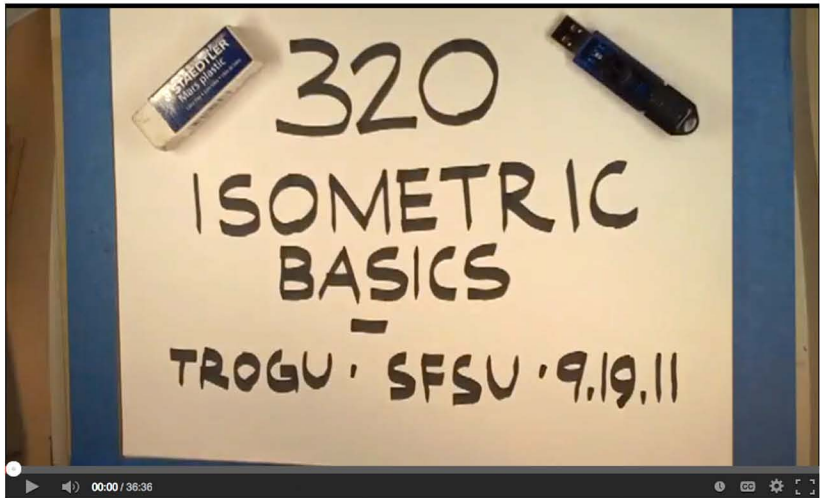


5.5.2

isometric basics

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Isometric basics.



Pino Trogu · 73 videos

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Published on Sep 16, 2012

Isometric basics. Sketch various axonometric views of the object. Select the best views and draw object without tools or straight edge. Draw center lines as needed. See ellipse references in iLearn. Draw some final lines with a straight edge to finish up the drawing if desired.

Source videos Loading...
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Uploader Comments (Pino Trogu)



Seth Cohen · 2 weeks ago

Fantastic explanations Pino. I teach CAD, and this is a great video of how to draw in isometrics. Thanks for sharing.

Reply



Pino Trogu · 1 week ago

very happy that other students can learn from it, even if their drawing task is digital.

Reply in reply to Seth Cohen



Pino Trogu · 2 months ago

glad to know the videos are useful

Reply

All Comments (6)

Sign in now to post a comment!



Sohaib M · 2 months ago

thanks a lot ! I'm taking engineering drawing and this came in really handy. Thanks to you I'm acing those assignments !

Reply



Axonometric Sketch 1

by Theron Hobbs
1,254

FEATURED



How to Draw Characters in

by koizu
88,377 views



HD COMO REALIZAR UN TRAZO

by arcantoss1
2,303 views



How to Draw the Mouth & Lips

by markcrilley
512,230 views



Axonometric Drawing

by charleneeredesign
638 views



isometric projections

by mahaqsiddiq
1,117 views



How to Draw Backgrounds

by markcrilley
331,160 views



Photoshop: How to Transform PHOTOS

by Blue Lightning TV
243,926 views



Pattern Drafting 101: Basic Bodice Sloper

by Evange
59,282 views



How to Draw Interesting Poses

by Sycra
578,848 views



How to sketch an axonometric spiral

by architectstudent11
1,775 views



Dibujando en isométrica

by Francisco Puentes
26,375 views



how to do an isometric

by ahvbb
40,509 views



100 Sketches // Drawings

by SoCraftastic
139,866 views





Engineering Drawing Orthographic View

by hcraja
12,721 views

Assonometria Cavaliera parte 1 di 2

by sergio azzolari
15,270 views

 **koudou leon** 3 months ago
Thank you
Reply

 **Ermin0s** 8 months ago
THANKS! Just reallly thanks
Reply



How to Draw the Female Face
by Juan Solorzano
2,461,740 views



One Point Perspective Drawing
by HelloArtsy
98,495 views













How to Draw 3D Block Letters - DAD
by HowtoDrawAndPaint
257,590 views





How to draw an isometric circle
by techdrawsa
7,914 views

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Pino Trogu

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320 Drafting & Sketching for Design

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30 videos • 274 views



1 Contour drawing, automatic drawing.

by Pino Trogu 193 views

Warming up drawing exercises based on The Natural Way to Draw and Drawing on the Right Side of the Brain. 1. Tape down the sheet of paper. 2. Do not look at the drawing. 3. Do ...



2 Free hand perspective and color - Step 2: Color

by Pino Trogu 203 views

Use the same techniques as in the "Monochrome" video. Trace and redraw the perspective, being precise yet loose. Use Prismacolor or Verithin color pencils. Using a copy of drawin...



3 Free hand perspective and color - Step 1: Monochrome

by Pino Trogu 255 views

Trace and redraw the perspective, being precise yet loose. Use Prismacolor or Verithin color pencils. Using a copy of drawing from "perspective low horizon line", redraw the two ...



4 Perspective low horizon line - Two cubic modules

by Pino Trogu 158 views

Using the template and handout provided, redraw the two cubes in perspective using a low horizon line. This is similar to the "Cube as architectural environment", but it's two-point ...



5 Perspective high horizon line - Two cubic modules

by Pino Trogu 140 views

Draw the two modules of your cube, side by side and in perspective. For this drawing, you only need to construct the outside shells of the cubes, all the other lines can be obtained...



6 Two-point perspective tutorial

by Pino Trogu 406 views

Based on a perspective tutorial by k. hulseley. Draw a two-point perspective of the object. In final, include plan view and perspective only.



7 One-point perspective of room in your house.

by Pino Trogu 797 views

Based on Mike Lin one-point perspective tutorial and the cube as architecture exercise, depict a room in your house or apartment using one-point perspective. Follow these ste...



8 Cubic module as architectural environment

by Pino Trogu 112 views

Based on Mike Lin's one-point perspective tips, construct a large drawing of your half cube as if it were a large open interior space, such as the lobby of a hotel or the atrium of a c...



9 One-point perspective tutorial (Mike Lin)

by Pino Trogu 416 views

Draw an open space (garden) in perspective. The garden is 20 feet wide and 20 feet deep. A 10-foot tall wall encloses it in the back and on the sides. The front is open. The viewer st...



10 Cube: outside template - Rough model full size (4x4x4)

by Pino Trogu 66 views

Using paperboard or other card stock, construct a rough cube to test the correct section. Use scotch tape or glue to connect the parts but make sure the parts themselves are pre...



Cube: internal sections and planes.

by Pino Trogu 188 views

On a single face of the cube, mark each point along the section with the appropriate letter. Using compass and a ruler, construct a series of triangles and/or rectangles all having on...



Knife, bone folder, glue.

by Pino Trogu 108 views

Tips on using ofa cutter (the better cousin of x-acto knife), bone folder (bookbinding tool), and glue, when assembling the cube components.



Cube section.

by Pino Trogu 163 views

Section a cube into two parts. Start by sectioning a face of the cube into two parts. Apply symmetry operations such as mirroring and rotations to construct the external surface of L...



Cross section drawing.

by Pino Trogu 1,563 views

Use projection lines to derive cross section of object. Indicate cross section line on orthographic view. This will be a section of the object drawn in sketches and the orthogra...



Sketch another object - addendum.

by Pino Trogu 64 views

Addendum to "Sketch another object" video. Sketch various views of the object, both orthographic and axonometric. Sketch everything free-hand. Note dimensions of the objec...



Sketch another object.

by Pino Trogu 32 views

Sketch another object: scissors, hammer, pliers, coffee pot, etc. Sketch various views of the object, both orthographic and axonometric. Sketch everything free-hand. Note dimens...



Ortho at 150 and iso at 50 - addendum.

by Pino Trogu 95 views

Addendum to "Orthographic at 150 scale and isometric at 50 scale puzzle" video. Redraw the three views of the object in the handout. Determine and add the isometric view drawn ...



Shading and lighting: cube, cylinder, and sphere.

by Pino Trogu 789 views

Shading and lighting with pencil strokes. Cube, cylinder, and sphere.



How to use an architect's scale.

by Pino Trogu 820 views

Tips on using an architect's scale.



Orthographic at 150 scale and isometric at 50 scale puzzle.

by Pino Trogu 172 views

Redraw the three views of the object in the handout. Determine and add the isometric view drawn at 1/2 scale of the new orthographic views. For this assignment, you will need you...



Object axonometric: orthographic, axonometric, exploded.

by Pino Trogu 1,536 views

Object axonometric: video 2 of 2. Sketch various axonometric views of the object. Select the best views and draw object without tools or straight edge. Draw center lines as neede...



Isometric basics.

by Pino Trogu 5,226 views

Isometric basics. Sketch various axonometric views of the object. Select the best views and draw object without tools or straight edge. Draw center lines as needed. See ellipse ...



Object exploded - additional video

by Pino Trogu 154 views

The exploded view is simply the set of parts represented again in axonometric view, each one is independent but in relation to the others, in particular all the parts are ideally aligne...



Object orthographic and dimensions

by Pino Trogu 173 views

Select one of the objects brought to class by you or the teacher: hammer, scissors, pliers, phone, iPod, etc. Draw orthographic views of the object. Use ruler and/or caliper to find di...



Paper airplane orthographic and isometric projection

by Pino Trogu 382 views

Draw orthographic and isometric views of the folded paper airplane. Draw border and title block. Use drafting instruments.



Paper airplane foldout template

by Pino Trogu 103 views

Using a letter-size sheet, design your own paper airplane. Draw the necessary folding lines (solid and dashed lines) on a separate sheet and fold the airplane to test its functionality. ...



Renaissance book grid construction.

by Pino Trogu 50 views

Classic book grid design using folded paper. Paper folding practice in preparation for the paper airplane exercise.



Geometric constructions with compass & ruler.

by Pino Trogu 1,234 views

03 Geometric construction of triangle, square, pentagon, equal division of segment, heptagon. Drawings done with compass and ruler.



Drawing letterpress wood letters.

by Pino Trogu 123 views

02 Drafting & Sketching for Design. San Francisco State University. Pencil drawing of letterpress wood type letters. Orthographic and axonometric views. Recorded August 29, ...



Drawing a milk carton and a plastic bottle.

by Pino Trogu 349 views

01 Drafting & Sketching for Design. San Francisco State University. Pencil drawing of milk carton and plastic bottle. Orthographic and axonometric views. General concepts of drafti...

Activities

- Assignments
- Forums
- Resources

Settings

- Course administration
 - Grades
- Switch role to...
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My Courses

You are not currently enrolled in any courses in the Summer 2013 category

Show all my courses...

Refresh course list

Latest news

1:11 AM, Mar 11

Giuseppe Trogu
320 Title Block and Border template 8.5x11 more...

Older topics ...

Collaborative Sites

- Academic Senate 2013-2014
- Research Methodology for Faculty
- Shop Scheduling and Information
- Design and Industry Department
- Stat CORR (N/A)
- Academic Senate 2012-2013
- DAI Lab Resources
- DAI Pre-Incubator
- Design and Industry Department (N/A)
- IDT Search Committee (N/A)
- Longmore Institute Interns
- New Faculty Community
- Stat CORR
- AT Winter Institute 2011 (N/A)

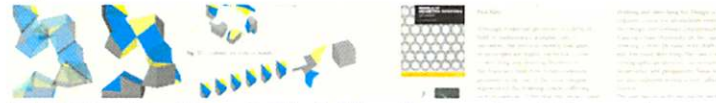
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DAI 0320-01 DRAFTING+SKETCHING-DESIGN

Spring 2013

Expand all / Collapse all

Top



DAI320 | Drafting & Sketching for Design | Trogu | Spring 2013

trogu@sfsu.edu | Office hours: HUM248 Mon 8-9am Tue 8AM-10am Wed 12:30-1:30pm

Please notify me immediately of any broken links of missing images or files. Thank you

JUMP TO BOTTOM OF PAGE

- TA & student list - Spring 2013
- Art supplies info
- News & Announcements

Quick links



Syllabus and Schedule



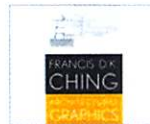
Assignment Instructions (Short version)



320 Drafting & Sketching Videos (youtube playlist)



NEW! 420 Rapid Viz Videos (youtube playlist)



320 Bibliography



Engineering Drawing Handbook



idsketching.com



Eric Demaine - MIT



Mike Lin - beloose.com



Mike Lin Drawing Tips



Robert Natata - Videos



Perspective tips and more - Natata



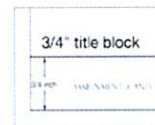
Fort Mason Bookstore



320 and 420 Supplies



Lettering



Title Block



SketchUp 3D Models

Section links

- 1 2 3 4 5 6 7 8 9 10 11
- 12 13 14 15 16 17 18 19
- 20 21 22 23 24 25 26 27
- 28 29 30 31 32 33 34 35

Course navigation

DAI032001-S13R

Participants

- Top
- Day 1 - Mon 1/28
- Day 2 - Wed 1/30
- Day 3 - Mon 2/4
- Day 4 - Wed 2/6
- Day 5 - Mon 2/11
- Day 6 - Wed 2/13
- Day 7 - Mon 2/18
- Day 8 - Wed 2/20
- Day 9 - Mon 2/25
- Day 10 - Wed 2/27
- Day 11 - Mon 3/4
- Day 12 - Wed 3/6
- Day 13 - Mon 3/11
- Sec. 2 - Day 14 - Wed 3/13
- Day 15 - Mon 3/18
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- Day 17 - Mon 3/25
- Day 18 - Wed 3/27
- Day 19 - Mon 4/1
- Day 20 - Wed 4/3
- Day 21 - Mon 4/8
- Day 22 - Wed 4/10
- Day 23 - Mon 4/15
- Sec. 3 - Day 24 - Wed 4/17
- Day 25 - Mon 4/22
- Day 26 - Wed 4/24
- Day 27 - Mon 4/29
- Day 28 - Wed 5/1
- Day 29 - Mon 5/6
- Day 30 - Wed 5/8
- Day 31 - Mon 5/13
- Day 32 - Wed 5/15
- Day 33 - Mon 5/20
- Portfolio due - Wed 5/22
- end



Calendar

September 2013

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					



Events key

- Global
- Course
- Group
- User

-  [Email iLearn Support](#)
-  [Chat \(Unavailable\)](#)
-  [Contact Information](#)
-  [Help Documents](#)

Welcome to DAI 320

Please download and print the [syllabus & schedule \(assignments list\)](#). The syllabus includes the [list of supplies](#) needed for the class. Please note that you will be required to download and print all handouts and bring them to class as needed. Some supplies will be provided. The [assignment instructions](#) are at the beginning of each category.

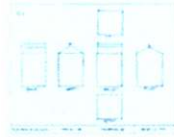
-  [Attendance and participation](#)
-  [Alphabet of Lines](#)

1 Day 1 - Mon 1/28

Monday, January 28, 2013

1

Week 1



Start of Category 1 - Line Plane Volume



<<< Download Assignment Instructions here (PDF: pp 1-7)

(Short version) For detailed instructions, please see videos, PDFs, and other resources found inside each individual assignment page.

Introduction slides

For the first exercises, please bring a one-pint empty milk carton (or other beverage, but same shape carton).

Click on individual assignments for instructions, project samples, and templates, if needed.

-  [1 Milk carton orthographic](#)
-  [2 Milk carton axonometric](#)

2 Day 2 - Wed 1/30

Wednesday, January 30, 2013

2

Week 1

Bring a small plastic water bottle. We'll be drawing the bottle in class.

Click on individual assignments for instructions, project samples, and templates, if needed.

-  [3 Water bottle orthographic](#)
-  [4 Water bottle axonometric](#)



3 Day 3 - Mon 2/4

Monday, February 4, 2013

3

Week 2

Due today: assignments 1, 2, 3, and 4.

-  [5 Wooden letter orthographic](#)
-  [6 Wooden letter axonometric](#)

4 Day 4 - Wed 2/6

Wednesday, February 6, 2013

4

Week 2

-  [7 Triangle](#)
-  [8 Square](#)
-  [9 Pentagon](#)
-  [10 Hexagon](#)



Week	Day	Date	Drwg #	Title	Pts	Due Date
1	1	Mon 1/28	00	Note to Category 1 – Line Plane Volume		
1	1	Mon 1/28	1	Milk carton orthographic	5	Mon 2/4/
1	1	Mon 1/28	2	Milk carton axonometric	5	Mon 2/4/
1	2	Wed 1/30	3	Water bottle orthographic	5	Mon 2/4/
1	2	Wed 1/30	4	Water bottle axonometric	5	Mon 2/4/
2	3	Mon 2/4/	5	Wooden letter orthographic	10	Mon 2/11
2	3	Mon 2/4/	6	Wooden letter axonometric	10	Mon 2/11
2	4	Wed 2/6/	7	Triangle	5	Mon 2/11
2	4	Wed 2/6/	8	Square	10	Mon 2/11
2	4	Wed 2/6/	9	Pentagon	15	Mon 2/11
2	4	Wed 2/6/	10	Hexagon	10	Mon 2/11
3	5	Mon 2/11	11	Equal divisions of segment	5	Mon 2/18
3	5	Mon 2/11	12	Heptagon	15	Mon 2/18
3	6	Wed 2/13	13	Renaissance book grid construction	10	Mon 2/18
3	6	Wed 2/13	14	Paper airplane foldout template	10	Mon 2/18
3	6	Wed 2/13	15	Lab fee receipt (due today)	20	Mon 2/13
3	6	Wed 2/13	16	Page 6 of syllabus signed (due today)	10	Mon 2/13
4	7	Mon 2/18	17	Paper airplane orthographic 1/2 scale	10	Mon 2/25
4	7	Mon 2/18	18	Paper airplane axonometric 1/2 scale	20	Mon 2/25
4	8	Wed 2/20	19	Object orthographic and dimensions	20	Mon 2/25
5	9	Mon 2/25	20	Object axonometric	20	Mon 3/4/
5	10	Wed 2/27	21	Object exploded	20	Mon 3/4/
6	11	Mon 3/4/	22	Orthographic drawing and isometric 1/2 scale	30	Mon 3/11
6	11	Mon 3/4/	23	Sketch another object	20	Mon 3/11

Week	Day	Date	Drwg #	Title	Pts	Due Date
6	12	Wed 3/6/	24	Orthographic of object 1/2 scale	20	Mon 3/11
7	13	Mon 3/11	25	Cross-section of object (to scale)	20	Mon 3/18
7	14	Wed 3/13	26	Field Trip to Autodesk	5	Wed 3/13
8	15	Mon 3/18	26A	Note to Category 2 – Cube Section		
8	15	Mon 3/18	26B	Note to Category 2 – Cont.		
8	15	Mon 3/18	27	Cube container	20	Wed 4/3/
8	15	Mon 3/18	28	Section sketches (external faces) 1/2 scale	10	Wed 4/3/
8	15	Mon 3/18	29	Face section rotation (external surface) 1/2 scale	10	Wed 4/3/
8	16	Wed 3/20	30	Internal sections and planes	20	Wed 4/3/
8	16	Wed 3/20	31	Rough model full size (4x4x4)	10	Wed 4/3/
9	17	Mon 3/25	31B	Spring Break – No classes – Campus Open		
9	18	Wed 3/27	31B	Spring Break – No classes – Campus Open		
10	19	Mon 4/1/	31C	Cesar Chavez Day – No classes – Offices Closed		
10	20	Wed 4/3/	32	Final cube	40	Mon 4/15
10	20	Wed 4/3/	33	External surface (1/4 scale)	20	Mon 4/15
10	20	Wed 4/3/	34	Full template (1/2 scale)	20	Mon 4/15
11	21	Mon 4/8/	35	Cube orthographic (1/2 scale)	20	Mon 4/15
11	22	Wed 4/10	36	Cube isometric 1 (1/2 scale)	20	Mon 4/15
11	22	Wed 4/10	37	Cube isometric 2 (1/2 scale)	20	Mon 4/15
12	23	Mon 4/15	38	Upload photo of cube model	10	Mon 4/15
12	24	Wed 4/17	38A	Note to Category 3 – Perspective	30	
12	24	Wed 4/17	39	1–point perspective tutorial (courtyard - Mike Lin)	30	Mon 4/22
13	25	Mon 4/22	40	Cubic module as architectural environment	40	Mon 4/29
13	25	Mon 4/22	41	Interior room – 1pt perspective sketch (extra credit)	20	

Week	Day	Date	Drwg #	Title	Pts	Due Date
13	26	Wed 4/24	42	2-point perspective tutorial (k.hulsey)	30	Mon 4/29
14	27	Mon 4/29	43	Two cubic modules with HIGH horizon line	40	Mon 5/6/
14	28	Wed 5/1/	44	Two cubic modules with LOW horizon line	50	Wed 5/22
15	29	Mon 5/6/	44B	Mike Lin Drawing Tips (not graded)		
15	29	Mon 5/6/	44C	Beloose.com sign up (Mike Lin) Extra credit	5	
15	30	Wed 5/8/	45	Free-hand version with color rendering	40	Wed 5/22
16	31	Mon 5/13	50	TBD (travel for conference)		
16	32	Wed 5/15	51	TBD (travel for conference)		
17	33	Wed 5/22	52	Sketchbook	100	Wed 5/22
17	33	Wed 5/22	53	Portfolio	100	Wed 5/22

DAI 320

Drafting and Sketching for Design

Syllabus – SPRING 2013

Pino Trogu www.trogu.com
Assistant Professor of Information Design

CLASS HOURS Mon-Wed in FA124
Sec.01 Schedule 27372 9:10–11:55 am
Sec.02 Schedule 27373 2:10–16:55 pm

OFFICE HOURS
Mon 8-9am Tue 8-10am Wed 12:30-1:30pm
office: HUM248 phone: 338-1954
email: trogu@sfsu.edu

San Francisco State University
College of Liberal and Creative Arts
Design and Industry Department
website: <https://ilearn.sfsu.edu>

Note: individual items in this syllabus are subject to change.
Rev. 27 January 2013

CATALOG DESCRIPTION

Mechanical and freehand drawing, the reproduction of drawings, and interpretation of graphic projections. Perspective drawing and the common elements of technical illustration. Signs and symbols of design and drafting. Laboratory. Extra fee required.

PREREQUISITES

DAI 323, DAI 356, and DAI 370 with a grade of C or better; upper division standing or consent of instructor. Priority enrollment given to DAI majors.

DAI MISSION STATEMENT

The Design and Industry Department offers a strong, well-rounded, interdisciplinary education to a diverse population with an emphasis in Design and Technology, Visual Communication, Industrial Technology, and Product Design and Development. Our program prepares students to make valuable contributions to their fields through communication, innovation, function, management and production. We strive for a global approach towards design that includes social, ethical and environmental responsibility.

COURSE GOAL

This class will introduce you to the drawing and sketching techniques which form the basis of the design discipline. Drawing by hand will enhance your computer drawing skills and will help you to understand the processes of 2D and 3D representation, which are often hidden when a drawing is developed on the computer. Seeing and analyzing these processes will improve your ability to see and draw objects as well as environments. These techniques will allow you to make professional visual presentations in all your other DAI classes and in preparing a personal portfolio. Finally, in learning how to draw and sketch, you will gain confidence in your design abilities and you will be able to quickly communicate your ideas and concepts to others.

LEARNING OUTCOMES

After completing this course you should be able to:

- Demonstrate the use of technical drawing tools to produce line drawings.
- Demonstrate the use of drawing methods including tracing, making revisions, scaling, and producing perspective drawings.

- Apply your skills to produce ideation sketches and presentation drawings.
- Demonstrate the use of the architect's scale for the purpose of drawing an object at various scales.
- Create a three-dimensional sectioned cube using progressive sections and transformations from 2D to 3D space.
- Demonstrate the use of different line weights in a drawing to communicate different aspects of the drawing.
- Develop the skill of interpreting a technical drawing for the purpose of constructing the object depicted in the drawing.
- Understand the process of drawing through hands-on assignments and identify the steps in this process as they relate to similar steps in CAD drawing.

SIGNIFICANCE

In addition to creating quick ideation sketches on paper or on a tablet, design professionals also need to accurately describe the size and shape of an object, graphic image or environment, so that it can be approved for production. They produce these drawings with standardized line work, notation and measuring conventions. The foundation of their drawing techniques is deeply rooted in the tradition of pen and ink drawing with mechanical instruments that have been used by architects and engineers since the Renaissance. These drawings are sometimes called mechanical drawings, engineering drawings, construction documents, or shop drawings.

Knowledge of the traditional techniques taught in this class will strengthen your drawing skills and help you to think more analytically about how to solve design and manufacturing problems.

As a designer, you will work on packaging designs, models, environments, graphic layouts and other types of products as part of your product development and final presentation. Professional drawings will make your presentation look crisp and clean. Well executed drawings will build your confidence as well as make your design portfolio look professional.

ATTITUDE

Confidence in your drawing ability and collaborating well with others will help you in school as well as at work. The better your

technical drawing skills are, the more clearly and accurately you can express visual information to others, and the more your final project will appear legitimate and complete.

Getting good at drafting requires you to have a basic understanding of how to use various drawing instruments appropriately, represent three dimensional products accurately and think analytically. If you want to reach a high level of drafting skills, you must practice often and regularly, giving yourself enough time to mentally get into the analytical drawing mode. You have to work hard and methodically until the drawing is finished.

INSTRUCTION

Generally, the first 30-60 minutes of class will be used for quick free hand sketching and drawing, followed by 20-30 minutes of lecture, demonstration or review, and ending in 60-90 minutes of general drawing activity (free hand or with tools) directly related to the assignments.

The course is divided into six categories:

1. Line Plane Volume	20%
2. Cube Section	25%
3. Perspective	25%
4. Final portfolio	5%
5. Sketchbook	5%
6. Attendance	20%

Each category is divided into specific assignments designed to develop drafting and sketching skills. Each assignment will be graded separately. You are encouraged to take notes on lectures and handouts, watching hands-on demonstrations, doing skill-building exercises, and keeping a sketchbook.

PROJECTS & GRADES

Final grades will be based on:

- Comprehension and understanding of concepts covered in class.
- Quality of work during semester.
- Contact with instructor and interaction with classmates.
- Class participation.
- Attend all class sessions for full class time.
- Complete assignments by due dates.
- Keep all your sketches for layouts, studies and practice exercises. These are loose sheets that will be bound together at the end

DAI 320

Drafting and Sketching for Design

Syllabus – SPRING 2013

Pino Trogu
trogu@sfsu.edu

San Francisco State University
College of Liberal and Creative Arts
Design and Industry Department
website: <https://iLearn.sfsu.edu>

Note: individual items in this syllabus are subject to change.

Rev. 27 January 2013

into a separate book. Various bookbinding techniques will be demonstrated.

- You should take adequate, accurate, and organized class notes throughout the semester, as these will be included in your final sketchbook.

PORTFOLIO

Presentation of work is a hallmark of design. You will be expected to present your work in a clean and professional manner. In addition to the individual projects, your final portfolio, which will include all the assignments, will be graded separately and count for 5% of the final grade.

SKETCHBOOK

Your sketchbook, a separately bound book including all sketches, drafts and notes not turned in as graded assignments, will be graded separately and count for 5% of the final grade. The sketchbook will demonstrate your involvement in each assignment and your improvement as an artist and designer as the semester progresses. I will evaluate both quality as well as quantity – 48 sketches minimum – as drawing is like writing: practice makes better.

All assignments must be identified with the following:

1. Class number and teacher's name
2. Your name
3. Assignment number (**VERY IMPORTANT**) and title, abbreviated when necessary.
4. Date

GRADING

A	96–100
A–	92
B+	88
B	84
B–	80
C+	76
C	72
C–	68
D+	64
D	60
F	59–0

A Performance of the student has been of the highest level, showing sustained excellence in meeting course responsibilities and personal potential.

B Performance of the student has been good, though not of the highest level.

C Performance of the student has been adequate, satisfactorily meeting the course requirements.

D Performance of the student has been less than adequate.

F Performance of the student has been such that course requirements have not been met.

SFSU grading policy

<http://www.sfsu.edu/~bulletin/current/grading.htm>

METHOD OF EVALUATION

There are six categories in the semester, with various weights on the overall course grade. Please read the section *Grade Structure and iLearn* on page 5 of this syllabus, for a detailed explanation of the grading structure and calculation.

1. Line Plane Volume	20%
2. Cube Section	25%
3. Perspective	25%
4. Final portfolio	5%
5. Sketchbook	5%
6. Attendance	20%

TOTAL 100%

Assignments will become progressively more complex towards the end of the semester and also be worth more points. The attendance category is worth 20% and will have a total of 60 points. Each absence is worth 4 points and each tardy is worth 1 point.

All grading will be recorded in iLearn. You can check your progress in the class by going to the iLearn site and viewing your grades for individual assignments, cumulative grades for each category, and overall class grade.

ADVISORY GRADES

Initial grades on all assignments turned in on time are advisory in nature. You have the opportunity to revise and resubmit any **on-time** assignment for a better grade. On-time assignments can be revised up to a maximum of the next letter grade from the initial grade. Clearly label revised work with a bright post-it note. As long as revised work is clearly labeled, it will be re-evaluated for a final grade. Make corrections on the original sheet or submit revisions along with the original work, or both.

All supporting sketches included in the sketchbook will not be graded individually. The sketchbook will be graded separately at the end of the semester (5% of total grade). Therefore do not worry about "making mistakes", avoid using an eraser, and free yourself from being judgemental about your drawings and your "skills". Drawing is a process of discovery and the rewards will be surprising if you just "let go" and draw, draw, draw!

LATE WORK

If an assignment is late, the grade will automatically drop by 15% (that's more than a full letter grade) and an additional 15% for each missed class thereafter, calculated after all the other criteria have been taken into account. See attached table for specific points and corresponding letter grades. Late work cannot be revised for a better grade, although you are welcome to revise it for personal improvement. If you have questions about how you are doing in the class or disagree with a given grade, email me or schedule an appointment with me to discuss your progress.

All drawing assignments will be graded according to the individual specifications and also the general level of craftsmanship: attention to detail, precision, and the ability to execute final designs in accordance with technical specifications that are established in advance. You should demonstrate active interest in perfecting your skills and in closing the gaps in areas where these skills are not as polished.

ATTENDANCE & PARTICIPATION

It is very important that you attend every class period. You will be expected to attend all class sessions, on time, for the full class time.

Attendance points:	60 pts
Each absence:	4 pts
Each tardy/leave early:	1 pt

- Each tardy or leaving early = 1/4 absence (4 tardies or leave early = 1 absence).
- More than 6 non-excused absences (24 points) = a fail grade (F) or a maximum grade of D for the course.

Attendance is taken at start of class. If you arrive after roll is taken, it's your responsibility.

DAI 320

Drafting and Sketching for Design Syllabus – SPRING 2013

Pino Trogu
trogu@sfsu.edu

San Francisco State University
College of Liberal and Creative Arts
Design and Industry Department
website: <https://ilearn.sfsu.edu>

Note: individual items in this syllabus are subject to change.

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ity to alert me so that you are marked late and not absent.

Each absence is worth 4 points. Each tardy or leaving early is worth 1 point. Tardy means arriving after roll has been taken. Leave early means leaving class before the scheduled end of the class. If you need to leave early for any compelling reason please ask in advance. If you arrive to class 1/2 hour after roll is taken, then 2 points will be deducted. If you leave class 1/2 hour before the end of class, 2 points will also be deducted.

Excused absences include being sick or other major events that prevent you from coming to class. You must email me in advance if you know you can't come to class or email me as soon as possible if you can't come because you feel sick in the morning.

This category also includes collaboration and effort. Design is a team enterprise. You should be flexible when working with others and be willing to help them and share your skills when necessary. Frequency of participation to discussions and critiques in the classroom is also important. Finally, be courteous in class. No phones, text messaging, head phones, naps, or excessive behavior.

NO EATING OR DRINKING IN CLASS / WATER OK. NO LAPTOP OR CELL PHONE USAGE DURING CLASS, EXCEPT WHEN DIRECTLY RELATED TO ASSIGNMENTS, SUCH AS LOOKING UP REFERENCES ON THE ILEARN CLASS WEBSITE.

Student's initial skill level and progress throughout the semester will be taken into account. A student's general effort will be considered. In regards to deadlines, unless otherwise noted, all assignments are to be turned in on the due date at the end of class. Turn in your assignment inside the folder provided with your name on it.

ILEARN

Use it! All the course materials will be available through iLearn, therefore you are expected to be up to date with the postings. If absent, you can find homework information and due dates on iLearn. In-class demos are posted on iLearn as PDF documents and/or videos for open access by the students.

PREPARATION

Come to class prepared and ready to take notes in your sketchbook, including diagrams and sketches. Obtain and review the handouts for each project from iLearn. Keep them in chronological order in a binder. Come to class ready to draw, with all the appropriate drawing media needed to do the assignments. Keep your work area clean and clear of clutter during and before leaving class. Make sure that you have an adequate drawing area at home that is well lit and uncluttered.

PRACTICE

Develop good study habits. Set at least a two-hour block of time to fully immerse yourself and concentrate on the drawing assignment. Practice being physically relaxed with your arms, hands, shoulders, and breathing. Practice being mentally relaxed and non-critical of your work while drawing. Get in the habit of doing a few quick orthographic and isometric study sketches per day, about 2-3 minutes each.

READINGS

All readings and assignment handouts will be available as PDFs on the iLearn website. Unless otherwise noted, you are required to print the assignments, readings, and other needed materials, and bring them to class for further work.

BASIC SUPPLIES

Drawing instruments, materials, and tools. Approx. \$100 & up. Look for sales at the art store. Ask art stores for a student discount. Additional drawing paper and study materials will be available from the \$10.00 lab fee.

- 1 Drafting pencils
- 2 **4-jaw chuck lead holder** with lead and special sharpener
- 3 **Olfa 18 knife and blades**
- 4 **Cutting Mat: 18x24 or 12x18**
- 5 Wooden pencils (HB through 2H)
- 6 Portable sharpener for wooden pencils
- 7 Plastic white eraser
- 8 Erasing shield
- 9 Drafting brush
Two drafting triangles with at least 10" edge
- 10 Forty-five degree triangle: 45° / 45° / 90°
Thirty-sixty degree triangle: 30° / 60° / 90°
- 11 Drafting compass. Expandable to 3" radius (6" diameter).
No Walgreens kiddie compasses, PLEASE.

- 12 Drafting board and/or table for working outside of class
- 13 Drafting tape or drafting dots (low tack)
- 14 Architect's scale
Templates
- 15 Isometric ellipse template 1/8" through 1-1/2" diameters
Circle template: 1/8" through 1-1/2" diameters
- 16 Portfolio for keeping all class assignments: Itoya ProFolio with 24 pre-bound plastic sleeves (enough room for roughly 48 pages (drawings)). Format: 8.5 x 11 ONLY.
- 17 Briefcase or portable art bin to store your drawing instruments
- 18 Sketchbook 8.5 x 11
- 19 Tracing paper pad 8.5 x 11
- 20 Vellum pad 8.5 x 11

For a visual reference of some of these supplies, please see:

online.sfsu.edu/trogu/420/supplies/420_Supplies.html

OPTIONAL SUPPLIES

- 1 Mechanical lead holder with 0.3mm, 0.5mm, and 0.7mm leads (2H, H, HB)
- 2 Bone folder (bookbinding tool)
- 3 Shaedler precision rules (one set)
- 4 Bristol Pad 8.5x11
- 5 French curves small and medium
- 6 Protractor

Art supply stores in San Francisco:

- **Aaron Brothers** 5600 Geary Blvd
- **Amsterdam Art** 5424 Geary Blvd
- **Arch** 99 Missouri Street (at 17th Street)
- **Artist & Craftsman Supply** 555 Pacific Ave
- **Blick Art Materials** 979 Market St
- **Flax** 1699 Market Street @ Valencia
- **Utrecht** 1930 Van Ness Avenue and 60 Federal Street, 4th Floor

Also, check prices online. This is a good online store I found:

carpediemstore.com

DAI 320

Drafting and Sketching for Design Syllabus – SPRING 2013

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RECOMMENDED BOOKS

Francis D. K. Ching. *Architectural Graphics*

Francis D. K. Ching and Steven P. Juroszek. *Design Drawing*

Koos Eissen and Roselien Steur. *Sketching: Drawing Techniques for Product Designers*

Koos Eissen and Roselien Steur. *Sketching: The Basics*

Kevin Henry. *Drawing for Product Designers*

Alan Pipes. *Drawing for Designers*

Kurt Hanks. *Rapid Viz*

Mike Lin. *Drawing and Designing with Confidence*

Kimon Nicolaïdes
The Natural Way to Draw

Betty Edwards. *Drawing on the Right Side of the Brain*

LINKS (includes rapid viz links)

sketching.nl
idsketching.com
beloose.com (Mike Lin)
michaelditullo.com
ryanchurch.com
carlliu.com
fengzhudesign.com
ralphmcquarrie.com
sydmead.com
drawthrough.com (Scott Robertson)

SELECTED BOOKSTORES

William Stout 804 Montgomery, SF
stoutbooks.com

SFMOMA Museum Store 151 Third St., SF
sfmoma.stores.yahoo.net/books-media.html

Book Bay Fort Mason Building C
friendssfp1.org/?readers_fm

Great, inexpensive, used art and design books. Also has books in other categories: fiction, children's books, photography, architecture, plus graphic novels and anime.

COSTS & FEES

There is a \$10 lab fee, which is used for the majority of paper supplies and materials used in the class. Paying the fee fulfills a graded assignment.

A student's final grade will be held unless the lab fee has been paid at the registrar.

GRADING AND WEIGHTS OVERVIEW

Assignments are worth anywhere from 5 to 50 points. Each category has a different total of points when all the assignments are added together.

1. Line Plane Volume	20%
2. Cube Section	25%
3. Perspective	25%
4. Final portfolio	5%
5. Sketchbook	5%
6. Attendance	20%

TOTAL 100%

DISRUPTIVE CLASSROOM BEHAVIOR

The classroom is a special environment in which students and faculty come together to promote learning and growth. It is essential to this learning environment that respect for the rights of others seeking to learn, respect for the professionalism of the instructor, and the general goals of academic freedom are maintained. Differences of viewpoint or concerns should be expressed in terms in which students and faculty may learn to reason with clarity and compassion, to share of themselves without losing their identities, and to develop an understanding of the community in which they live. Student conduct that disrupts the learning process shall not be tolerated and may lead to disciplinary action and/or removal from class. Disruptive behavior also includes allowing your cell phone to ring in class.

PLEASE BE CONSIDERATE AND TURN OFF YOUR CELL PHONE BEFORE CLASS BEGINS!

CHEATING & PLAGIARISM

Cheating is the actual or attempted practice of fraudulent or deceptive acts for the purpose of improving one's grade or obtaining course credit; such acts also include assisting another to do so. Typically such acts occur in relation to examinations. However, it is the intent of this definition that the term "cheating" not be limited to examination situations only, but that it include any and all actions by a student that are intended to gain an unearned academic advantage by fraudulent or deceptive means.

Plagiarism is a specific form of cheating which consists of the misuse of the published and/or unpublished works of others

by misrepresenting the materials (i.e. their intellectual property) so used as one's own work. Penalties for cheating and plagiarism range from a zero or "F" on a particular assignment, through an "F" for the course, to expulsion from the university. For more information on the University's policy regarding cheating and plagiarism, refer to the University Catalog (Policies and Regulations).

More info here:

<http://www.sfsu.edu/bulletin/supp-reg.htm>

Information on rights & use:

fairuse.stanford.edu/Copyright_and_Fair_Use_Overview

en.wikipedia.org/wiki/Fair_use
creativecommons.org

DISABILITY POLICY

Students with disabilities who need reasonable accommodations are encouraged to contact the instructor. The Disability Programs and Resource Center (DPRC) is available to facilitate the reasonable accommodations process.

The DPRC is located in the Student Service Building and can be reached here:

By telephone: (voice/TTY) **415 338-2472**

By email: dprc@sfsu.edu

Website:

sfsu.edu/~dprc/facultyfaq.html#1

OBSERVANCE OF RELIGIOUS HOLIDAYS

The Academic Senate Policy on the Observance of Religious Holidays (S09-212) indicates that: "The faculty of San Francisco State University shall accommodate students wishing to observe religious holidays when such observances require students to be absent from class activities..."

The following is a link to an Interfaith Calendar, which lists "Primary sacred times for world religions":

interfaithcalendar.org

Complete details regarding this Policy, including implementation can be found on the Academic Senate Web Page at the following location:

sfsu.edu/~senate/documents/policies/S09-212.html

Note: individual items in this syllabus are subject to change.
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Please let me know at the beginning of the semester if you will be observing any religious holidays that will prevent you from being in class.

GRADE STRUCTURE AND iLEARN

Percentages and Letter Grades

A	96–100
A–	92
B+	88
B	84
B–	80
C+	76
C	72
C–	68
D+	64
D	60
F	59–0

Points and corresponding letter grades, rounded to the nearest decimal.

Letter/Points	5.0	10.0	15.0	20.0	25	30.0	40.0	50
A	4.8	9.6	14.4	19.2	24	28.8	38.4	48
A–	4.6	9.2	13.8	18.4	23	27.6	36.8	46
B+	4.4	8.8	13.2	17.6	22	26.4	35.2	44
B	4.2	8.4	12.6	16.8	21	25.2	33.6	42
B–	4.0	8.0	12.0	16.0	20	24.0	32.0	40
C+	3.8	7.6	11.4	15.2	19	22.8	30.4	38
C	3.6	7.2	10.8	14.4	18	21.6	28.8	36
C–	3.4	6.8	10.2	13.6	17	20.4	27.2	34
D+	3.2	6.4	9.6	12.8	16	19.2	25.6	32
D	3.0	6.0	9.0	12.0	15	18.0	24.0	30
F	<3.0	<6.0	<9.0	<12.0	<15	<18.0	<24.0	<30

Late points: 15% = 0.8 1.5 2.3 3.0 3.8 4.6 6.0 7.5

The grading structure is distributed evenly: there are ten possible letter grades (with the exclusion of D–, which I don't use) plus F. Each letter has a range of 4 points, evenly spaced from 100 to 60 (from A to D); F ranges from 0 to 59. Some scales favor a wider range for the A grade, about 94 to 100, but I don't use them because I feel that the system should not automatically give extra points simply because one got to be just high enough. In many cases, I add some extra points later in the registrar grade if I feel that the person deserves more than the mathematical percentage.

Summary of individual assignment grades and category grades in iLearn:

iLearn gives an accurate and updated view of your standing in the class, based on all the grades that have been entered into the system up to that point.

In Grades, iLearn shows all grades for assignments, all total grades for the categories, and the overall grade for the class. Here is how the grades and percentages (weighted categories) work:

For each category, shown in bold on top of the list of assignments for that category, the grade is calculated by dividing the total points you received by the maximum points you could have received for the category. The resulting number is a percentage corresponding to a letter grade. The number can sometimes exceed 100, for example if you had all As and/or you did extra credit on top of that. The extra credit will help to push up your grade. Only grades that have been entered, in the form of a number from 0 to 100, are taken into account. Empty grades (–) are ignored and do not effect the calculation.

Since each category is weighted differently, a B for an assignment in a category that's worth 20% of your final grade will generally be worth more than an A for an assignment in a category worth only 10% of your final grade.

Also, some categories have fewer but heavier assignments. For example, category 2. *Cube section* has more assignments, each worth between 10 and 30 points, while category 3. *Perspective* has fewer assignments, each worth between 30 and 50 points. Missing an assignment in Category 3 will have a higher negative impact than missing one in Category 2. Therefore it's important that you stay focused throughout the semester.

iLearn does all the grade calculations. If you are curious, and to double-check how it works, get a calculator and do the following:

1. Divide the points received in each category by the maximum points possible in each category.

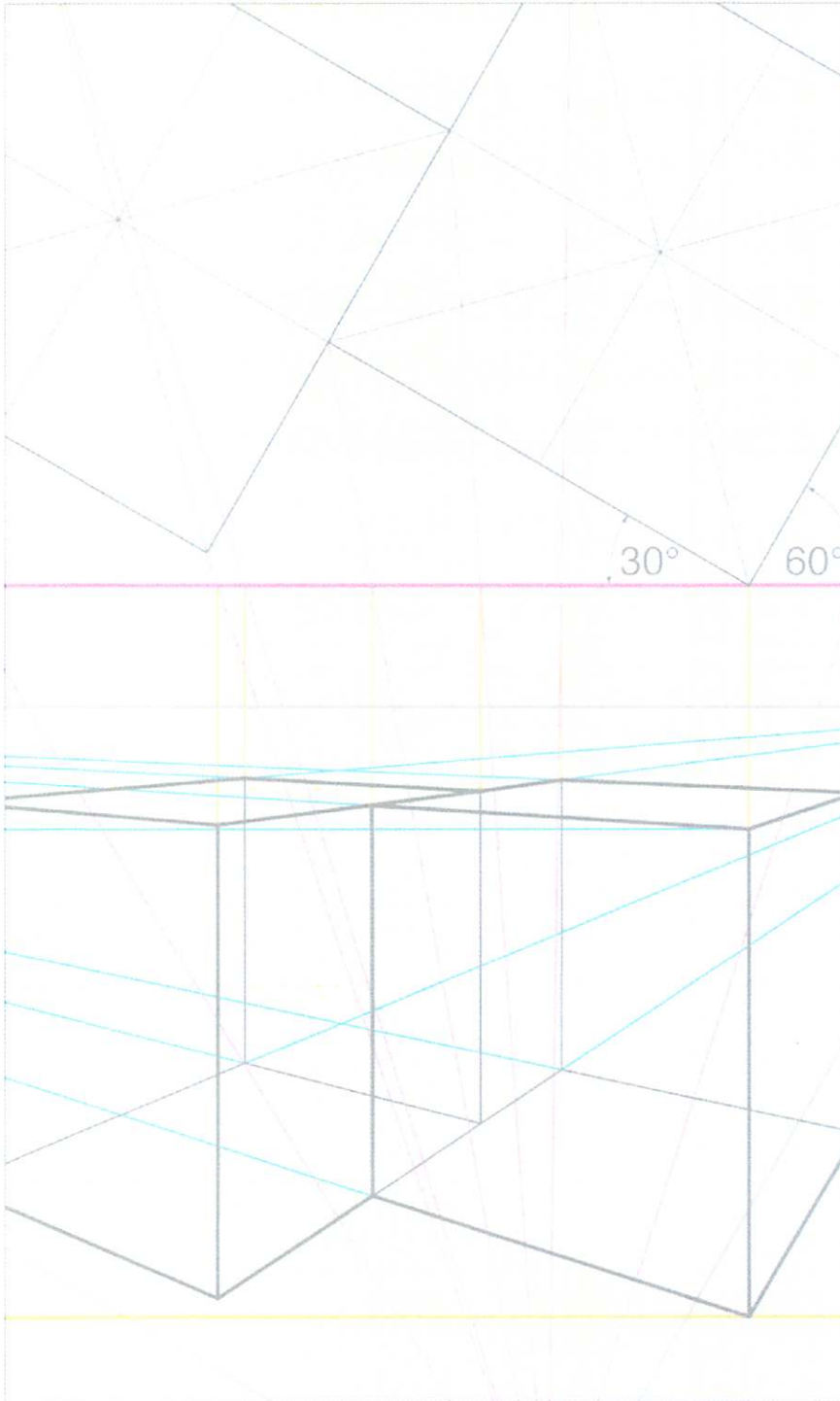
2. Take the resulting numbers for each category (delete decimal point) and multiply them by their corresponding category weight, as listed in the syllabus, for example if the category is 20%, multiply by 0.2.

3. Add all the resulting numbers to get final class grade, anywhere between 0 and 100. The final number is a percentage (out of 100) and will be converted to a corresponding letter grade.

A final grade of 72 (C) is needed to pass the class.

iLearn rounds up after two decimal units, so your calculation may be off by a very small amount.

Note: individual items in this syllabus are subject to change.
Rev. 27 January 2013



RIGHTS AND RESPONSIBILITIES

We have placed a lot of emphasis in this country on the idea of people's rights. That's how it should be, but it makes no sense to talk about rights without also talking about responsibilities.

*from The Last Lecture
by Randy Pausch*

This syllabus is an agreement between you, the student, and myself, the teacher.

You have the responsibility to be courteous in class and work constructively with the teacher and the other students, and to do your best to help your fellow students and collaborate with them. In return, you have the right to be in the class and receive constructive feedback from the teacher. This will be in the form of grading and comments on the assignments, in one-on-one critiques, group critiques, or communication via email.

I will read every email and will try to respond promptly to the best of my ability. You are encouraged to use email whenever necessary, however you should not abuse this generous communication channel.

I have read and understood the syllabus.

Full signature

Print last name

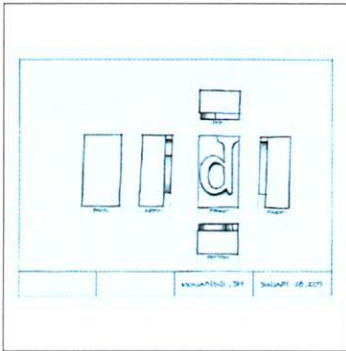
Date

Please print an extra copy of this page, sign and date it, and return it to the teacher or a TA at the beginning of the semester. This is a graded assignment. Thank you.

PT

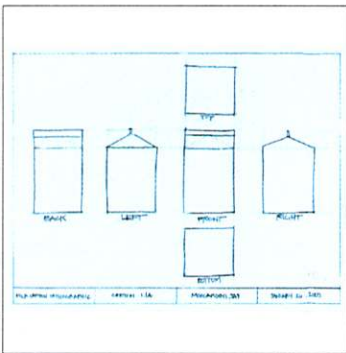
Week	Day	Date	Drwg #	Title & Assignment Instructions	Pts	Due Date
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1	1	Mon 1/28	00	Note to Category 1 – Line Plane Volume		
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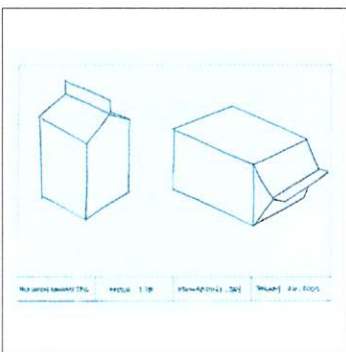
Additional instructions, examples, and videos related to the assignments in this list may be found on iLearn. Many of the examples shown here are for reference only, you will be drawing your own objects and views as appropriate.

1	1	Mon 1/28	1	Milk carton orthographic	5	Mon 2/4/
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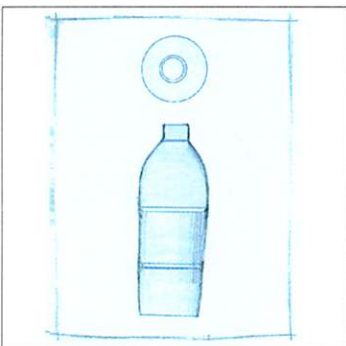
Draw the six views of the milk carton using light lines for the projection lines between the views. Use darker lines for the actual object lines. Label each view: front, top, right side, bottom, left side, back. Draw a border around the sheet (1/2" from the edge) and a 3/4" title block at the bottom. Include the drawing name, drawing number, your name and the date. Draw thin guidelines for your lettering and labels. This is a freehand drawing. Practice keeping the lines straight, parallel, and even in thickness and value.

1	1	Mon 1/28	2	Milk carton axonometric	5	Mon 2/4/
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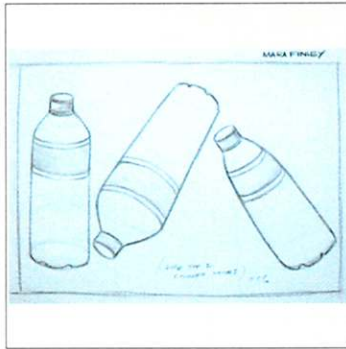
Draw a pictorial axonometric view of the carton. Do some quick sketches first to practice the relationships between the parts. Practice drawing the top roof-shaped part. Remember, parallel lines in the actual object remain parallel in the drawing. There are many variations of axonometric drawings, each with various angles and ratios for the three axes. We'll use mainly isometric drawings, where two axes are drawn using the 30° angle on the drafting triangle. You can use variations in your sketch, but approximate the isometric view in your final sketch. Draw final at approximately full scale.

1	2	Wed 1/30	3	Water bottle orthographic	5	Mon 2/4/
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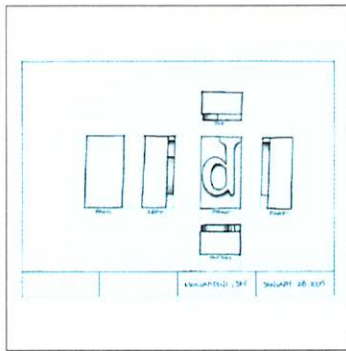
Same as assignment 1, but for the bottle two views are sufficient: front and top view. Keep the drawing loose, do not erase lines. Draw the two views of the bottle using light lines for the projection lines between the views. Use darker lines for the actual object lines. Label each view: front, top. Draw a border around the sheet (1/2" from the edge) and a 3/4" title block at the bottom. Include the drawing name, drawing number, your name and the date. Page orientation: portrait. Draw thin guidelines for your lettering and labels. This is a freehand drawing.

Week	Day	Date	Drwg #	Title & Assignment Instructions	Pts	Due Date
1	2	Wed 1/30	4	Water bottle axonometric	5	Mon 2/4/



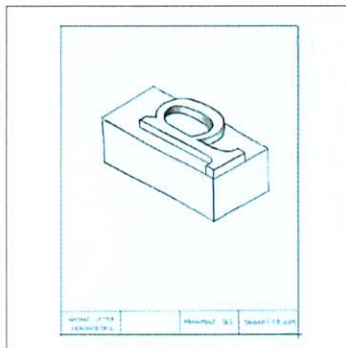
Draw the bottle at various angles in axonometric view. Draw ellipses to define the shape, keep your ellipses parallel with the long side perpendicular to the main axis of the bottle.

2	3	Mon 2/4/	5	Wooden letter orthographic	10	Mon 2/11
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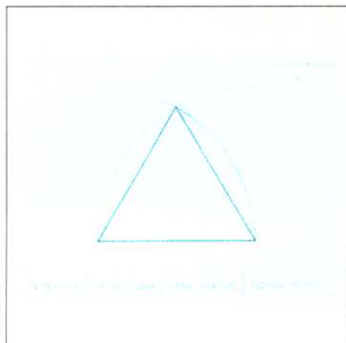
Draw and label the six views of your assigned letterform. Use the same arrangement of views as in assignment 1. You can sketch your views separately and then redraw the best results on the white sheet. Include border, title block, and drawing information. Scale your views if necessary. Space your views evenly and center your drawing inside the border area.

2	3	Mon 2/4/	6	Wooden letter axonometric	10	Mon 2/11
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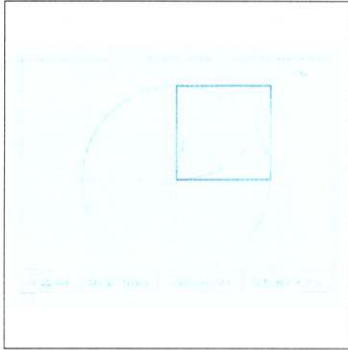
Choose one of the letterforms and sketch it using isometric projection. Consider drawing a light grid (using tracing paper) over the top orthographic view. This will aid you in drawing the angled view, especially if your letter includes curves. Start by drawing light lines of the main block, then start sketching the actual letter portion. Scale your drawing up and center pictorial on the page. Use portrait orientation for this drawing.

2	4	Wed 2/6/	7	Triangle	5	Mon 2/11
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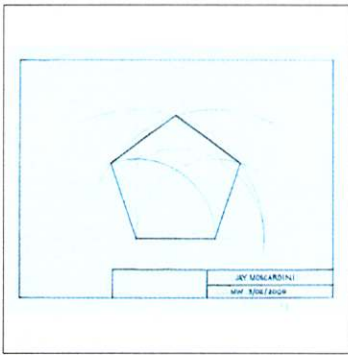
Draw the equilateral triangle using compass and ruler. The side of the triangle is 5 inches.

Week	Day	Date	Drwg #	Title & Assignment Instructions	Pts	Due Date
2	4	Wed 2/6/	8	Square	10	Mon 2/11



Draw the square using compass and ruler.
The side of the square is 3 inches.

2	4	Wed 2/6/	9	Pentagon	15	Mon 2/11
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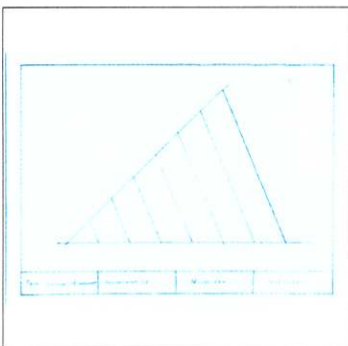
Draw the pentagon using the separate instructions and refer to in-class demo for correct procedure.
The side of the pentagon is 2.5 inches.

2	4	Wed 2/6/	10	Hexagon	10	Mon 2/11
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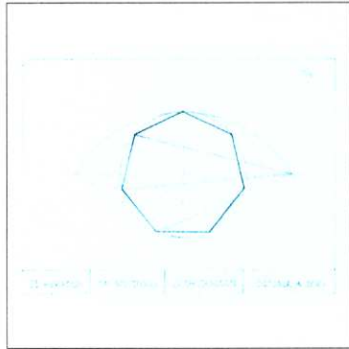
Draw the hexagon using the separate instructions and refer to in-class demo for correct procedure.
The circle inscribing the hexagon is 5 inches in diameter.

3	5	Mon 2/11	11	Equal divisions of segment	5	Mon 2/18
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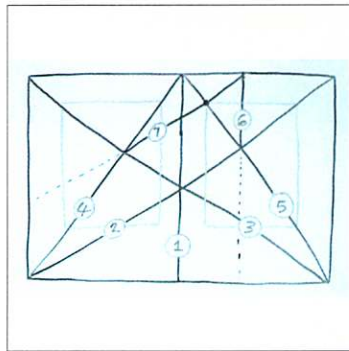
Divide a horizontal segment of a given length (6 inches) into any number of equal spaces. In this example: 7 spaces). See separate instructions in iLearn.

Week	Day	Date	Drwg #	Title & Assignment Instructions	Pts	Due Date
3	5	Mon 2/11	12	Heptagon	15	Mon 2/18



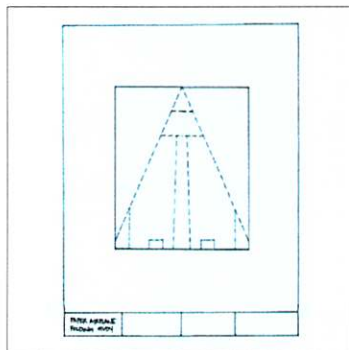
Draw the heptagon using the separate instructions and refer to in-class demo for correct procedure.
The circle inscribing the heptagon is 4 inches in diameter.

3	6	Wed 2/13	13	Renaissance book grid construction	10	Mon 2/18
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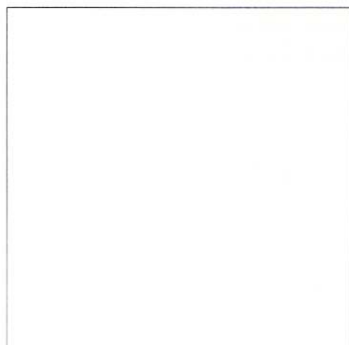
Using the grid shown, fold a sheet 11x17 to create this standard book design grid.
Practice folding the paper in preparation for the paper airplane exercise.

3	6	Wed 2/13	14	Paper airplane foldout template	10	Mon 2/18
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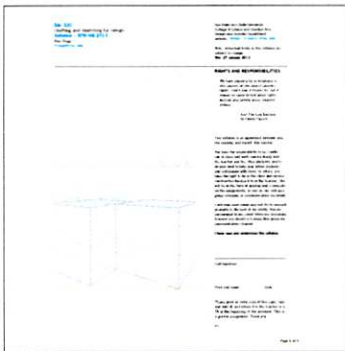
Using a letter-size sheet, design your own paper airplane. Draw the necessary folding lines (solid and dashed lines) on a separate sheet and fold the airplane to test its functionality. Draw solid lines to indicate "mountain" folds, and dashed lines to indicate "valley" folds. Draw a scaled version of your foldout pattern. Draw border and title block. Use drafting instruments.

3	6	Wed 2/13	15	Lab fee receipt (due today)	20	Mon 2/13
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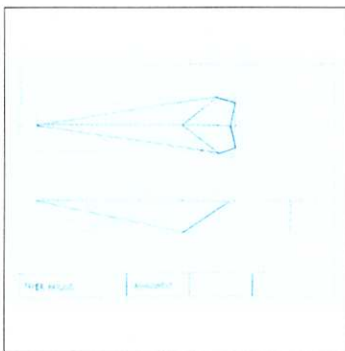
Please pay the \$10 lab fee for the class and show the receipt to the TA, either paper or screen shot of your account showing payment.

Week	Day	Date	Drwg #	Title & Assignment Instructions	Pts	Due Date
3	6	Wed 2/13	16	Page 6 of syllabus signed (due today)	10	Mon 2/13



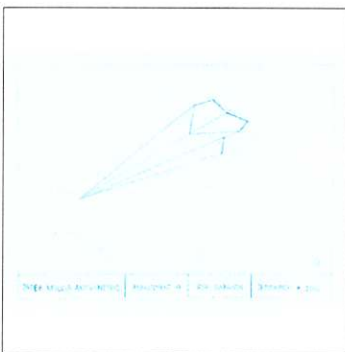
Print, sign and date the last page of the syllabus (page 6) and give it to the TA.

4	7	Mon 2/18	17	Paper airplane orthographic 1/2 scale	10	Mon 2/25
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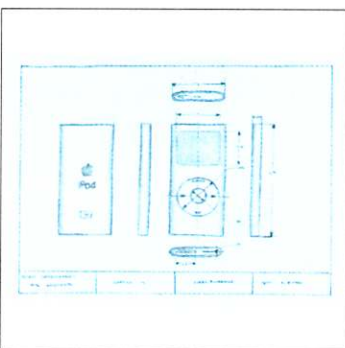
Draw orthographic views of the folded paper airplane. Draw border and title block. Use drafting instruments.

4	7	Mon 2/18	18	Paper airplane axonometric 1/2 scale	20	Mon 2/25
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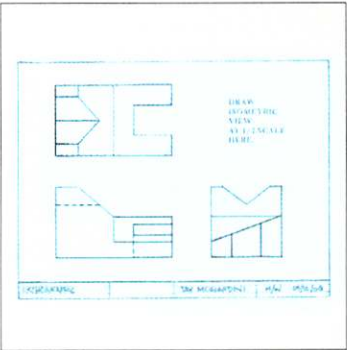
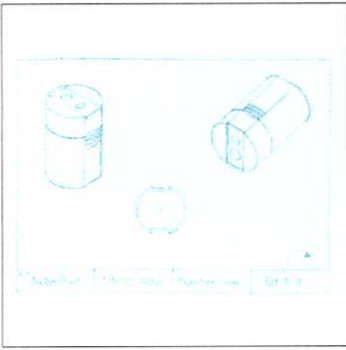


Draw a pictorial view of the folded airplane. Draw border and title block. Use drafting instruments.

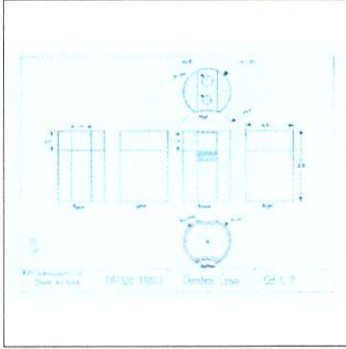
4	8	Wed 2/20	19	Object orthographic and dimensions	20	Mon 2/25
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Select one of the objects brought to class by you or the teacher: hammer, scissors, pliers, phone, iPod, etc. Draw orthographic views of the object. Use ruler and/or caliper to find dimensions. Use architect's scale to scale down your sketch if needed. Sketch the various views of the object: front, side, top, etc. Add a few dimensions. Do not use tools or straight edge for your sketches, or use them only at the end for touch-up.

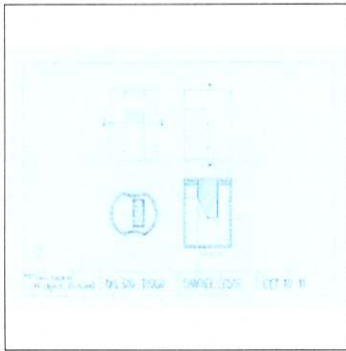
Week	Day	Date	Drwg #	Title & Assignment Instructions	Pts	Due Date
5	9	Mon 2/25	20	Object axonometric  <p>Sketch various axonometric views of the object. Select the best views and draw object without tools or straight edge. Draw center lines as needed. See ellipse references in iLearn. Draw some final lines with a straight edge to finish up the drawing if desired. See iLearn link for Mike Lin drawing tips.</p>	20	Mon 3/4/
5	10	Wed 2/27	21	Object exploded  <p>Sketch various exploded views of the object. Free-hand.</p>	20	Mon 3/4/
6	11	Mon 3/4/	22	Orthographic drawing and isometric 1/2 scale  <p>2-step process (unknown view) Redraw three orthographic views of object in HANDOUT. Determine and add isometric view drawn at 1/2 scale of orthographic views.</p>	30	Mon 3/11
6	11	Mon 3/4/	23	Sketch another object  <p>Sketch another object from the original set. You can pick an object that's not in the set but I need to approve it. Sketch various views of the object, both orthographic and axonometric. Sketch everything free-hand. See other examples of Bollin's drawings in iLearn. Note dimensions of the object as you will be drawing it with tools in the next exercise.</p>	20	Mon 3/11

Week	Day	Date	Drwg #	Title & Assignment Instructions	Pts	Due Date
6	12	Wed 3/6/	24	Orthographic of object 1/2 scale	20	Mon 3/11



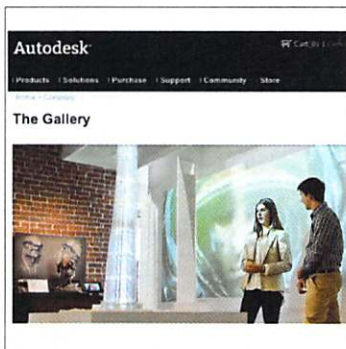
Draw and describe the object using proper dimensioning. Draw front, side, and top views as needed. Add dimensions as needed. Use tools. Indicate correct scale if necessary.

7	13	Mon 3/11	25	Cross-section of object (to scale)	20	Mon 3/18
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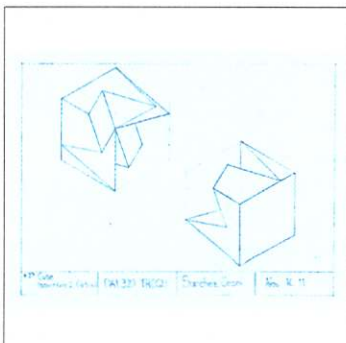
Use projection lines to derive cross section of object. Indicate cross section line on orthographic view. Drawing shown for reference only. This will be a section of the object drawn in 23 and 24.

7	14	Wed 3/13	26	Field Trip to Autodesk	5	Wed 3/13
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Field trip to Autodesk gallery at One Market Street in San Francisco.

8	15	Mon 3/18	26A	Note to Category 2 – Cube Section		
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Additional instructions, examples, and videos related to the assignments in this list can be found on iLearn. Many of the examples shown here are for reference only, you will be drawing your own objects and views as appropriate. The sample drawings do not always show the same cube.

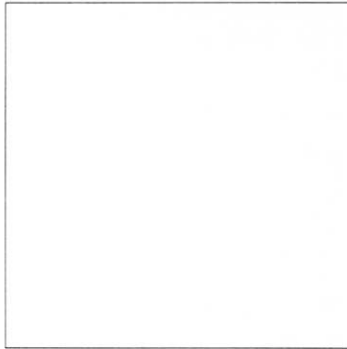
CRITERIA

Section a cube into two parts. Start by sectioning a face of the cube into two parts. Apply symmetry operations such as mirroring and rotations to construct the external surface of the cube. Determine the internal section by constructing triangular shapes as needed. Build model of cube and upload photo of finished cube to iLearn.

Represent cube in orthographic and isometric projections. Refer to the presentation slides and PDFs for more details.

Week	Day	Date	Drwg #	Title & Assignment Instructions	Pts	Due Date
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8 15 Mon 3/18 **26B** **Note to Category 2 – Cont.**

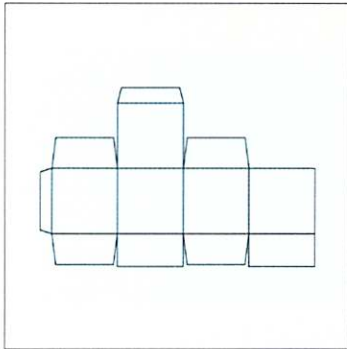


PROCESS

Note: I will print pages 1, 4, 4B, and 5 of the cube handout. It's necessary that these be printed exactly at 100%, so we'll print them with the school laser printer. The accuracy of the drawings can be checked by measuring the 4x4 inch squares on the pages. These drawings are needed for exact measurements of the parts.

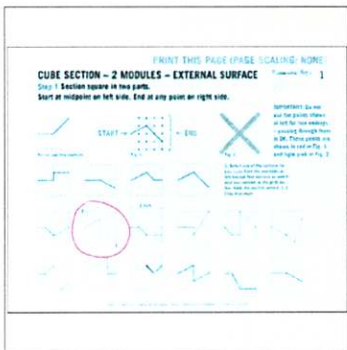
The actual size of the cube is 4" on each side.

8 15 Mon 3/18 **27** **Cube container** 20 Wed 4/3/



Build a box container for your final cube based on the given template. This will be used to house your finished model at the end of this section. When turning the cube in, write your name in pencil on the bottom of the cube and in pen on the box lid.

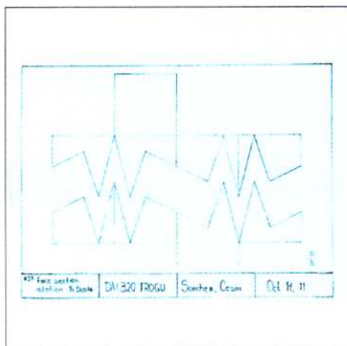
8 15 Mon 3/18 **28** **Section sketches (external faces) 1/2 scale** 10 Wed 4/3/



Sketch various sections for the face of the cube. Determine final section and begin testing the arrangement of the faces on the plane. 1/4 scale.

The drawing samples from section 2 shown in iLearn may vary slightly from those in the assignment instructions handout. Use as reference only to help you to draw your own section and drawings.

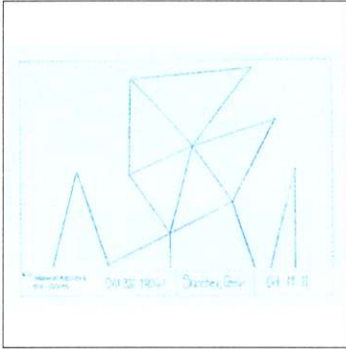
8 15 Mon 3/18 **29** **Face section rotation (external surface) 1/2 scale** 10 Wed 4/3/



Rotate all the sectioned parts on the plane until two or three identical groups of shapes are formed. 1/2 scale

Week	Day	Date	Drwg #	Title & Assignment Instructions	Pts	Due Date
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8	16	Wed 3/20	30	Internal sections and planes	20	Wed 4/3/
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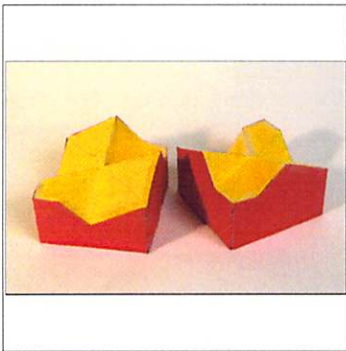


On a single face of the cube, mark each point along the section with the appropriate letter (see presentation slides). Using compass and a ruler, construct a series of triangles and/or rectangles all having one vertex or corner in "Z" (the center of the cube). Connect the various shapes together to complete the INTERNAL surface of the cube. Once you solve the section, repeat the pattern on the other three faces.

This is your "master" drawing, which will be used to construct the final cube. Do not cut the master drawing, use a push-pin to transfer the shapes onto separate cardboard. Full scale. I will be assisting in class to construct the correct shapes.

Note: the master drawing (template) should be done on a piece of card stock, so it does not wear out with repeated use. But the separate drawing that you will turn in can be done on regular paper.

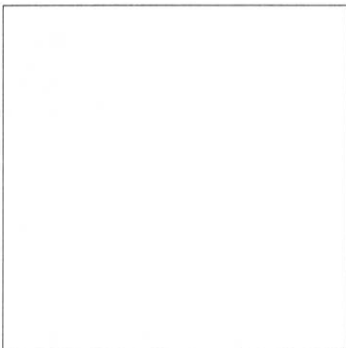
8	16	Wed 3/20	31	Rough model full size (4x4x4)	10	Wed 4/3/
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Using paperboard or other card stock, construct a rough cube to test the correct section. Use scotch tape or glue to connect the parts but make sure the parts themselves are precisely cut. This rough model is meant to confirm that the section will work. Construct the section leaving the bottom open until the end.

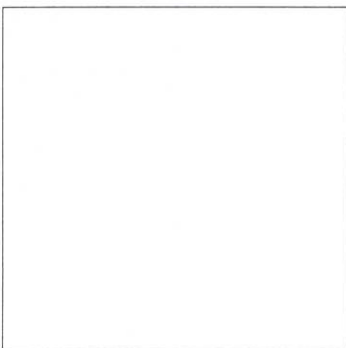
IMPORTANT: the two modules are exactly the same. Check these by aligning them next to each other with the full square touching the table. Use instructions in video and in assignment 30 to determine internal surface.

9	17	Mon 3/25	31B	Spring Break – No classes – Campus Open		
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Spring Break – No classes

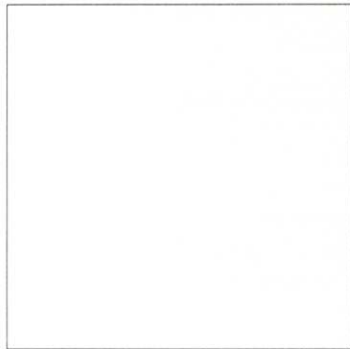
9	18	Wed 3/27	31B	Spring Break – No classes – Campus Open		
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Spring Break – No classes

Week	Day	Date	Drwg #	Title & Assignment Instructions	Pts	Due Date
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10	19	Mon 4/1/	31C	Cesar Chavez Day - No classes - Offices Closed		
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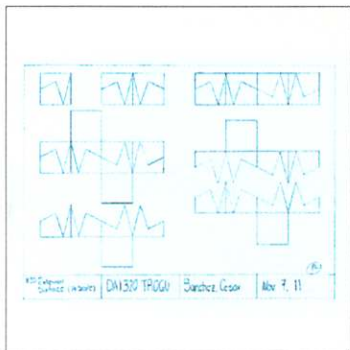
Cesar Chavez Day - No classes

10	20	Wed 4/3/	32	Final cube	40	Mon 4/15
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The final cube will be 4" x 4" x 4". The two modules can be constructed out of bristol board, card stock or other stiff paper material. The higher the quality of the stock, the more refined your folds and edges will be. The final cube can be assembled using tabs and/or glue. The main purpose of the assignment is to develop a sense of progression from 2-D space to 3-D space. The cube is a vehicle for exploring this progression as well as developing your craftsmanship.

10	20	Wed 4/3/	33	External surface (1/4 scale)	20	Mon 4/15
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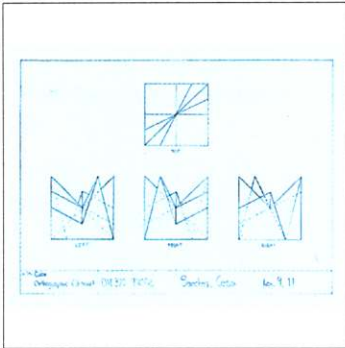
Draw the sequence at 1/4 scale on 8.5" x 11" paper. Draw a border and a title block with drawing information. Include scale in title block. In this and all other cube drawings, do not dimension objects. Always include scale.

10	20	Wed 4/3/	34	Full template (1/2 scale)	20	Mon 4/15
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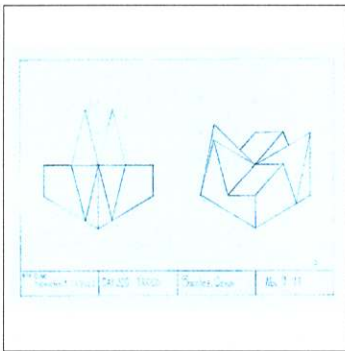
Draw the full template of your module at 1/2 scale on 8.5x11 paper. Add title block with drawing information, including scale.

Week	Day	Date	Drwg #	Title & Assignment Instructions	Pts	Due Date
11	21	Mon 4/8/	35	Cube orthographic (1/2 scale)	20	Mon 4/15



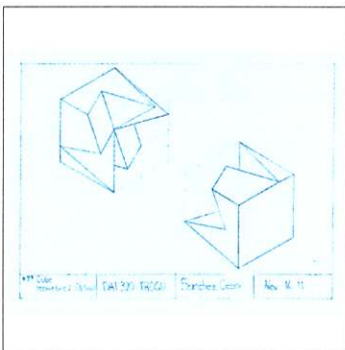
Draw a set of orthographic views at 1/2 scale on 8.5" x 11" paper. Include and label four views: top, front, right side, left side. Include hidden lines. Use thicker object lines. Draw a border and a title block with drawing information, including scale.

11	22	Wed 4/10	36	Cube isometric 1 (1/2 scale)	20	Mon 4/15
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Draw the 2 modules at 1/2 scale. Start the base drawing by drafting two circles with radius equal to 2". Draw the two modules separately and combine them on tracing paper if desired. Center your composition. Do not erase the light construction lines, if desired. Do not draw hidden (dashed) lines.

11	22	Wed 4/10	37	Cube isometric 2 (1/2 scale)	20	Mon 4/15
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Draw the 2 modules at 1/2 scale in exploded isometric view. Center your composition. Note that you already have the view on the left from the asymmetrical view in the previous isometric drawing (36). Simply rotate that view so that the original horizontal side is now a vertical side. Use tracing paper to help you to visualize the two halves.

12	23	Mon 4/15	38	Upload photo of cube model	10	Mon 4/15
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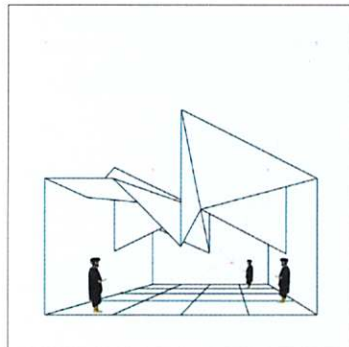


Take a digital photo of the final model and upload file to iLearn. Show both modules side by side, same or different orientation. Place a seamless background behind the cube, like a large white or light gray sheet of paper. Do not place the cube on patterned backgrounds or textured surfaces.

Week	Day	Date	Drwg #	Title & Assignment Instructions	Pts	Due Date
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12 24 Wed 4/17 **38A** **Note to Category 3 – Perspective**

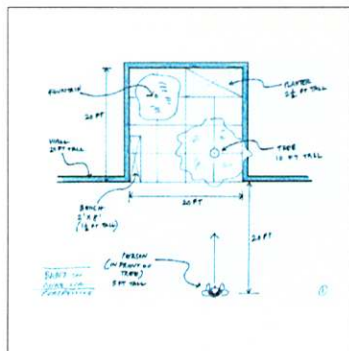
30



Additional instructions and examples related to the assignments in this list can be found in the iLearn page. In this section we will explore one- and two-point perspective. The first is usually appropriate for interior architectural views, while the second is often used for exteriors or for smaller objects. These are only guidelines which can be reversed if appropriate.

12 24 Wed 4/17 **39** **1-point perspective tutorial (courtyard - Mike Lin)**

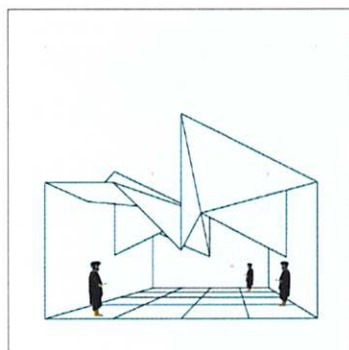
30 Mon 4/22



Go to iLearn to download PDF of demo images. Draw one-point perspective of courtyard based on the plan and elevation information provided.

13 25 Mon 4/22 **40** **Cubic module as architectural environment**

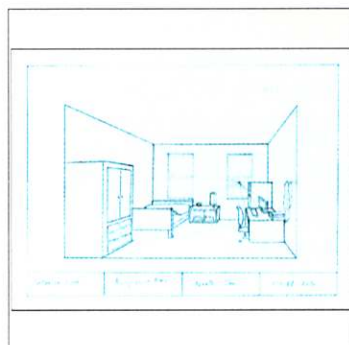
40 Mon 4/29



Based on one-point perspective tips (Mike Lin), construct a large drawing of your half cube as if it were a large open interior space, such as the lobby of a hotel or the atrium of a concert hall. Use grid paper if desired. Position your observer as specified in the sketch on the instructions. See iLearn files for more information.

13 25 Mon 4/22 **41** **Interior room – 1pt perspective sketch (extra)**

20

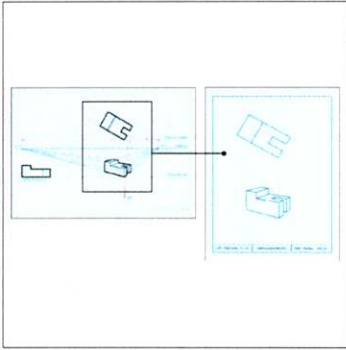


Review notes from 39: Mike Lin courtyard. Based on the instructions used for exercise 39, depict a room in your house or apartment using one-point perspective.

Sketch a plan view.
 Establish the station point and the height of the observer.
 Establish width, depth, and height of room.
 Use tile floor grid and diagonals to help you locate objects.
 Include at least: door, window, table, chair, person.

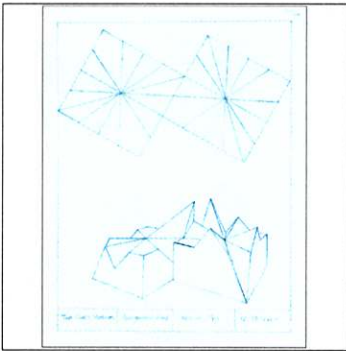
(This assignment is extra credit)

Week	Day	Date	Drwg #	Title & Assignment Instructions	Pts	Due Date
13	26	Wed 4/24	42	2–point perspective tutorial (k.hulsey)	30	Mon 4/29



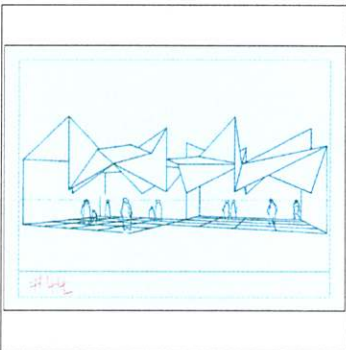
Using the PDF tutorial found in iLearn (shown at left) as well as the object's dimension specifications, draw a two–point perspective of the object. In final, include plan view and perspective only. Note: use these guidelines also for the next assignment.

14	27	Mon 4/29	43	Two cubic modules with HIGH horizon line	40	Mon 5/6/
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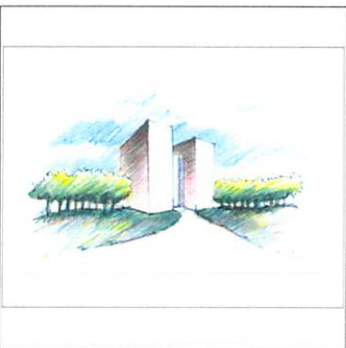
Based on the tutorial from 42, draw the two modules of your cube, side by side and in perspective. Download the PDF instructions and the template for positioning the cubes on the page. For this drawing, you only need to construct the outside shells of the cubes, all the other lines can be obtained using diagonals and further modular divisions. In final, include plan view and perspective views as shown, drawn on a separate vellum sheet. Include your construction drawing with this assignment. Fold the construction drawing and include it in the portfolio.

14	28	Wed 5/1/	44	Two cubic modules with LOW horizon line	50	Wed 5/22
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Using the template and handout provided, redraw the two cubes in perspective using a low horizon line. Download and read instructions in the PDF. This is similar to 40, but it's two–point perspective instead of one–point. When the drawing is completed, enlarge it to 140 percent with a xerox machine to fill the frame with just the central scene. Imagine that your space is an atrium, open garden, art gallery, or similar. Add figures and other elements. The final drawing is done with dark straight lines. Include your construction drawing in the portfolio, folded to letter size.

15	29	Mon 5/6/	44B	Mike Lin Drawing Tips (not graded)		
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Quick sketch of building using Mike Lin drawing tips. Use color pencils such as Prismacolor. Review PDFs of drawing tips (text) and sketches. See also PDF of pics from BeLoose Graphic Workshop.

Week	Day	Date	Drwg #	Title & Assignment Instructions	Pts	Due Date
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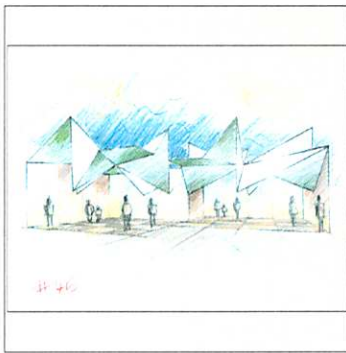
15	29	Mon 5/6/	44C	Beloose.com sign up (Mike Lin) Extra credit	5	
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Sign up on beloose.com. Send a message via the website to your TA to receive 5 extra points.

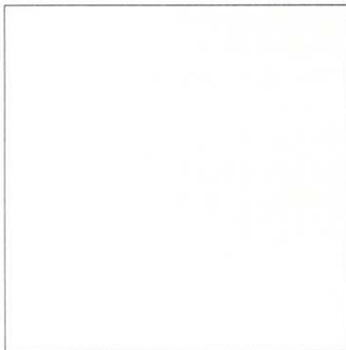
(This assignment is extra credit)

15	30	Wed 5/8/	45	Free-hand version with color rendering	40	Wed 5/22
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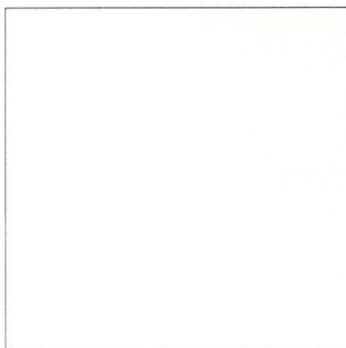
On a separate sheet, trace and redraw the perspective from 44, being precise yet loose. Use Prismacolor or Verithin color pencils. Using a copy of drawing 44 as a base, redraw the two cubes using color pencils. Download and read instructions in the PDF found in iLearn. Refer to sketch of building done in class on Monday, Dec. 10. Add figures and other elements. The final drawing is free-hand with some straight lines as accents.

16	31	Mon 5/13	50	TBD (travel for conference)		
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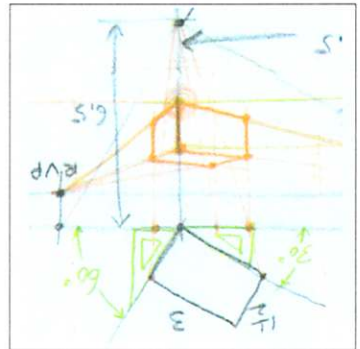


Will be traveling to a conference from May 13 to May 18. Class activity TBD.

16	32	Wed 5/15	51	TBD (travel for conference)		
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Will be traveling to a conference from May 13 to May 18. Class activity TBD.



See instructions in iLearn.



See instructions in iLearn.