Industrial Design and Human Factors
Definition of Industrial Design

“Industrial design is an applied art whereby the aesthetics and usability of mass-produced products may be improved for marketability and production. The role of an Industrial Designer is to create and execute design solutions towards problems of form, usability, user ergonomics, engineering, marketing, brand development and sales.”[1]

Definition of Industrial Design

• applied art to improve product:
  – aesthetics
  – usability

• create and execute design solutions
  – form,
  – ergonomics
  – engineering
  – marketing
  – brand development
  – sales
Definition of Industrial Design

• “What is Industrial Design? Industrial Design is concerned with all the human aspects of machine-made products and their relationship to people and the environment. The designer is responsible for these products and their impact on society and nature. The designer accounts for the product's human factors engineering, safety, form, color, maintenance and cost. Industrial design deals with consumer products as well as industrial products. In order to achieve these ends, designers must be involved in four major design and research activities: human behavior, the human-machine interface, the environment, and the product itself. Areas of design investigation include furniture, housewares, appliances, transportation, tools, farm equipment, medical/electronic instruments, human interface, and recreational support equipment.”

• From http://ncsudesign.org/CONTENT/index.cfm/fuseaction/page/filename/industrial_design.html
Definition of Industrial Design

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  – product itself.
Industrial Designers Society of America

• “Industrial design (ID) is the professional service of creating and developing concepts and specifications that optimize the function, value and appearance of products and systems for the mutual benefit of both user and manufacturer.”

• From http://www.idsa.org/absolutenm/templates/?a=89&z=23
Process of ID

“Course Organization
The course is organized into four major topics as described below. The first two will be covered before spring break; the second two afterwards. The midterm will cover only material presented in class up until that date. The final exam will be comprehensive and will cover all class material.

1. Design Process
   Design process (10 steps)
   Brainstorming, market research
   Prototyping
   Questionnaire design

2. Sensory Perception in Design
   Visual perception and website design
   Auditory perception and sound models
   Tactile perception, haptic interfaces.
   Design applications of sensory perception.

3. Human Factors Theory - Design for Safety and Efficiency
   Fitts' Law
   Latency
   Physiology and cognition
   Ergonomics and anthropometrics

4. Design Applications, Interactive Design and the Internet
   Aircraft user interfaces
   Internet telerobotics
   Sustainable design

• From http://goldberg.berkeley.edu/courses/S06/IEOR-170-S06/
DESIGN, BUILD, AND TEST

“1. Design Process
Design process (10 steps)
Brainstorming, market research
Prototyping
Questionnaire design”

• From http://goldberg.berkeley.edu/courses/S06/IEOR-170-S06/
HUMAN FACTORS

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• From http://goldberg.berkeley.edu/courses/S06/IEOR-170-S06/
Good Examples of ID

• “However, some classic industrial designs are considered as much works of art as works of engineering: the iPod, the Jeep, the Coke bottle, and the VW Beetle are frequently-cited examples.”

• From: http://en.wikipedia.org/wiki/Industrial_design
IPOD

Coke Bottle

http://en.wikipedia.org/wiki/Coke_bottle#Bottle_and_logo_design
Bad Examples

http://www.baddesigns.com/examples.html