**Course Number:** ID 6104

**Course Title:** Rapid Design Visualization

**Credit Value:** 2 credit hours

**Course Times:**

**Instructor:**

**Email/Office Hours:**

***\*Graduate level requirements added***

This course was developed from ID4418. Assignments have been added and modified and the course credit count has been reduced from 3 credits to 2 credits.

**General Information**

**Course Description:**

## This course addresses the fundamental drawing and visualization techniques commonly used by industrial designers for design thinking and development. It introduces the basic methods, elements, and processes of effective sketching that are necessary to make informed choices about formulating, developing, and presenting visual information and design ideas in an accurate and convincing manner.

## Co-Requisites

ID6102, ID6105

**Course Goals and Learning Outcomes:**

Upon completion of the course students demonstrate knowledge, skill and abilities in the following areas:

* Communicate of design ideas in a compelling manner
* Sketch ideation and exploration methods
* Creation of a portfolio document

**Weekly Learning Activities:**

* Lecture (1 hour)
* Studio/Workshop Sessions (3 hours)

**Course Requirements and Grading**

**Required Texts**

There is not a required textbook for this class but the following texts are highly recommended:

* Conceptual Drawing by Joseph A. Koncelik & Kevin Reeder
* Design Rendering Techniques by Dick Powell
* Product Rendering With Markers by Mark Arends
* Any books by Syd Mead (they can be difficult to find but very inspirational)

## Course Website and Other Classroom Management Tools

Canvas (<http://canvas.gatech.edu/>) will be the main portal for dissemination of course information.

Students are expected to check in on a daily basis

**Grading**

All graded assignments will contribute equally to the final course grade (see course schedule)

**Grading Scale**

Your final grade will be assigned as a letter grade according to the following scale:

A 90-100% (Guide: Independent work style and exceeding expectations)

B 80-89% (Guide: Meet expectations)

C 70-79% (Guide: Meets the majority of expectations)

D 60-69% (Guide: Fails to meet some expectations

F 0-59% (Guide: Fails to meet most expectations)

**Course Schedule**

|  |  |  |  |
| --- | --- | --- | --- |
| Date: | Topic: | Assignment: | |
| *Week 1 (Tues 8.22)* | *Course Introduction* | *Purchase supplies* | |
| *(Thurs 8.24)* | *Intro & Demo of Equipment* | *1 page – sketch object to demonstrate your current abilities (Due Tues)* | |
| *Week 2 (Tues 8.29)* | *Orthographic Sketching*  *Basic proportional theories and proportional division methods for 2D shapes*  *Principle of “drawing through”* | *2 pages - orthographic sketches of simple rectangular object (provided) (Due Thurs)* | |
| *(Thurs 8.31)* | *Introduction to Perspective*  *Sketching of simple rectangular planes in perspective* | *3 pages – each filled with rectangular planes in perspective. (Due Tues)* | |
| *Week 3 (Tues 9.5)* | *Sketching of simple rectangular objects in perspective* | | *2 pages – each filled with rectangular prisms in perspective. (Due Thurs)* | |
| *(Thurs 9.7)* | *Lighting, shading, and cast shadow principles* *Using varying line weights and hatched lines effectively for dynamic quick sketching* | | *3 pages – each filled with rectangular prisms in perspective – focusing on varying line weights & hatching to communicate light/shadow. (Due Tues)* | |
| *Week 4 (Tues 9.12)* | *Sketching cubes in perspective and the principle of “drawing through”*  *Deriving other basic geometric volumes from the cube (cone, pyramid, sphere)* | | *2 pages – each filled with cubes in varying perspective. One page should include cones, spheres, pyramids drawn within the cubes. (Due Thurs)* | |
| *(Thurs 9.14)* | *Proportional division of planes in perspective*  *Using varying line weight to convey overlap and dimensionality of multiple planes* | | *3 pages – each filled with rectangular prisms in perspective. Prisms should be of varying proportions 1:1, 1:2, 1:3 & 1:4 (Due Tues)* | |
| *Week 5 (Tues 9.19)* | *Constructing and sketching ellipses*  *Constructing and sketching cylinders* | | *2 pages – one filled with ellipses in varying perspective. Second page filled with cylinders in varying perspective. (Due Thurs)* | |
| *(Thurs 9.21)* | *Sketching simple curved objects* | | *3 pages – each showing simple curved objects (provided). (Due Tues)* | |
| *Week 6 (Tues 9.26)* | *Analyzing and sketching simple product forms with cubes and other basic geometric volumes using the “additive” and “subtractive” techniques* | | *2 pages –sketches of simple products – showing additive or subtractive techniques to proportion sketches - (Due end of class Thurs)* | |
| *(Thurs 9.28)* | *In-class workday* | | *No assignment* | |
| *Week 7 (Tues 10.3)* | *Sketching basic organic volumes using the “ribs and stringers” technique*  *Using contour lines to describe surfaces and indicate deformation* | | *2 pages –sketches of organic forms – using rib & stringer method of construction on one sheet and using contour lines to describe surfaces on second (Due end of class Thurs)* | |
| *(Thurs 10.5)* | *In-class workday* | | *No assignment* | |
| *Week 8 (Tues 10.10)* | *Fall Break* | | *N/A* | |
| *(Thurs 10.12)* | *Basic marker techniques using grey markers* | | *3 pages – each filled with rectangular prisms rendered in grey marker – (Due Tues)* | |
| *Week 9 (Tues 10.17)* | *Basic marker techniques using color markers* | | *3 pages – each filled with rectangular prisms rendered in color marker – (Due end of Thurs)* | |
| *(Thurs 10.19)* | *In-class workday* | | *2 pages – perspective views of products from reference photos rendered in gray/color – bring reference photos to class. (Due Tues)* | |
| *Week 10 (Tues 10.24)* | *Introduction to Pencil & Pastel techniques* | | *1 page – perspective view of actual product rendered in gray/color with pastels & pencil (Due Thurs)* | |
| *(Thurs10.26)* | *In-class workday* | | *2 pages – perspective view of actual product rendered in gray/color with pastels & pencil (Due Tues)* | |
| *Week 11 (Tues 10.31)* | *In-class workday* | | *1 page – perspective view of actual product rendered in gray/color with pastels & pencil (Due Thurs)* | |
| *(Thurs 11.2)* | *In-class workday* | | *2 pages – perspective view of actual product rendered on colored paper in gray/color with pastels & pencil (Due Tues)* | |
| *Week 12 (Tues 11.7)* | *Layout and composition strategies for a visually clear and dynamic concept board*  Auxiliary detail views (section, cutaway and exploded views) | | *3 pages –including perspective of product, exploded view of same, cutaway view detail of same, section view detail of same – (Due Tues)* | |
| *(Thurs 11.9)* | *In-class workday* | | *(Continue work on Tuesday’s assignment)* | |
| *Week 13 (Tues 11.14)* | *TBD (Instructor Absence)* | | *TBD* | |
| *(Thurs 11.16)* | *TBD (Instructor Absence)* | | *TBD* | |
| *Week 14 (Tues 11.21)* | *Human References (Hands & Human Figures)* | | *2 pages – one including hands & other including human forms* | |
| *(Thurs 11.23)* | *Thanksgiving Recess* | | *N/A* | |
| *Week 15 (Tues 11.28)* | *Discussion of how to assemble Portfolio* | | *Prepare portfolio of work completed during semester* | |
| *(Thurs 11.30)* | *In-class workday* | | *N/A* | |
| *Week 16 (Tues 12.5)* | *Final Portfolio due!*  *Reflection & Launchpad* | | *N/A* | |

**Course Expectations, Guidelines and Policies**

## Academic Integrity

Georgia Tech aims to cultivate a community based on trust, academic integrity, and honor. Students are expected to act according to the highest ethical standards. For information on Georgia Tech's Academic Honor Code, please visit http://www.catalog.gatech.edu/policies/honor-code/ or <http://www.catalog.gatech.edu/rules/18/>.

Any student suspected of cheating or plagiarizing on a quiz, exam, or assignment will be reported to the Office of Student Integrity, who will investigate the incident and identify the appropriate penalty for violations.

## Accommodations for Students with Disabilities

If you are a student with learning needs that require special accommodation, contact the Office of Disability Services at (404)894-2563 or <http://disabilityservices.gatech.edu/>, as soon as possible, to make an appointment to discuss your special needs and to obtain an accommodations letter. Please also e-mail me as soon as possible in order to set up a time to discuss your learning needs.

## Attendance and/or Participation

Georgia Tech Institute of Technology’s policy on student absences can be reviewed at <http://www.catalog.gatech.edu/rules/4/>

Students are required to be in class for designated times with all assigned work completed. Attendance will be recorded for each student for each class during the semester. Excessive missed classes will affect final course grades. A total of 3 unexcused absences are allowed before impacting a final grade. A fourth unexcused absence will result in the reduction of one letter grade from the final course grade. Each additional unexcused absence will result in the reduction of an additional letter grade. Excessive unexcused absences will result in failure of the course. Students are expected to be on time. Students will be recorded as late if arriving more than 15 minutes after the scheduled start of class. 3 unexcused late arrivals will be counted equivalent to 1 unexcused absence. If late, it is the student's responsibility to personally check in with an instructor upon arrival to class to ensure proper recording of attendance. Failure to check in with an instructor upon late arrival may result in being marked absent. Students arriving more than one hour late without a valid excuse will be counted absent.

If you know that you will miss a class for a valid reason (such as for a major religious observance or participation in an approved Institute activity), please let your instructor know in advance. If an unexpected situation occurs, it is your responsibility to contact your instructor within 24 hours of the scheduled class time. Tardiness or missed classes will be excused only for valid reasons.

If you don’t feel well or know that you are sick, please do not come to class out of courtesy to others. Simply notify the instructor of your situation and bring documentation of your illness when you are able to return to class.

## Collaboration and Group work

Working and collaborating together in the studio environment is encouraged as it is recognized that much of your learning will be of a peer-peer nature. However, all students are responsible for their individual assignments; plagiarism will not be tolerated. If there is any question as to whether a student produced a particular assignment, the instructor will request that the developmental underlays be submitted to verify the authorship of the work in question. As such please retain all developmental work until after an assignment has been graded & returned.

## Extensions, Late Assignments, & Re-Scheduled/Missed Exams

All assigned work must be submitted at the beginning of class on the due date – typically the next class after the work was assigned (unless otherwise noted).

In lieu of extra credit, students can submit missed or late assignments or resubmit work for a higher grade. All resubmitted work will be assessed at 90% of the grade it would have originally received if submitted by the original due date. All resubmitted work must be submitted prior to the last day of class; no work will be accepted after the last day of class.

## Student-Faculty Expectations Agreement

At Georgia Tech we believe that it is important to strive for an atmosphere of mutual respect, acknowledgement, and responsibility between faculty members and the student body. See <http://www.catalog.gatech.edu/rules/22/> for an articulation of some basic expectation that you can have of me and that I have of you. In the end, simple respect for knowledge, hard work, and cordial interactions will help build the environment we seek.

## Student Use of Mobile Devices in the Classroom

Students are expected to be considerate of others in their use of mobile phones and laptops within the classroom. Phones should be silenced at all times. Students should not text or check Facebook etc. during class time to avoid distracting others and to maximize learning.

## Additional Course Policies

Attendance and active participation is expected of all students in class, in-class discussions and all presentations of assigned work. Demonstration of independence, initiative, and time management is also expected.

**Campus Resources for Students**

We encourage making use of the range of laboratories, workshops and makers spaces around campus. In the School of ID we house the ID Shop (basement), Body Scan Lab, IPDL Lab and Driving Lab. Please contact workshop and lab staff to arrange working space and access to facilities. The Digital Fabrication Lab is a few minutes away.

**Student Academic Bill of Rights**

* The right to attend classes at regularly scheduled times without deviation from such time and without penalty if the student cannot attend instructional, lab, or examination hours not institutionally scheduled.
* The right to consult with an assigned and qualified advisor for a reasonable amount of time each term.
* The right to consult with faculty outside usual classroom time such as regularly scheduled office hours by appointment.
* The right to have reasonable access to campus facilities of which use is required to complete course assignments and/or objectives.
* The right to receive a syllabus for each course at the first class meeting. The syllabus should include an outline of the course objectives, criteria used in determining the course grade, and any other requirements. Students should be informed of any changes made to the syllabus with reasonable time to adjust to these changes.
* The right to have reasonable time to learn course material prior to the administration of an examination.
* The right of each student to receive access to any of his/her records kept by the institution.
* The right to have reasonable access to grading instruments and/or evaluation criteria and to have graded material returned in a timely fashion.
* The right to be informed of the grade appeals process.
* The right to have reasonable facilities in which to receive instruction and examinations.
* The right to be informed in each course of the definition of academic misconduct.

Last update 01/11/2019