ENGINEERING

Engineering I
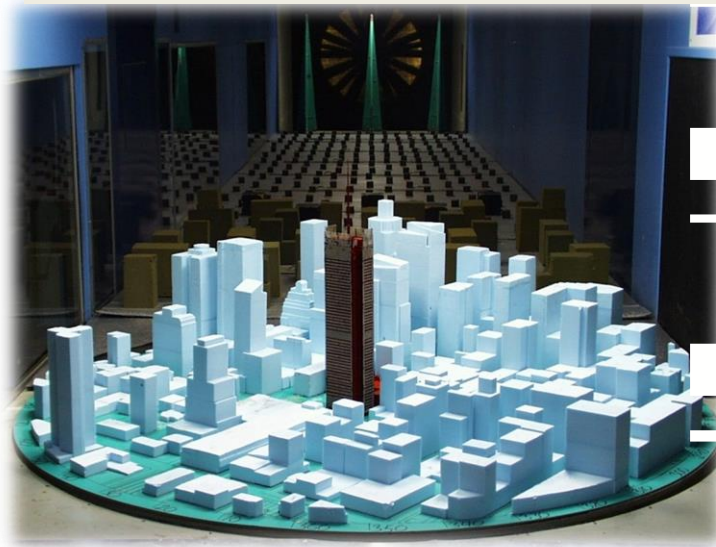### *College Credit Available
Grades 10-12

Engineering I students learn the skills employers need by using **Design with SolidWorks**. This course introduces students to the engineering design process utilizing 3D Computer Aided Design (CAD) software applications. Emphasis on 3D Skills and relevant applications in engineering principles, technology, mathematics and science is explored through a series of lessons, competency based exercises and team projects. Learning 3D design skills is an interactive process applied with the Engineering Design Process, a series of interactive steps to solve a problem. The Engineering Design Process is utilized to develop products across a variety of industries: Consumer, Process, Power, Civil, Agriculture, Electronics/Communications, Furniture and Fixtures, Machinery/Construction, Medical and Scientific, Sheet Metal, Mold, Tool and Die, Aerospace, Automotive and Transportation.

College credit is available with South Suburban College for students that earn an A or B for the entire year; EGR 101, Engineering Graphics (3 credit hours)

Introduction to Engineering
Grades 9-11

Introduction to Engineering is designed for students interested in pursuing a career in engineering, architecture, drafting and other related fields. This course teaches the concepts, principles and systems of computer aided design and drafting. Each unit of instruction provides content and techniques of computer aided design as well as projects and drawings that teach the various aspects of engineering and architectural drawing. Students will learn to visualize and graphically describe 2D and 3D solutions to typical drafting problems using Draftsight and Sketchup software as a drafting and design tool. Upon completion of drawings a working prototype of each project will be constructed and tested.

Engineering II
*College Credit Available
Grades 11-12

Engineering II students use **SolidWorks** and **SimulationXpress** software to design and test, with non-destructive methods, advanced machine parts and assemblies. Students demonstrate their knowledge of the material covered in Engineering 1 Design with SolidWorks through their mastery of using SimulationXpress to optimize a solution, acquiring advanced industry skill sets in 3D CAD, developing relevant examples of advanced engineering principles, and preparing students for the SolidWorks Certification exam.

College credit is available with South Suburban College for students that earn an A or B for the entire year; CAD 299, Topics in Compute Aided Design (4 credit hours)

Solidworks Software

Career Program