Welcome to ENGR 310!
Instructional Team

• Durward Sobek (IE) – lead instructor
• Gene Kuntz (EE) – lead team advisor

Team Advisors

• Kara Boettcher (ChE)
• Nachiket Joshi (ME)
• Len Lutz (Materials Eng.)
• Mandy Rutherford (CE)
• Bob Wall (CS)
Course website

www.coe.montana.edu/engr310
The Engineer of 2020

- Strong in math and science.
- Views design through humanities, social science, and economics lens.
- Creative.
- Works in interdisciplinary teams.
- Shows leadership.
- Welcomes underrepresented groups.
- Adaptive to changing global landscape.
In which of these are you getting good preparation at MSU?

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What is Engineering Design?
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Who Sets Objectives and Constraints?

- **Client**
- **Designer**
- **User**

The diagram shows the relationships between these roles.
Who Sets Objectives and Constraints?

- Client
  - Motivates design

- Designer
  - Creates design

- User
  - Uses designed artifact
Design in Engineering is:

- Ill-structured → cannot apply a formula
- Open-ended → >1 solution possible
- Complex
- Must integrate many pieces.
- Must integrate with environment