

60b A Nanotechnology Laboratory Course for 1st Year Students

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Nanoscience and nanotechnology are fast-growing research fields but are not taught in most science and engineering undergraduate curricula. This presentation will describe the development of Florida Tech's Nanotechnology Laboratory course designed exclusively for freshman students. During the weekly 3-hour meetings, students work individually or in groups to synthesize ferrofluids, quantum dots, and carbon nanotubes. Students perform surface analysis using a scanning tunneling microscope (STM) and an atomic force microscope (AFM). All students get hands-on experience using these instruments since they are designed for educational use. Experiments are team-taught by faculty members of the physics, chemical engineering, and chemistry departments at Florida Tech. Equipment for this course was purchased through a grant by the National Science Foundation (#0303986). An outline of the course, summaries of the experiments, and the results of student surveys will be presented.