

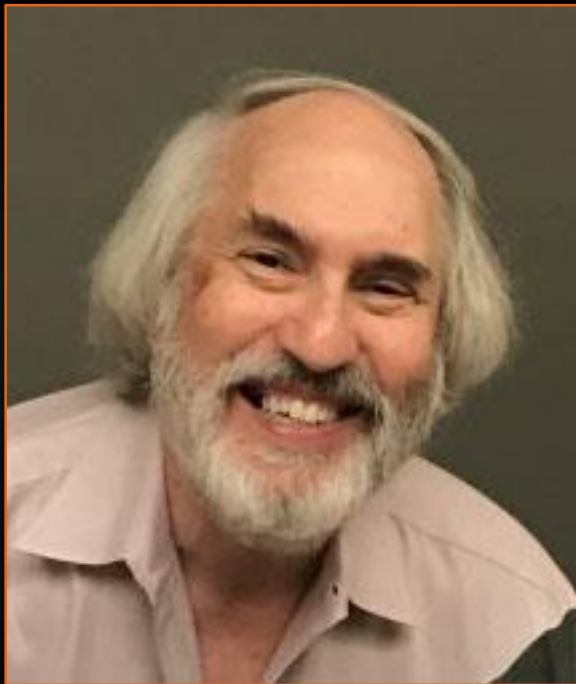
March 2, 2021

Reimagining Mobility & Designing Exoskeletons and Prosthetic Limbs



ENGR110/210

Perspectives in Assistive Technology



David L. Jaffe, MS
Instructor

15
Years

Questions, Comments, Suggestions, or Concerns?



Please notify me of your comments, suggestions, and concerns so I can explain / address / correct them before the end-of-term course evaluation.

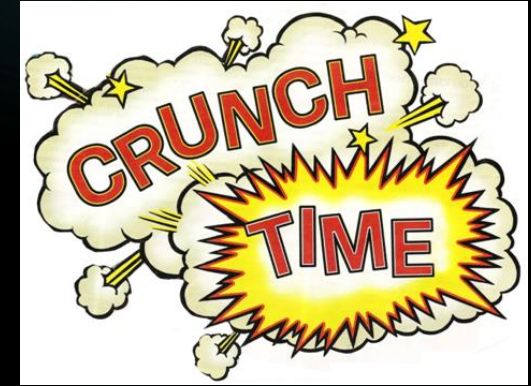
Reminder - Work with Diligence



- ▶ Time is your team's most precious resource
- ▶ 2 weeks until project presentations



Week 8



- It's crunch time
- Brainstorm, Select, Prototype, Test, Analyze, Repeat
- Inform me of your progress



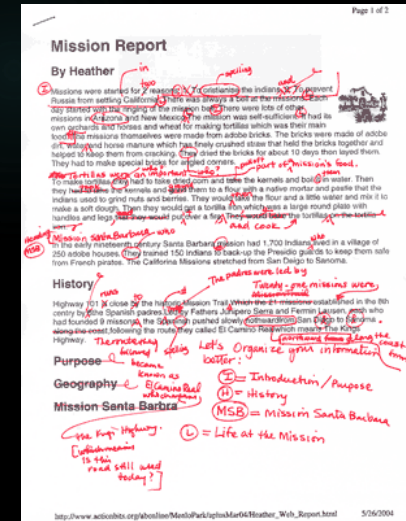
Week 10 Class Sessions

- ▶ Tue, Mar 16th
End-of-Term Student Project Presentations
- ▶ Thu, Mar 18th
End-of-Term Student Project Presentations
- ▶ Email me your date preference



Mid-term Report Markups

- ▶ Students are welcome to meet with me to discuss reports
- ▶ Some are comments, some are suggestions, some are corrections
- ▶ Some relate to syntax, spelling, grammar, format
- ▶ Reports should reflect a **professional** engineering style
- ▶ Not just for my viewing, practice writing professional journal articles and funding proposals
- ▶ An example for your future employer
- ▶ **Reports and presentations are key professional communication skills that must be mastered**



Apologies

- ▶ Minor confusion joining and moving between Assistive Technology Faire vendors' breakout rooms
- ▶ More time to visit vendors' breakout rooms and less for vendors' pitches



Remaining class sessions



- ▶ Thu, Mar 4th
Virtual Field Trips to the Magical Bridge Playground & VA Palo Alto Health Care System - SCI
Olenka Villarreral & Graham H. Creasey, MD, FRCSEd



- ▶ Tue, Mar 9th
Machine Learning, Biosensing, Virtual Reality Technology –
Converging to Transform Healthcare
Walter Greenleaf, PhD

- ▶ Thu, March 11th
Wheelchair Fabrication in Developing Countries
Ralf Hotchkiss



Students working on fabrication projects

Activities for the remainder of the quarter



- ▶ Work individually
- ▶ Fabricating low-cost prototypes
- ▶ Discussing and demonstrating the prototypes to the project suggestor
- ▶ Receiving and analyzing their feedback and suggestions
- ▶ Redesigning and fabricating a refined prototype
- ▶ Iterating the process until the end of the quarter
- ▶ Reporting your project progress
- ▶ Planning for end-of-term presentation & report

Students working on non-fabrication projects

Activities for the remainder of the quarter



- ▶ Continue research on topic
- ▶ Interview additional people including clients
- ▶ Include your perspectives, draw conclusions
- ▶ Reporting your project progress
- ▶ Planning for end-of-term presentation & report

Update on End-of-Term Presentations



- ▶ Students working on the same project will present together
- ▶ Students will collectively and concisely present their efforts from the beginning of the quarter: project description, understanding the problem, brainstorming
- ▶ One student manages the Screen Sharing
- ▶ Students will individually report on their solution
- ▶ Presentation times:
 - ▶ 1 student = 5 minutes
 - ▶ 2 students = 7.5 minutes
 - ▶ 3 students = 10 minutes

Update on End-of-Term Reports



- ▶ Students working on the same project will submit one report
- ▶ Students will collectively and concisely report on their efforts from the beginning of the quarter: project description, understanding the problem, brainstorming
- ▶ Students will individually report on their solution
- ▶ Not limited to 10 page maximum

Thursday, March 4th



Virtual Field Trip to the Magical Bridge Playground

Olenka Villarreal



Virtual Field Trip to the VA Palo Alto Health Care System - SCI

Graham H. Creasey, MD, FRCSEd

Today



Normalcy Fallacy: Reimagining Mobility for Scientific Discovery & Innovation

Kat M. Steele, PhD, MS
University of Washington

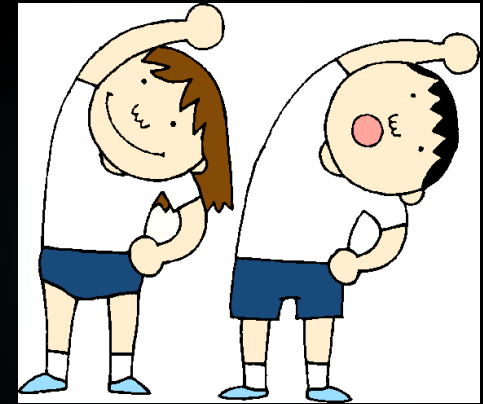
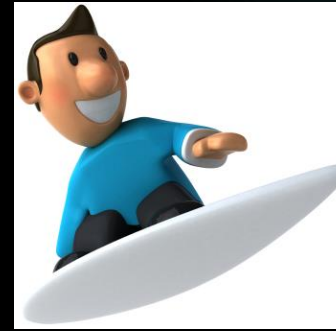
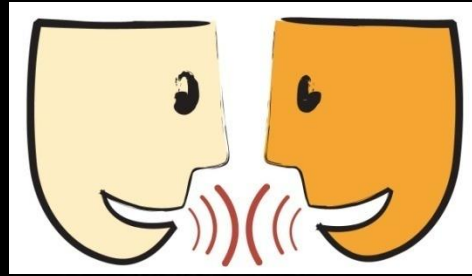


Designing Exoskeletons and Prosthetic Limbs that Enhance Human Performance

Steven H. Collins, PhD
Stanford University – Mechanical Engineering

Break Activities

- ▶ Breakout rooms
- ▶ Stand up and stretch
- ▶ Take a bio-break
- ▶ Text message
- ▶ Web-surf
- ▶ Respond to email
- ▶ Talk with classmates
- ▶ Reflect on what was presented in class



Short Break

