color to manipulate and emphasize
126. *Highlighting* – bringing visual attention to design elements
132. *Iconic Representation* – icons improve recognition and recall
196. *Proximity* – info close together perceived to be related
226. *Similarity* – elements of similar nature seem related

Assignment #6: Find examples of **Aesthetic Toolbox** design principles and send digital samples embedded in PowerPoint slide template to instructor before next week (be ready to explain to class).

10/08 **Week 7** **Assignment #6 Critique**: Defense of examples chosen by class

New Principles Discussion – Aesthetic Toolbox / part 2

66. *Convergence* – synonym for stability in designed solutions
166. *Normal Distribution* – symmetrical data, bell-curve
160. *Modularity* – complex system divided into smaller compatible parts
208. *Rule of Thirds* – composition technique for balance
234. *Symmetry* – visual equivalence among elements

Assignment #7: Find examples of **Aesthetic Toolbox** design principles and send digital samples embedded in PowerPoint slide template to instructor before next week (be ready to explain to class).

10/15 **Week 8** **Assignment #7 Critique**: Defense of examples chosen by class

New Principles Discussion – Psychology and Aesthetics

124. *Hierarchy of Needs* – stratification of aesthetic needs based on Maslow
158. *Mnemonic Device* – organize information to make it memorable
254. *von Restorff Effect* – well placed discontinuity to engage memory
228. Stickiness – increased recognition, recall and sharing cultural ideas
108. *Framing* – manipulating how information is presented
174. *Operant Conditioning* – perceptional modification via range of stimuli
236. *Threat Detection* – natural abhorrence to negative imagery

Assignment #8: Find examples of **Psychology and Aesthetics** design principles and send digital samples embedded in PowerPoint slide template to instructor before next week (be ready to explain to class).

10/22 **Week 9 Assignment #8 Critique**: Defense of examples chosen by class

New Principles Discussion – Human Factors / part 1

22. *Affordance* – physical design telegraphs use and function
80. *Entry Point* – obvious point of entry into a design i.e., front door
84. *Expectation Effect* – leading the audience to an expected result
152. *Mapping* – cognitive understanding to initiate actions
154. *Mental Models* – cognitive understanding based on experience
156. *Mimicry* – transferring understood properties to new things

Assignment #9: Find examples of **Human Factors** design principles and send digital samples embedded in PowerPoint slide template to instructor before next week (be ready to explain to class).

10/29 **Week 10 Project Progress Report**: Show progress with contacts (Phase 3)

Project Assignment – Phase 4: Extend network conversations beyond first line of contacts and increase the depth of your active network.

Assignment #9 Critique: Defense of examples chosen by class

New Principles Discussion – Human Factors / part 2

170. *Performance Load* – greater the effort, greater chance of failure
180. *Performance vs. Preference* – optimum gives way to preference
188. *Progressive Disclosure* – sequentially disclosed information
198. *Readability* – quick understandability
220. *Serial Position Effects* – info at ends more memorable than middle

Assignment #10: Find examples of **Human Factors** design principles and send digital samples embedded in PowerPoint slide template to instructor before next week (be ready to explain to class).

11/05 **Week 11 Assignment #10 Critique**: Defense of examples chosen by class

New Principles Discussion – Information Architecture / part 1

40. *Chunking* – clustering information & elements to make memorable
100. *Five Hat Racks* – ways to organize information
118. *Gutenberg Diagram* – general pattern of eyes reading information
122. *Hierarchy* – complex information organized and structured visually
146. *Layering* – organize info into related groups
148. *Legibility* – visual clarity, contrast, spacing etc.

Assignment #11: Find examples of **Information Architecture** design principles and send digital samples embedded in PowerPoint slide template to instructor before next week (be ready to explain to class).

11/12 **Week 12 Assignment #11 Critique**: Defense of examples chosen by class

New Principles Discussion – Information Architecture / part 2

54. *Confirmation* – designed barriers to take next steps
60. *Constraint* – designed limitations to guide user
64. *Control* – put user in the drivers seat according to expertise
92. *Feedback Loop* – information return to modify future behavior
98. *Fitts' Law* – time to move target is size and distance
120. *Hick's Law* – time increases as alternatives increases

Assignment #12: Find examples of Information Architecture design principles and send digital samples embedded in PowerPoint slide template to instructor before next week (be ready to explain to class).

11/19 **Week 13 Assignment #12 Critique**: Defense of examples chosen by class

New Principles Discussion – Significant Design Practice

Assignment #13: Find examples **of Significant Design Practice** principles in your reference Morgue and send digital samples embedded in PowerPoint slide template to instructor before next week (be ready to explain to class).

11/26 **No Class - Thanksgiving Break**

12/03 **Week 14 Assignment #13 Critique**: Defense of Morgue samples chosen by class

Final Project – Phase 5: Prepare slide presentation of your Personal Career Knowledge Networking activities and outcomes (will review requirements)

12/10 **Week 15 Final Exam: Personal Career Networking Report**

- PowerPoint presentations (everyone required to attend)

Grading Scale & Weights

A	91-100	Excellent
B	81-90	Above Average
C	71-80	Average
D	61-70	Poor
F	00-60	Failing

30 Points	Attendance (15 at 2.0 points each)*
30 Points	Assignments (13 at 2.3 points each)**
10 Points	Build a Ref Morgue (slide presentation to class)
30 Points	Final Assignment & Report/Presentation

The Fine Print

* Attendance & Tardy Policy – Attendance is mandatory. Lack of attendance will affect your grade because absences will not only leave holes in understanding of the lesson contents but also degrade the benefit to other students in regard to in class discussions. Coming to class late or leaving early will also be counted as absences without prior approval from the instructor.

** All assignments are to be in PowerPoint (the software is available to all students for a nominal price at the bookstore). **Assignments not handed in on time will be docked 1.0 point (from 3.0 to 2.0)**

Drop Procedures (see **http://utdallas.edu/student/registrar/calendar/**) If you are unable to complete this course, you should withdraw from it. Withdrawing from a course is a formal procedure, with a specific published deadline, which you must initiate. The instructor cannot do it for you. You must do this through the Registrar's Office.

Student AccessAbility – It is the policy and practice of The University of Texas at Dallas to make reasonable accommodations for students with properly documented disabilities. Written notification from the Office of Student AccessAbility (OSA) is required. Students who have questions about receiving accommodations, or those who have, or think they may have, a disability (mobility, sensory, health, psychological, learning, etc.) are invited to contact the Office of Student AccessAbility for a confidential discussion. OSA is located in the Student Services Building, suite 3.200. They can be reached by phone at (972) 883-2098, or by email at **studentaccess@utdallas.edu**