

Applications of Nanoscience Summer 2020

Description: Welcome to Applications of Nanoscience! This course is designed for high school students who are interested in learning the essential skills of research scientists. During this intensive two-week program, you will develop skills in scientific literacy and scientific communication, explore important and current applications of nanoscience through hands-on experiments, and propose a research project in pursuit of new scientific data. As you develop your proposal, you will get the chance to explore many different scientific techniques and several types of instrumentation that the university has to offer.

Education Manager:

Rita Blaik

Program Coordinator:

Elaine Morita

Instructors:

TBD

Resident Assistant:

TBD

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Course Hours: MTWRF 9:00 AM – 5:00 PM in the California NanoSystems Institute Lobby plus weekend activities. Laboratories will be held in Young Hall 1343. A course schedule is attached. Even though course hours are only 9:00 AM – 5:00 PM, you are expected to stay with program supervisors for the duration of the two-week program unless prior written permission is obtained at least three days before the beginning of the course.

Overall Course Structure:

Week 1 is focused on giving you the skills you need to be a successful scientist. In the mornings, we will talk about skills that scientists need outside the lab and give you a chance to practice them. The afternoons will include laboratory experiments.

Week 2 will be your chance to take what you learned in Week 1 and apply these skills to develop your own ideas. On Tuesday, you will give a preliminary research pitch (you'll receive guidelines for this later) and receive feedback from your peers and instructors. You'll spend the rest of the week carrying out your proposed experiments and then give a final presentation on Friday. We will assign your groups for Week 2 based on similar research interests.

Safety Dress Code: Lab safety is very important. You must wear long pants and shoes that cover the entire foot. A lab coat, safety glasses, and gloves will be provided when necessary. If you arrive in inappropriate clothing, you will be sent to purchase some at the UCLA store. **If you are not dressed appropriately, you will not be allowed to participate in the day's experiments.**

Pre-Homework: You are responsible for a set of vocabulary terms that will be sent out before the course begins. We look forward to everyone bringing their own strengths from their own unique background, but we also want to make sure that everyone is familiar with some basics by the time we begin. These terms come from biology, chemistry, and physics, and you should bring your definitions with you to class and be prepared to define any one of them for the class. Everyone will be called on at least once, so make sure you have them all written down!

Homework: There will be four homework assignments given during the first week; each one will expand on the skills we go over in the morning workshops. These assignments are due at 9:00 AM the day after they are assigned. They will be graded for effort on a scale of unsatisfactory (✓-), satisfactory (✓), or excels (✓+).

Final Presentation: At the end of our two week course, you will present your research proposal and preliminary data. We invite your families to attend, with questions! This presentation session will be held on Friday (7/20/17) from 9:30 AM – 12:00 PM in the CNSI Auditorium. We'll give you more information about this as it gets closer.

Grading: Pass/no pass.

A passing grade requires:

- Completion of homework assignments with an average grade of satisfactory
- Participation in all workshop activities and lab activities
- Completion of preliminary presentation and final presentation
- Abiding by the proper codes of conduct as defined in the welcome packet

If any of these requirements are not met, you will receive a “not pass” grade. If you ever feel like you're struggling, please feel free to come talk to any of the instructors!