Topics

1. Impurity and removal (Campbell p.21-22)
   - Oxygen complex (Campbell, ref.12-20)
   - Carbon complex (Campbell, ref.21, 22)
   - Nitrogen effect (Campbell, ref.23-25)
2. CVD (chemical vapor deposition) (Campbell, ch.14)
   - PECVD (plasma enhanced CVD)
   - MOCVD (Metalorganic CVD)
3. MBE (molecular beam epitaxy)
4. Silicon oxynitrides (Campbell sec 4.7)
5. CVD oxide deposition
6. 4-point measurement (Campbell, sec 3.5, ref. 27)
7. High k materials for gate insulators (Campbell sec 4.8)
8. Doping by ion implantation (Campbell ch.5)
9. Projection printers (Campbell, 7.6) (Josh Wooten)
10. Nanoimprint Lithography (Campbell, 9.11) (Clayton Hansen)
11. Ellipsometry
12. Extreme UV lithography (Campbell 9.5-7)
13. Grow dielectric on GaAs
14. DMD printing (www.Intelligentmp.com, Campbell 19.9)
15. ZPAL printing (www.Lumarray.com)
16. 3D lithography (www.Laser-zentrum-hannover.de) (Preston Childers)
17. Block copolymer lithography
18. Phase shifting mask (Campbell 7.7) (Kyle Ausen)
19. Dual-tone photoresist
20. Focused ion beam (FIB) in fabrication (Connor Parker)
21. Ion milling (Campbell 11.5)
22. Atomic layer deposition (ALD) (Campbell 13.9)
23. Semiconductor/metal contacts (Campbell 15.6-15.8)
24. Chemical Mechanical Polishing (CMP) (Campbell 11.2, 15.9-10)
25. Metal CVD (Campbell 13.8)
26. Plasma etch (Campbell 10.5-7, 11.8) (Chandler Kinch)
27. MEMS fabrication (Campbell 19.5-19.10) (Glendyn King, Tanner Thompson, Isaac Maxfield)
28. Carbon Nanotube device (Alex Johnson)
   - CNT-Transistor
29. Fabrication of flexible and stretchable devices
   - microfluid channel fabrication
   - flexible electronics
30. Devices on photonics
31. Devices on plasmonics