EE 147/247A: Intro to MEMS (or mrosats!)

Who am I:
admin
book/reading: Kovacs, Jasper, Senturia web page
piazza: discussion, discussion, assignments & grades

Course: Fabrication, physics, design

Emphasis on standard processes (commercially available)
Emphasis on hard analysis

Discussion W, Th 5-6

What is MEMS?

Fabrication method? IC-based w/ lots of exceptions

Materials? Silicon - King of Semicond.
- stronger than steel
- lighter than aluminum

Si, Ge, Si, GaAs, Al, Ni, Au, polymers, graphene, DNA

Grading:

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<thead>
<tr>
<th>HW</th>
<th>147</th>
<th>247A</th>
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<tbody>
<tr>
<td>mid</td>
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HW: due Friday 7:00 PM, Thursday 5:00 PM (10.8 AM)

Grading will be generous - you will do it, w/ clear rubrics

Size scale? 10 nm - 10 mm

Energy domains? mechanical, electrical, thermal, fluidic, optical, chemical

Applications, products, markets

Cell phones: XL, gyro, microphone, FBAR, etc.

Acc: projector, LWIR, blenders

Soon: Ultrasound, gesture recognition

Automotive: XL, gyro, anti-skid, TPMS

Aging, MAP,

# RF products: XL, gyro, inkjet, pressure, display, uhane, ecm02