HARVARD UNIVERSITY
FACULTY OF ARTS AND SCIENCES

SUMMER SCHOOL
Pre-College Program

51 Brattle Street
Cambridge, Massachusetts
02138-3722

Hunter Dylan Brodie

Fundamentals of Particle Physics PHYS P-17018 (34218)
June 29 - July 10, 2020

This course is an introduction to particle physics: the study of the fundamental building blocks of our universe. Students learn what it is like to be particle physics researchers from both an experimental and theoretical point of view. We explore the tools that theorists and experimentalists use every day in research, such as Lorentz transformations, Feynman diagrams, and symmetry arguments. We discuss the history of probing the fine structure of materials, from early experiments all the way to the construction and operation of the Large Hadron Collider (LHC) and the discovery of the Higgs boson. The course also covers new ideas and discoveries on the forefront of particle physics research.

Hunter was a pleasure to have in class. He would contribute to our lecture discussions and would frequently come to offices hours for clarification on lecture material or homework help. I appreciated his enthusiasm for the material and it was obvious that he was having a good time and learning a lot throughout the course. Ultimately, he did well on all of the homework assignments and expressed a lot of interest in the subject matter. After the course ended he expressed to me his interest in continuing to study the material and even began reading some materials I recommended. I anticipate he will do well and enjoy a future in STEM education.

Carissa Cesarotti
Doctoral Candidate in Physics, Harvard University