

# Engineering Design II

## Lecture 6. Brain Storming

BME 494

# Generation of Concepts

---

Brain Storming

Generating large number of diverse concepts  
using a group

# Brain Storming - 1

---

- Have around 6-12 people group related to the task
- Criticism is not allowed, every idea is good.
- Each person writes his/her idea on a separate paper

## Brain Storming - 2

---

- Go around the room one at a time and ask for ideas.
- This continues until all ideas have been discussed.
- Discuss the ideas as a group and choose the best one.

# Diagramming

---

- Break functions down to sub functions
- Drawing functional blocks, indicate input and output.
- Drawing one main box for a function.

# Diagramming (Main Rules)

---

- Pick reasonable function boundaries
- Planning and design
- Maintenance and repair
- Retire from use

# Patents

---

- Used as a source for ideas
- A patent is typically composed of parts
- They usually have a long description
- They have a set of specific claims
- They have an abstract
- References

# Concept Evaluation & Refinement

---

- After finalizing design concepts, they should be evaluated,
- Through evaluation of the concepts, start with many concepts and refine.



# Decision Matrix - 1

---

- Set some criteria, give a value and compare.
- List conceptual designs on separate columns
- List criteria on the rows
- Weights are assigned to each criteria

# Decision Matrix - 2

---

- Ranking
- Weighted sum of columns and final score evaluation
- Choose the design with the highest score.

# Questions

---