

ELT 221 : Basic Nanofabrication Processes

This course is the hands-on introduction to the processing involved in "top down", "bottom up", and hybrid nanofabrication. The majority of the course details a step-by-step description of the equipment, facilities processes and process flow needed to fabricate devices and structures. Students learn to appreciate processing and manufacturing concerns including process control, contamination, yield, and processing interaction. The students design process flows for micro- and nano-scale systems. Students learn the similarities and differences in "top down" and "bottom up" equipment and process flows by undertaking hands-on processing. This hands-on exposure covers basic nanofabrication processes including colloidal chemistry, self-assembly, catalyzed nanoparticle growth, lithography, wet and dry etching, physical vapor deposition, and chemical vapor deposition.

Credits 3

Notes

Course offered on the Penn State University Campus in partnership with the Penn State University Nanotechnology Program.