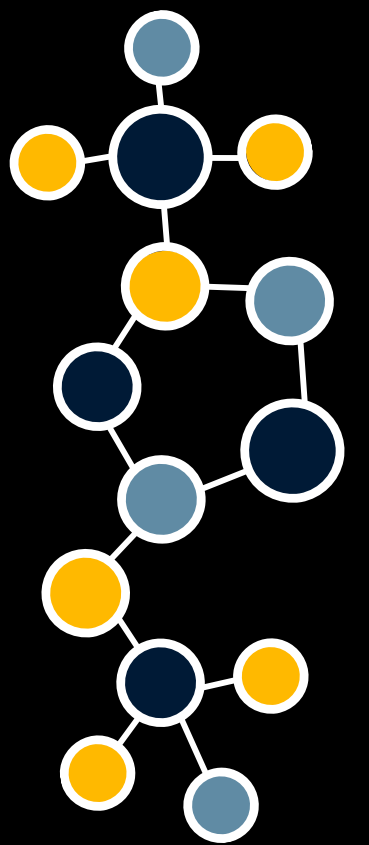
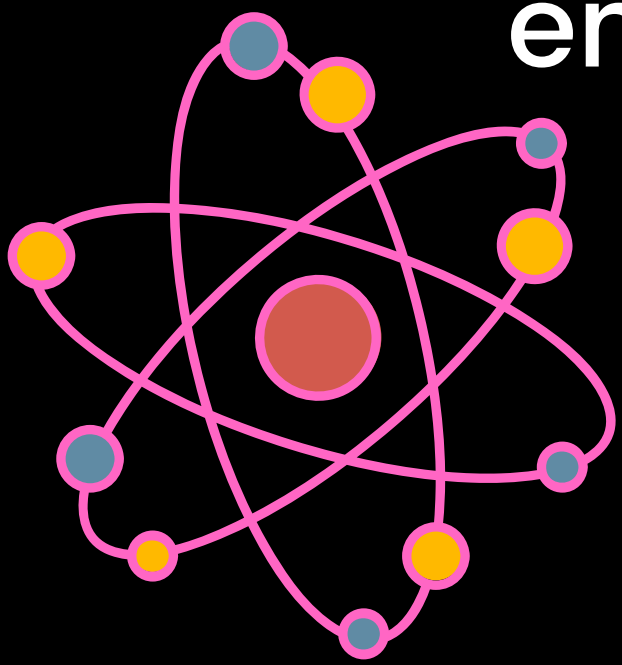


STEM-UP

Leadership Experience



FREE! Six-week program for students entering grades 9, 10, and 11 in the Fall of 2022.



Big Data

STEM Challenges

Physical Science

3D Printing

Robotics

Laser Printing

Integrated STEM Activities

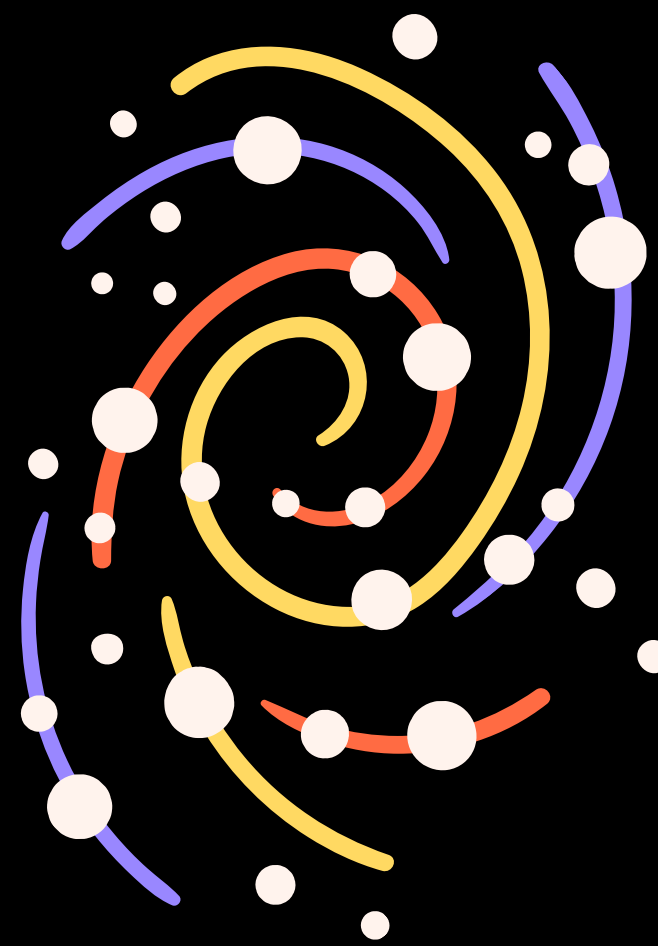
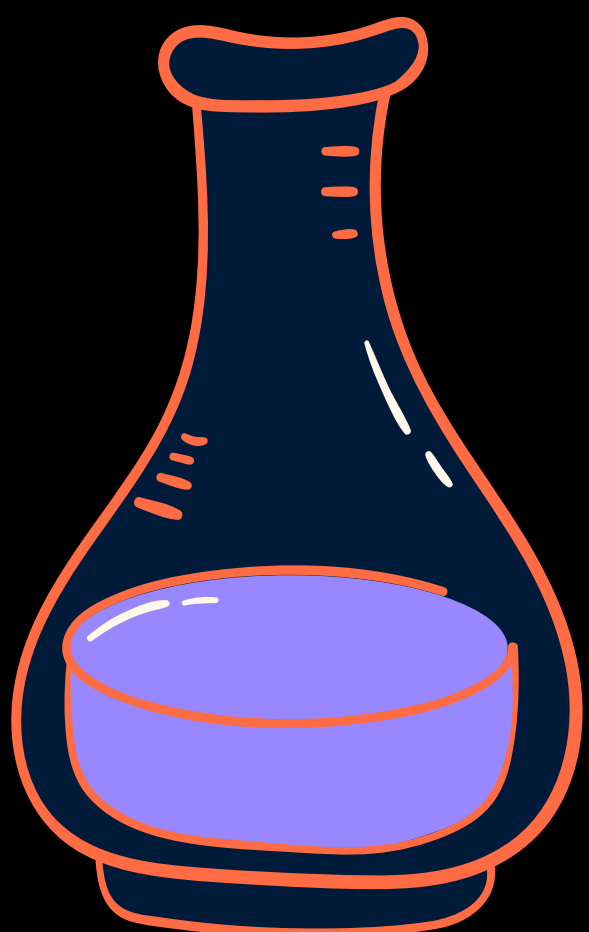
Virtual Reality

Meets Tuesday through Thursday
July 5, 2022 – August 11, 2022



Temple University
Main Campus

Deadline to apply is June 3, 2022!



Program Information

The STEM-UP Summer Leadership Experience is a 6-week day program that provides activities, experiments, projects, and field experiences for students entering 9th, 10th, or 11th grade in the fall of 2022. Students attend the program free of charge. STEM-UP aims to increase awareness and interest in STEM careers, particularly in coding, engineering, and national security, and defense. It also encourages students to see themselves as college students and in scientific careers through college campus exposure and interactions with faculty, scientists and engineers.

Theme

Big data. Big STEM. Big ideas.

Curriculum Overview

The curriculum explores the sciences students should be taking during their high school years. Depending on grade level, students will take Chemistry, Biology or Physics.

- *Chemistry in the Lab and in the World*, a rigorous course introducing critical topics in chemistry including stoichiometry and reactions, synthesis of chemical compounds and polymers. Analysis of reaction products and chemistry in our garages, basements, and kitchens will be discussed. As well as the fate of chemicals in our environment.
- The *Investigating Physics* course will be taught using the building, analyzing, sharing, and extending (BASE) approach to teaching. The BASE approach will engage the student in a design and build activity, building a device, designing a circuit, etc. They will analyze their device and create a video or live presentation of the physics behind the device, while demonstrating how their device works. The class's knowledge will be extended by presentations and active learning activities delivered by a university faculty member.
- Our biology course, *Life as we Know It*, will investigate life forms from the microbe to man. Who discovered the microbe and how? What are they? Where are they? Hydroponic gardens and habitat destruction, coupled with urban and suburban ecology will be studied to understand the survival challenges faced the species.

Our data science course will provide instruction in python, an introduction to statistics and applications to the sciences including analysis of DNA data, laboratory data and COVID infection. Lastly, students will utilize 3D printing, laser printing, and die cutting in project design activities that are part of each of the science courses.

Location, Dates, & Times

The STEM-UP Summer Leadership Experience meets Tuesdays, Wednesdays, and Thursdays from 9:00am to 4:00pm at Temple University's Main Campus starting July 5, 2022 and ending August 11, 2022.

Participant Eligibility

- Students currently in 8th, 9th, or 10th grade must have an interest in science and mathematics
- Students must have at least a B average in science and mathematics courses
- Students must have a passing score on standardized science and mathematics tests
- Students must reside in the Greater Philadelphia Metropolitan Area

Application Process

- ✓ Parent/Guardian and student complete the online student application form located at:

<https://tinyurl.com/2022STEMUPAPP>

Please note: In order to complete the online application parent/guardian and student will be asked to submit (1) student information, (2) parent/guardian information, (3) 250-word student-written essay, and (4) a copy of the student's records.

- ✓ Parent/Guardian or student gives a recommendation link/form located at:

<https://tinyurl.com/2022STEMUPREC>

To the student's current teacher, coach, or religious figure and this person submits the completed form via the directions given on the form.

All requested documents are due by the deadline date, **JUNE 3, 2022**. If all requested documents are not received by the deadline date, the application will not be considered. You will receive notification on the status of the application no later than **JUNE 17, 2022**. If you have questions or need additional information, please contact us at stem.ed@temple.edu.