



GREAT NECK PUBLIC SCHOOLS

"Where Discovery Leads to Greatness"

#DiscoverGreatness

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Curriculum Profile: Introduction to Computer Aided Design

<u>Department</u>	Technology Education	
<u>Course Name</u>	Introduction to Computer Aided Design- (CAD)	
<u>Course Length</u>	½ year	
<u>High School Credits</u>	.5 unit of credit	
<u>Description</u>	This class is designed to provide students with an understanding of the fundamental concepts related to communicating engineering related technical information/design ideas using Computer Aided Design. Through a series of hands-on computer-based experiences, students will become familiar with the sketching, lettering scale drawing, print reading, visualization dimensioning and problem-solving techniques used by engineers and designers. They will use CAD and rendering software throughout the course to produce 2 and 3 dimensional drawings of solutions to engineering-related problems and 3-D printing technology to generate effective prototypes and models. This course fills the 1/2 graphics or CAD portion of the Computer Skills requirement or 1/2 the Art, Music and Drama requirement.	
<u>Target/eligible students</u>	9-12	
<u>State Learning Standards Link(s)</u>	https://www.nysed.gov/career-technical-education/technology-education-learning-standards	
<u>Primary texts and materials</u>	Engineering Drawing and Design -David A. Madsen, Terence M. Shumaker, J. Lee Turpin, Catherine Stark	
<u>Scope/Sequence</u>		
Week 1	INTRODUCTION TO CLASS PERTINENT HANDOUTS INTRODUCTION TO SAFETY: GENERAL, CLASS RULES, ETC. SAFETY LESSONS SAFETY MULTIMEDIA	
Week 2	WHAT IS CAD? HISTORY APPLICATIONS IN SOCIETY	
Week 3	SETTING UP DRAWING AREA USING COORDINATES PROJECT 1	
Week 4	ORTHOGRAPHIC VS. PERSPECTIVE PROJECTIONS PROJECT 2	
Week 5	PATTERNS AND TEMPLATES	
Week 6	3D ANATOMY AND FILE TYPES	
Week 7	SECTIONAL VIEWS PROJECT 3	
Week 8	MATERIALS/LIGHTING	
Week 9	AUXILIARY VIEWS PROJECT 4	
Week 10	WORKING DRAWINGS	
Week 11	RENDERING OF DRAWINGS PROJECT 5	

Week 12	DESIGN ENGINEERING USING CAD
Week 13	INTRODUCTION OF PRESENTATION PROJECT PRESENTATION TECHNIQUES
Week 14	MATERIAL IDENTIFICATION MATERIAL PROPERTIES AND CORRECT APPLICATION OF SUCH MANUFACTURING PROCESSING AND TECHNIQUES
Week 15	ROBOTICS APPLICATIONS IN CAD GROUP PROJECT
Week 16	ROBOTICS APPLICATIONS IN CAD GROUP PROJECT
Week 17	DEVELOPMENT OF PROTOTYPES
Week 18	CONTINUE WORK ON PROTOTYPES
Week 19	FINAL EXAM REVIEW AND TEST HAND OUT REVIEW PACKET FINAL EXAM FINAL EXAM MAKE-UPS
Week 20	SCHOOL WIDE TESTING, END OF TERM/GRADUATION -NO CLASS
<u>Additional Notes</u>	