



CLIFTON HIGH SCHOOL

STEM ACADEMY

ROBOTICS CONCENTRATION

Description and General Information

The Robotics Concentration within the STEM Academy is designed for students interested in all aspects of robotics and how they apply across the various STEM disciplines. Students will acquire foundational knowledge and skills for entry and advanced level coursework in higher educational institutions, which includes the fundamental knowledge of mechanical and electrical design, fabrication, and programming. Students will gain skills in advanced elements of robotics and engineering. This will include the use of software for design (i.e.: SolidWorks or AutoCAD) and programming (i.e.: Scratch, Robot-C and MAT). A certificate will be awarded upon successful completion of all courses. Participation in the Clifton Student Chapter of the Montclair Society of Engineers, the Clifton High School Robotics Team, and the Clifton High School STEM club are strongly encouraged. Possible careers related to this sequence include Engineering, Computer Aided Design and Computer Programming. Students will be placed with a mentor/adviser from the Science department to monitor and guide their progress through the STEM Academy. Students in the STEM Academy will have access to the STEM Lab in A5.

Course Schedule

9 th Grade	10 th Grade	11 th Grade	12 th Grade
English I	English II	English III	English IV
World History	US History I	US History II	Graphic Design
Physical Education	Physical Education	Physical Education	Physical Education
World Language I	World Language II	Personal Finance	Web Design
Lunch	Lunch	Lunch	Lunch
Algebra I	Geometry	Algebra II	Pre-Calculus
Biology	Chemistry	Physics	Elective
Intro. to Electricity in Engineering	Engineering in Robotics	Advanced Engineering in Robotics	Elective

Associated extra-curricular clubs

Language Club (based on World Language class taken)
Physics and Electricity Club
Science National Honor Society
Montclair Society of Engineers
Robotics Club
Knights of Pythagoras Club
STEM Club
Maker Space Club

Application

Applicants must have all prepared documents and application submitted by the application deadline in order to be considered for acceptance into the program for the following school year.
