### What does DESIGN mean?

- solving problems
- answering questions
- characterization
- modeling/calculation
- iterative design
- analysis
- recommendations for optimization
- evaluation
- development
- synthesis
- process

### What are the BENEFITS to our company?

- Students provide **insight** into existing problems
- Students and faculty mentor offer **specialized knowledge**
- Students provide **man power and time** for projects that may otherwise be put on hold
- Engage with students as **potential employees**
- Have access to **equipment and expertise** not available at your own site
- **Visibility** of your organization on campus
- Provides a **gateway for a broader relationship** with MSE

### What have other projects been?

- **Characterization** of material properties and understanding of **direct laser sintering**
- Investigating the **corrosion behavior in lead-free solders**
- Determining **mechanical properties** of maraging steel produced by **selective laser melting**
- Determining dependence of **physical properties** of soluble glasses on synthesis route
- **Rapid prototyping** of polyactic acid crystal models

### What should we do if we are interested?

- Contact: Martha Selby
  - mselby@iastate.edu
  - 515-294-0195
- Fill out a ‘**Project Information Sheet**’ with contact information, project description, resources, deliverables, interest area, and financial commitment
- Determine project objectives and criteria

### Recent senior design business partners include:

Emerson/Fiser Controls | Metalcraft, Inc. | Honeywell | 3M | Ervin Industries | Ozonics Hunting
SAFI-Tech | John Deere | Rockwell Collins | Stellar Industries | Wilson Trailer

### How does it work?

- This is a 2 semester course, offered in both fall and spring semester.
- It is an industry sponsored project.
- There are teams of 3-4 students and 1 faculty mentor.
- Students work 10-15 hours/week or 500-700 man hour effort in total.
- A $1000 financial commitment as a reimbursement for itemized costs is required and company approval is required before a group can go over that dollar amount.
- Companies must provide resources such as samples, supplies, or specialized equipment.
- An engineer within the company should be assigned as primary point of contact.
- Consider student travel to the company or a company visit to Iowa State University.
- Companies should provide deliverables such as reports/analyses, prototypes, models, data, etc.
- A non-disclosure agreement form is available in cases where confidential information is handled.
- There is also an agreement to assign any intellectual property to your company as desired.