

Fall 2008
MEAM 111: Visual Thinking

Instructor: Jenny Buck

Textbook: none; nb. required materials for class and projects are estimated to cost \$160

Prerequisites: none; open to all undergraduate students

Catalog Description:

MEAM 111, Visual Thinking is an introduction to a broader philosophy and spirit of design thinking that sees answers to a problem as an extensive pool of possibilities from which one selects the most appropriate options. A product design perspective on problem solving differs from much of the traditional analytical problem solving of an engineering education, where there is often one or a limited set of "correct" solutions to a problem. Repetition, iteration, and trial & error through learning by doing will be the means by which skills and methods will be assimilated in MEAM 111. Creative problem solving aspects of the class are modeled after a class and book developed by Robert McKim and others at Stanford University, and upon the belief that many aspects of a "creative person" or adept problem solver aren't something you do or do not have at birth, but can be learned, chosen and or constructed. Towards this end, it is expected that practice with iterative problem solving can and will in time shift each student's "mindframe," and change the way they approach problem solving in engineering, design, and perhaps other areas of their lives as well.

The term "visual thinking" used in this context refers to solving problems and creating things using all of an individual's talents and resources. It is an interdisciplinary and flexible way of working, which does away with mental barriers and stereotypes, and while we will apply it to the process of designing, the hope is that the tools learned will also be found useful in many diverse situations over a lifetime which require creative problem solving.

MEAM 111 will stress drawing within the design process as a powerful cognitive skill, both in terms of ideation & iteration, and as an important form of communication. Building upon these drawing skills is seen as an enabler to freer and more creative thinking. Teamwork will also be stressed, as professional success as either an engineer or designer has more to do with teamwork than with being a lone genius.

MEAM 111 will have 3 major design projects comprising both mechanical problemsolving and aesthetic decision making. Two will be team projects and one an individual project. It will cover a range of drawing skills, creative thinking skills, prototyping skills and briefly some aesthetic and philosophical topics. Homework will be assigned in each class due in the following class.

Projects:

<i>09/30</i>	Design Project 1 due
<i>10/28 or 10/30</i>	Design Project 2 due
<i>12/4</i>	Design Project 3 due

Materials:

Required in class daily:

At least 2 thin tip black pens in different line weights
black "fine tip" sharpie pen
black chisel tipped marker
optional: tool box/ bag for tools
optional: non-photo blue pencil & pencil sharpener
optional: pencil

Required for homeworks:

Daily materials above
11x14 "marker" pad with ripout pages, but without a spiral wire
(some equivalents aren't marked "marker" - you need a pad that does not bleed through
or feather, & is intended for both wet and dry mediums)
logbook at least 100 pages, either bound or spiral, minimum size 8x11

Required for projects:

x-acto knife -or- box cutter style utility knife, with extra #11 x-acto or #292 utility blades
high temperature glue gun & glue sticks
24in+ steel straight edge nonskid (ex: cork backed) ruler
various construction materials as assigned

Potential local materials sources (I don't know their full range; call first & ask them if they have what you need):

Utrecht Art Supply
2020 Chestnut St, Philadelphia
215-563-5600

Utrecht Art Supply
301 Broad Street, Philadelphia
215-546-7798
800-223-9132

Pearl art & Craft
417 South Street, Philadelphia
215-238-1900
www.pearlpaint.com

Taws Artist Materials & Studio
1527 Walnut Street, Philadelphia
215-563-8742
www.taws.com

Charrette
2020 Chestnut Street, Philadelphia
800-367-3729
215-563-5600
www.charrette.com

Grading:

DP1 is 19% of your final grade
DP2 is 26%
DP3 is 31%
homeworks are 16%
class participation 8%
(also note: logbooks will be a significant percentage of all DP grades)

Office Hours:

Office hours will be determined in class. Instructor and TA will also be available by appointment.