

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.”[\[1\]](#)
 - From: http://en.wikipedia.org/wiki/Industrial_design

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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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

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Brainstorming, market research

Prototyping

Questionnaire design”

- From <http://goldberg.berkeley.edu/courses/S06/IEOR-170-S06/>

HUMAN FACTORS

“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”

- 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



http://en.wikipedia.org/wiki/Image:iPod_Line.png

Coke Bottle



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

Bad Examples



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