

# Elements of the Design Process

- Problem Definition
- Idea Generation
- Model Creation
- Search for Feasible Designs
- Design documentation

# Steps in the Problem Definition Phase

## 1. Identification of the DESIGN VARIABLES

- The DESIGN VARIABLES are an independent set of variables that uniquely determine the design. If any one of them change, the design changes

## 2. Identification of the DESIGN CONSTRAINTS

- The DESIGN CONSTRAINTS are a set of conditions that the design must satisfy. If the design satisfies all of the DESIGN CONSTRAINTS it is “feasible”

## 3. Identification of MEASURES OF GOODNESS

- The MEASURES OF GOODNESS are equations of relationships that allow the designer to compare designs and determine which is “better”

## 4. Identification of any DESIGN CONSTANTS

- The DESIGN CONSTANTS represent any miscellaneous information or data that may be necessary in order to evaluate the DESIGN CONSTRAINTS or the MEASURES OF GOODNESS