



# SUNY Old Westbury Summer STEM Academy 2020

Greetings!

STEP starts the year with the Summer STEM Academy 2020! We will be running various summer programs. Eligible students with completed online applications will be selected on a first-come, first-serve basis. Please give us 1-2 weeks to process your application. Please note that if you are accepted as a participant of SUNY Old Westbury STEP, you will not be able to switch to a STEP program on a different campus from July 2020-June 2021 due to state guidelines.

## What is STEP?

SUNY College at Old Westbury Science & Technology Entry Program (STEP) is funded by the New York State Education Department (NYSED). Our goal is to increase the number of historically underrepresented and economically disadvantaged students prepared to enter college, and improve their participation rate in mathematics, science, technology, health related fields and the licensed professions. Our program is designed to encourage, support, and improve academic skills, character skills, and college readiness for eligible STEP students in grades 7th-12th.

## Eligibility Requirements:

1. Student must have a 70 or above overall average.
2. Student must be of underrepresented ethnicity or race (Black/ African American, Hispanic/ Latino, Native American/ Native Alaskan), or economically disadvantaged as per state guidelines
3. Student must be residing in & have resided New York State for at least 1 year.

## You must submit:

1. A completed online application form via link:

<https://forms.gle/7jdhM8wNuC7bEo9f7>

Or Scan Here 



2. Copy of most recent 2019-2020 report card submitted via email:  
[Owstep@gmail.com](mailto:Owstep@gmail.com)

*(Applications submitted without report card will not be reviewed)*

## Program Cost:

These programs are free of charge.

Details will be confirmed once accepted into program. Please submit the online application by **Monday June 22nd**

**If you have any questions please email: [owstep@gmail.com](mailto:owstep@gmail.com)**

## **CRIME SCENE INVESTIGATION:**

**Grade: Entering 7th/8th    Dates:7/6-7/17 Mon-Fri**  
**Time:9AM to 11AM    Location: Online Platform**

You will play a role of a forensic scientist & using scientific knowledge & reasoning, be introduced to practical applications of chemistry, physics, and biology in this exciting Forensics program!

## **MATH SKILLS (Middle School):**

**Grade: Entering 7th/8th    Dates:7/6-7/17 Mon-Fri**  
**Time:9AM to 11AM    Location: Online Platform**

This course will include a review of algebra based concepts.

## **LIVING ENVIRONMENT:**

**Grade: Entering 7th/8th    Dates:7/20-7/31 Mon-Fri**  
**Time:9AM to 11AM    Location: Online Platform**

This course combines laboratory demonstrations with simulated hands-on experiments that interconnect quantitative reasoning with scientific discovery in Environmental Sciences.

## **PHYSICAL SCIENCE:**

**Grade: Entering 9-12th    Dates:7/20-7/31**  
**Time:9AM to 11AM    Location: Online Platform**

This program is intended for students wanting to explore physical science. It provides a hands on simulated & conceptually-based exposure to the fundamental principles & processes of the physical world. Topics include basic concepts of motion, forces, energy, electricity, magnetism, & the structure of matter & the universe and more!

## **CHEMISTRY:**

**Grade: Entering 9th-12th    Dates:7/20-7/31 Mon-Fri**  
**Time:9AM to 11AM    Location: Online Platform**

This summer we will dive into the world according to chemistry. We will embark on a journey of discovery that explains the how and why behind matter and it's interactions.

## **MATH SKILLS (High School):**

**Grade: Entering 9th-12th    Dates:7/20-7/31 Mon-Fri  
Time:9AM to 11AM    Location: Online Platform**

This course will include a review of algebra2/ trigonometry, & geometry based concepts.

## **CREATIVE WRITING:**

**Grade: Entering 9th-12th    Dates:7/6-7/17  
Time:9AM to 11AM    Location: Online Platform**

Students will learn the basic conventions and genres of creative writing. Students will write poetry, short stories, and creative non-fiction pieces while learning how these skills inform traditional academic writing.

## **COLLEGE RESEARCH :**

**Grade: Entering 10th-12th    Dates:7/6-7/24 Mon-Fri Time:9AM to 11AM  
Location: Online Platform    GPA: 75 & above overall**

This is a 3-week full time intensive program to train future STEM researchers! Students are mentored by our SUNY Old Westbury faculty specialized in relevant **biomedical, ecological** and **genomics research** incorporating **microbiome, bioinformatics, infectious disease** and **astronomy!** During the course of the program the students will learn the latest research methodology in these fields and will be paired with a mentor to develop and undertake a research project. At the end of the program participants will have the opportunity to continue during the academic year leading to presentations in regional, state and national research competitions, e.g. STEM Diversity Summit, the STEP Statewide Student Research Conference, the SigmaXi Research Conference and the NYC SEA-PHAGES Regional Symposium. Students will also receive training in presentation and public speaking skills, and give their research findings at the program's concluding colloquium to SUNY OW faculty and undergraduate students, their SRP participants, other academic experts, family members and friends. This will be promptly followed by an awards ceremony where projects and teams will be honored.

## **CODING FOR DATA SCIENCE:**

**Grade: Entering 9-12th    Dates:7/6-7/17 Time:9AM to 11AM  
Location: Online Platform    GPA:75 & above overall**

Learn how to be a data scientist! Data Science is a rapidly growing field and involves multiple components of computer science. The tools for finding insightful information from large amounts of data is being studied and novel tools and algorithms are being developed as solutions to discovering patterns in the data. This course introduces students to this topic. It is designed to enable students to understand and practice fundamental concepts and algorithms for data analysis. This course explores ways to collect, "clean", organize, store and analyze the data for such insights and patterns. The topics will include writing simple python programs to process data, provide data visualizations and graphical displays of data. It will include data-mining techniques for discovering patterns and processing data streams.