

Lecture 9: Bulk Micromachining

- Announcements:
- HW#2 due this coming Friday at 8 a.m.
- Lecture Module 6 on "Bulk Micromachining" online
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- Today:
- Reading: Senturia Chpt. 3, Jaeger Chpt. 11,  
Handout: "Surface Micromachining for  
Microelectromechanical Systems"
- Lecture Topics:
  - ↳ Polysilicon surface micromachining
  - ↳ Stiction
  - ↳ Residual stress
  - ↳ Topography issues
  - ↳ Nickel metal surface micromachining
  - ↳ 3D "pop-up" MEMS
  - ↳ Foundry MEMS: the "MUMPS" process
  - ↳ The Sandia SUMMIT process
- Reading: Senturia Chpt. 3, Jaeger Chpt. 11,  
Handouts: "Bulk Micromachining of Silicon"
- Lecture Topics:
  - ↳ Bulk Micromachining
  - ↳ Anisotropic Etching of Silicon
  - ↳ Boron-Doped Etch Stop
  - ↳ Electrochemical Etch Stop
  - ↳ Isotropic Etching of Silicon
  - ↳ Deep Reactive Ion Etching (DRIE)
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- Last Time: Going through Module 5 ... now continue

