

**2013 Summer@Brown
Course Performance Report
Pre-College Program**



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Student Name: Bhargava, Kunaal

Course Title: DNA Science and Biotechnology

CRN: 10522 Banner ID: B00911757

"DNA Science and Biotechnology" was a two-week laboratory-intensive course in the Senior SPARK Program that introduced students to various topics and techniques in molecular biology, genetics, and biochemistry. In addition to the hands-on laboratory experiences, students attended lectures that covered the theoretical background of the techniques and their applications in the field of biotechnology. A variety of methods, including DNA extraction, restriction enzyme analysis, agarose gel electrophoresis, polymerase chain reaction (PCR), and bacterial transformation provided students with an opportunity to perform several classical molecular biology experiments. In addition, students were introduced to several more advanced procedures that aimed to characterize, analyze and isolate proteins and specific genes. These techniques included protein extraction, SDS-PAGE analysis, and ELISA assays. Students also visited several Brown University laboratories and met world-class scientists in the field of molecular biology, as well as toured the LeDuc Bioimaging Facility and the biotechnology company EpiVax. Students were evaluated based on their progress in the laboratory, their ability to work independently and efficiently as well as collaboratively with their team members, and their ability to interpret the results they generated. Students were also evaluated on their written work, including their laboratory notebook, their reflection pieces, and their final Power Point presentations.

Kunaal did an excellent job in this course. He demonstrated the essential characteristics of a successful scientist. He was naturally inquisitive, meticulous in his work, and intelligent. He quickly mastered the basic skills in the lab and was soon generating high quality, interpretable data. His approach to his lab work was consistently methodical and efficient. Kunaal was excellent at listening to instructions, and he never hesitated to ask appropriate clarifying questions. He also asked insightful, critical thinking questions, and it demonstrated that he was thinking carefully about the steps involved in solving a complex biological question. In addition his written assignments demonstrated that he was making the appropriate connections between the theoretical materials covered in lecture to the exercises in the laboratory. Kunaal's presentation, DNA Restriction Enzyme Analysis, was excellent, and he worked collaboratively with his lab group to produce a solid product. Kunaal's sincere interest in science, specifically biotechnology, and his desire to learn made him a pleasure to teach. Kunaal has a bright future in the sciences!

Instructor Name: Sarah Berthiaume

Date:

This program consists of 1-6 weeks of intensive, full-time engagement in the chosen field of study. Students are selected for admission based on their academic accomplishments and commitment to scholarship. Program goals and teaching styles demand independence, dedication and scholarly research on the part of the learner.