

# Biotechnology Course Description

## **Biotechnology [FOR MIDDLE OR HIGH SCHOOL STUDENTS]**

### **Course Description:**

Biotechnology is a rapidly growing field that involves understanding how living organisms function at the molecular level. It combines a number of disciplines including biology, physics, chemistry, mathematics, science and technology. Biological systems, living organisms, or derivatives thereof, are used to make or modify products or processes for specific use in agriculture, food science, medicine and industry. Some of the applications include extending the human lifespan, providing products and therapies to treat diseases, generating higher crop yields and using biofuels to reduce greenhouse gas emissions.

Students will apply critical thinking and hands-on experiential learning to explore common laboratory techniques, current scientific problems and examine the ethical debate over such research. In addition, students will engage in applied activities such as electrophoresis and DNA extraction to learn more about the topics of genetics and chromosomes.