



**SUMMER
SPRINGBOARD**
Look Inward. Go Upward.

Physics & Quantum Computing Infosheet

New student admissions for
Summer 2024 are open.



Academic Program Overview

Quantum computing is going to revolutionize the field of technology over the next decade. What is quantum computing? It is a rapidly-emerging technology that harnesses the laws of quantum mechanics to solve problems that are too complex for classical computers. The tools being used in this field were just imagination three decades ago. Superconducting quantum processors are being designed by companies like IBM to build superconducting quantum processors that will supply quantum computing speed and capacity that will change the world. This course will help prepare the next generation of students with the quantum knowledge and skills. This course will introduce key quantum computing concepts, like superposition and entanglement. Students will also explore quantum phenomena and applications. They will learn from curriculum designed by leading experts in academia and the quantum computing industry.



Excursions

Berkeley is located near the heart of Silicon Valley, which provides opportunities for students to interact with professionals in the quantum computing field. Students in the past have had the opportunity to tour the Haefner Trapped Ion Lab on the campus of Berkeley and meet with post graduate researchers in the field.



Program Highlights

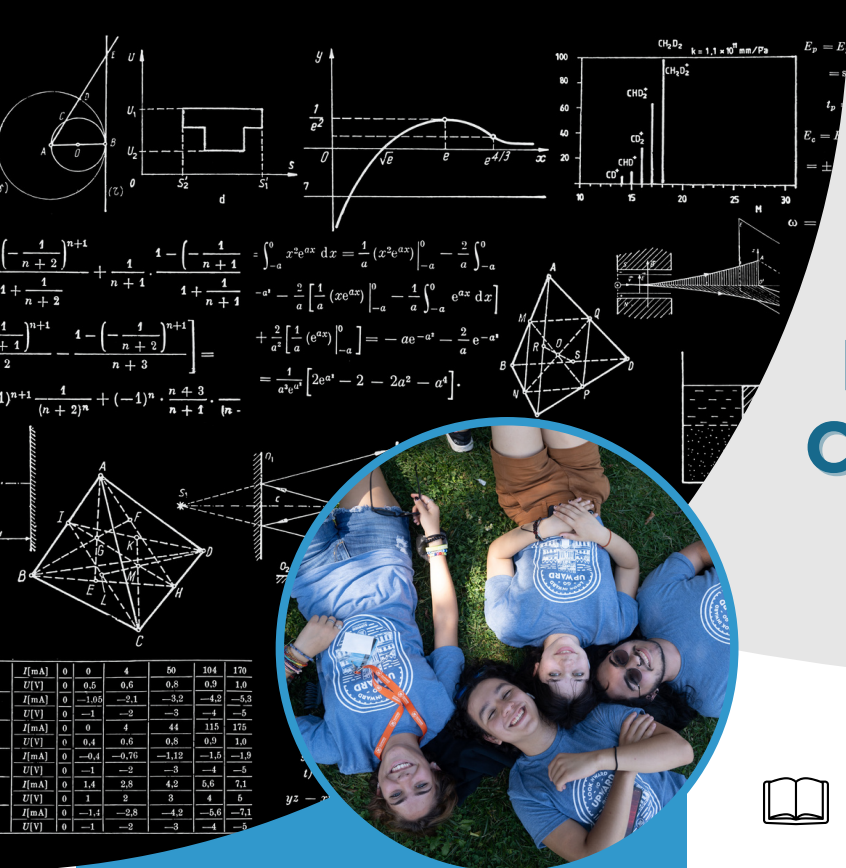
- Learn accessible, yet challenging, introductory material in the fields of physics & quantum computing.
- Cover topics such as quantum mechanics, quantum information science and computation, and quantum hardware.
- Discover why having a foundational understanding of quantum computing will be important to politicians, public health researchers, and quantum engineers.
- Develop skills in quantum computing - the technology of the future!



2024 Dates

Berkeley

- Session 3: June 30 - July 12
- Session 5: July 14 - July 26



Instructors

Mark Hannum

Mark Hannum holds his MS in Applied and Engineering Physics from George Mason University and his BA in Mathematics and Physics. He is an accomplished educator and physicist, and has over 20 years of experience teaching both in high school and at American University. He is an Albert Einstein Distinguished Fellow and is currently directing the Quantum Information and Optics research program at Thomas Jefferson High School for Science and Technology (TJHSST). With a fervent commitment to advancing science education, Mark has helped expand the access of high school students to Quantum across the country. He served as the K-12 Program Manager at the American Association of Physics Teachers (AAPT). During his tenure, he played a pivotal role in numerous National Science Foundation (NSF) supported projects, focused on equipping teachers with the expertise to introduce quantum concepts to their students. Notably, Mark Hannum was one of the authors of the Key Concepts for Future Quantum Information Science and Engineering (QISE) learners, and he also contributed to the development of the Key Concepts Physics Frameworks. Click [here](#) for more info!

Tuition Information:

Residential Students:

- Includes: all meals, lodging, excursions, academic course, weekend excursions
- Excludes: optional airport pickup and drop off service (available for an additional fee)
- Price: \$5,898

Commuter Students:

- Includes: lunch, academic course, excursions, programming from 9am to 6pm, Monday-Friday
- Excludes: lodging, breakfast, dinner, weekend excursions
 - Weekend excursions can be added on for \$125 per day
- Price: \$3,198

Supplements:

- Application fee: \$99 (mandatory, non-refundable)
- Tuition Protection Plan: Allows for cancellation for any reason up until the day of the program. Click [here](#) for more info.



Course Structure

There are nine 3-hour class sessions over the two-week course. During week one, students have class from 9am-12pm, Monday - Friday. During week two students have class from 9am-12pm Monday through Thursday. Wednesday afternoons are dedicated to additional academic time (excursions, speakers).



Typical Schedule



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