Welcome Week 2018
Micro-Seminars

Nanotechnology:
The Synthesis of Gold Nanoparticles

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This short-course in nanotechnology will likely be unlike any other course that you have taken. While you have probably taken courses in the basic sciences such as chemistry or biology, each typically taught at the molecular length scale, you may have also taken a course in the applied sciences such as pre-engineering, which is taught from the macroscopic (or at best microscopic) length scale. This seminar will then be the first time that you have examined nanoscale materials.

Nanotechnology involves the study of matter at length scales that are intermediate between the molecular and the bulk. Thus, just as an individual metal atom has vastly different properties compared to the bulk material, a nanoscale structure composed of roughly 1000 to one billion atoms/molecules offers properties distinct from both molecules and bulk materials. In this course, you will learn how to control the properties of materials on the nanometer scale, referred to as nanoparticles, as well as how these nanoparticles can be synthesized.

Day 1 will overview the basic theory of nanotechnology, while Day 2 will occur in the lab and have you synthesize and measure the size of gold nanoparticles.