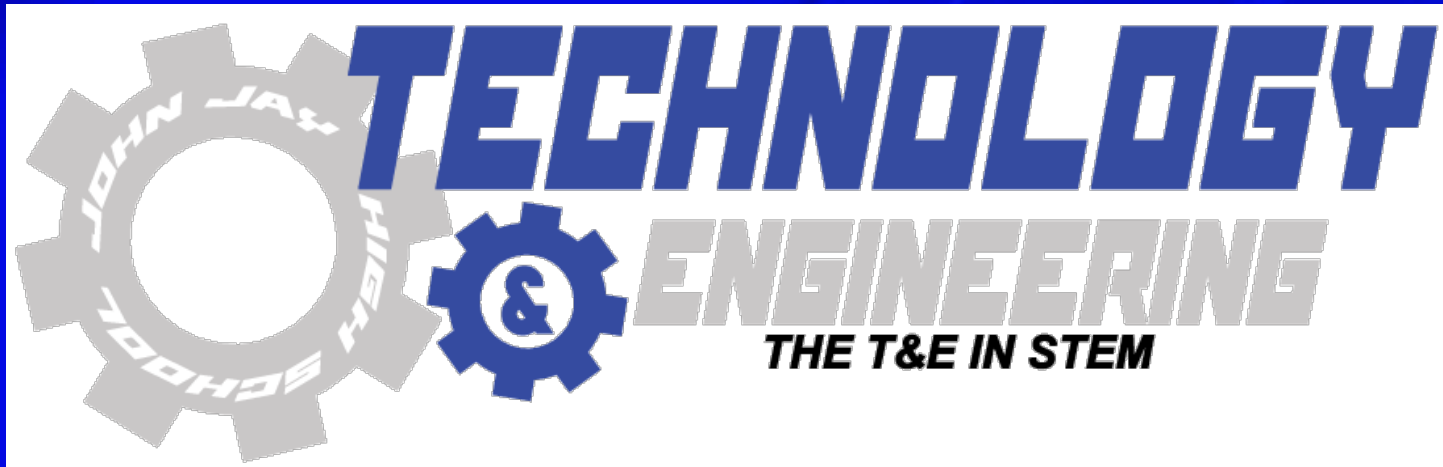


21st Century Technology Education

The Bridge Between Academics and the Real World!



Mr. Jeff Butler

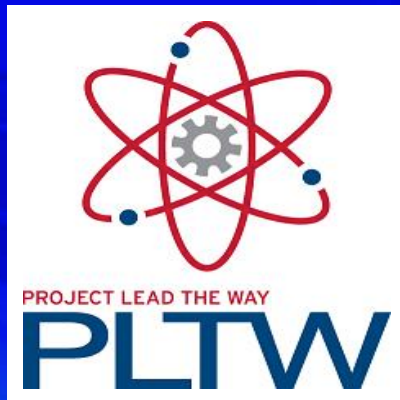
Department of Technology & Engineering

John Jay High School

Wappingers Central School District

Technology & Engineering

- What is Technology?
- Why is Technology & Engineering important?
- Who should take Technology & Engineering courses?
- Do classes fulfill Art/Music Graduation Requirement?
- Can you earn college credit?
- Do Colleges & Universities care you took Technology & Engineering courses?



All Departmental Offerings

You will have the opportunity to take these courses throughout your high school career.

- **Traditional & Industrial Design Courses**
 - Materials Processing-WOODS
 - Materials Processing-ADVANCED WOODS
 - Materials Fabrication-METALS
 - Basic Electricity/Electronics
 - Technical Drawing & Drafting
 - Construction Systems
 - Transportation Systems
- **Computer Design**
 - Communication Systems/Studio-in-Art*
 - Computer Graphics
 - Web Design & Production
 - Computer Aided Design (CAD)
- **Engineering (Project Lead The Way)**
 - Design Drawing for Production*
 - Principles of Engineering
 - Digital Electronics
 - Civil Engineering & Architecture
 - Engineering Design & Development

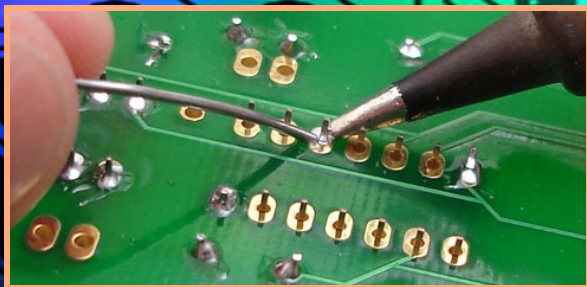


Teaching Tomorrows Technology...Today!

Basic Electricity & Electronics

Activities Include:

- Circuits – Parallel, Series
- Current, Voltage, Resistance
- L.E.D Lighting
- Sound Electronics
- Electronic Decision Making
- Fiber Optics
- AC/DC
- Residential Wiring
- Soldering
- Solar Power
- Windmill Generator
- H2O Turbine



Materials Processing - WOODS

Topics & Activities

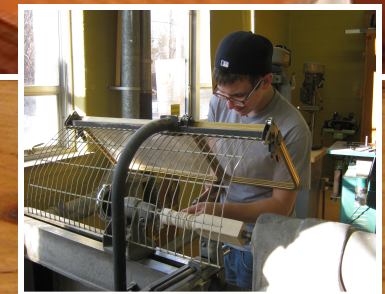
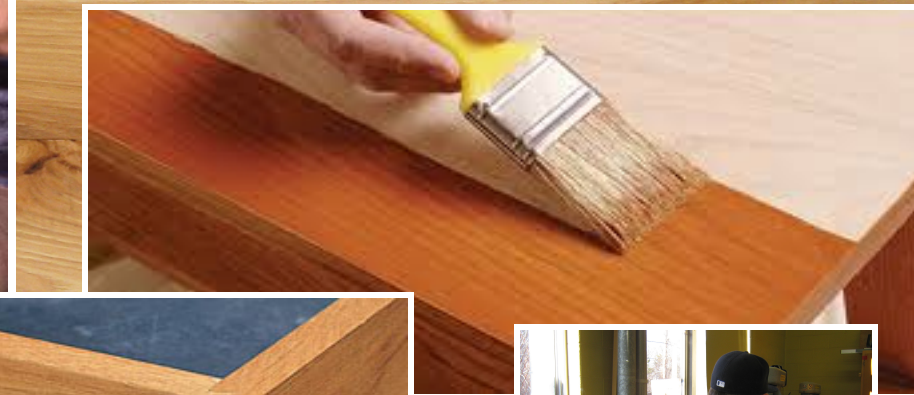
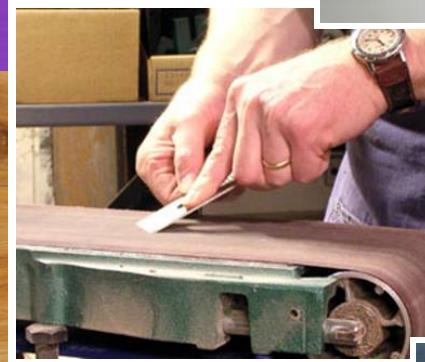
- Designing & Planning
- Wood Identification
- Hand Tool Projects
- Power Tool Projects
- Hands-On Projects
- Bent Wood Lamination
- Block Toy



Materials Processing - **ADVANCED WOODS**

Topics & Activities

- Independent Projects
- Advanced Processes
- Furniture & Tables
- Turnings



Woods & Advanced Woods make a great full-year combination

Construction Systems

Topics & Activities Include:

- Construction Design
- Planning
- Framing
- Roofing
- Drywall
- Insulation
- Electrical
- Security (HVAC)
- HVAC



Materials Fabrication: METALS

Topics & Activities Include:

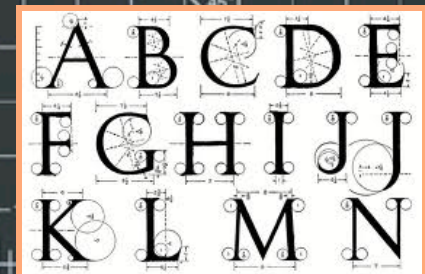
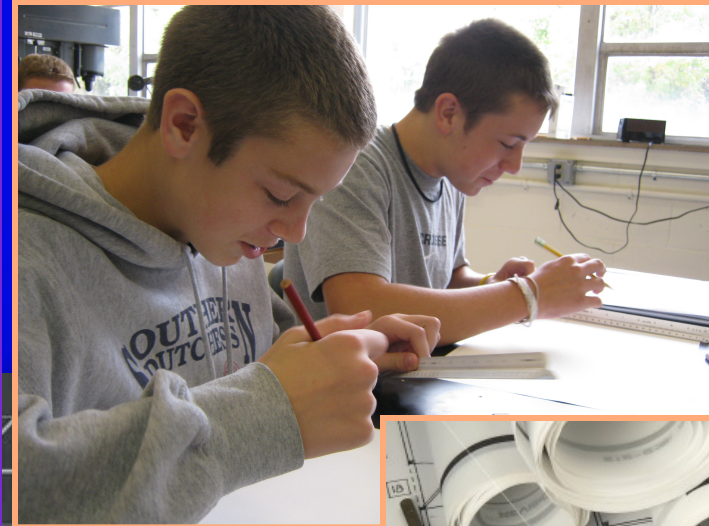
- Metal and Alloy Identification
- Sheet Metal
- Soldering/sweating pipe
- Brazing
- Welding
- Heat Treating
- Machining
- Bending & Shaping



Technical Drawing & Drafting

Topics & Activities Include:

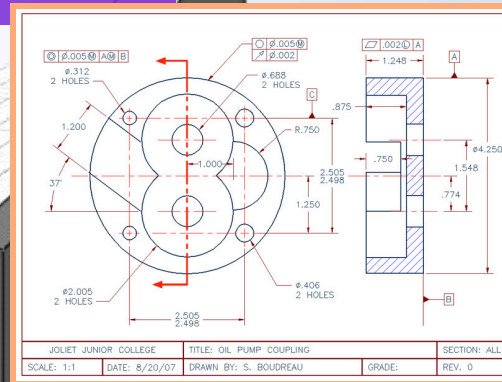
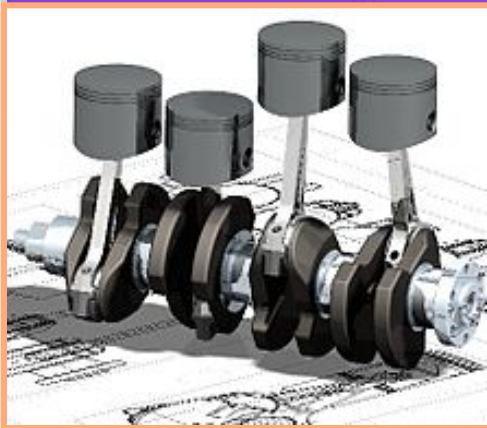
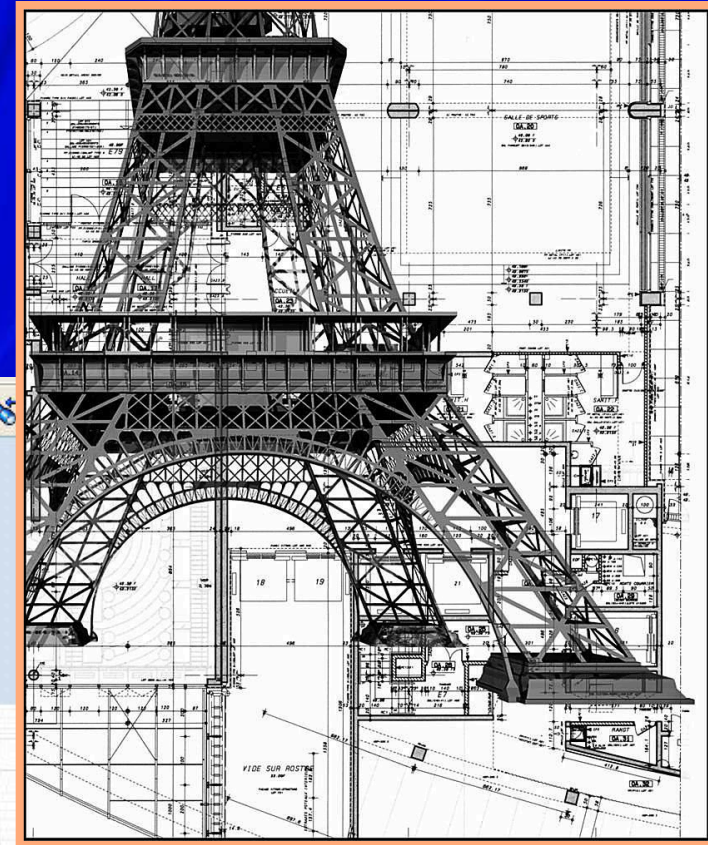
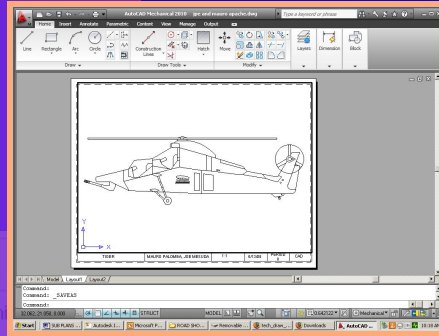
- Drafting Tools
- Measurements
- Orthographic & Multi View Drawings
- Pictorial Drawings
- Architectural Drawings
- Technical Lettering
- Dimensioning



Computer Aided Design - CAD

Topics & Activities Include:

- Floor Plan Design
- Home Design
- Product Design
- Drawing Exercises
- 2D & 3D Drawings
- Dimensioning
- Isometric Drawings
- ANSI Standards
- Independent Project



Autodesk®

Technical Drawing & CAD make a great full-year combination

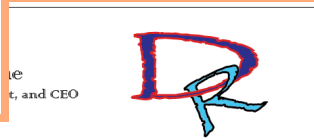
Computer Graphics

- **Topics Covered**

- Logo Design
- Cartoon & Game Design
- Screen Printing T-Shirt Design
- Poster Design
- Mug/Coaster Design
- Vinyl Graphics
- Printing
- Typography

- **Software & Hardware**

- Adobe PhotoShop
- Adobe Illustrator
- Adobe Flash



85 Picture Lane
Hopewell Jct. New York 12533
P: 1.845.634.9357 F: 1.845.947.0789
imagingdr@aol.com



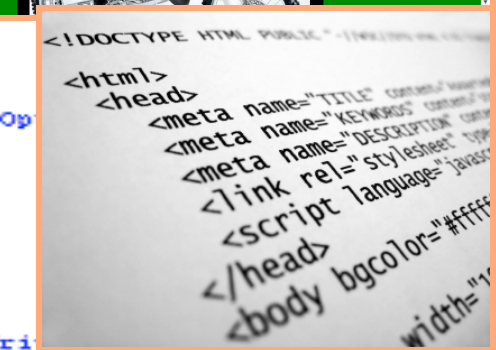
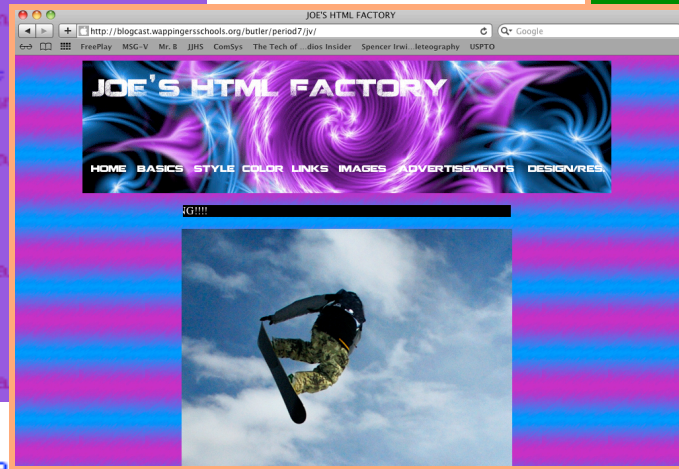
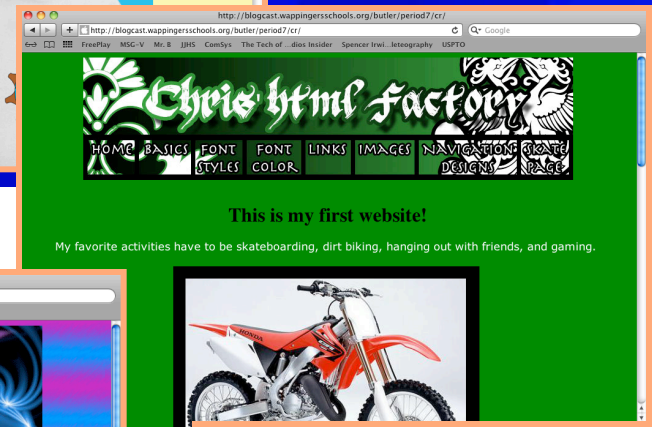
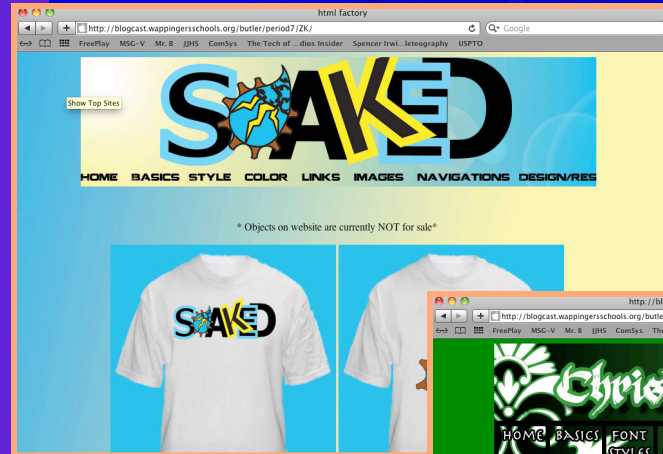
Web Design & Production

• Topics Covered

- Personal Website Design
- Web Animations
- Interactivity
- Professional Website Design
- Navigation Design

• Software & Hardware

- HTML Coding
- JAVA Script
- Action Script
- Adobe Illustrator
- Adobe Photoshop
- Adobe Flash



Computer Graphics & Web Design make a great full-year combination

Communication Systems

- **Topics Covered**

- Television Production
- Audio Mixing
- Digital Photography
- Producing
- MSG Varsity Partnership
 - Cablevision HD Channel 614 & 714

- **Software & Hardware**

- Apple Lab
- HD 1080 Cameras
- Apple Workstations
- Chroma Keying
- Apple Final Cut Pro
- Sound Studio Pro
- Adobe PhotoShop



PRODUCT

DIRECTOR

CAMERA

DATE

SCENE

TAKE

Communication Systems/Studio In Art

- **Topics Covered**

- Television Production
- Audio Mixing
- Digital Photography
- Producing
- MSG Varsity Partnership
 - Cablevision HD Channel 614



- **Soft**

- Apple Workstations
- Chroma Keying
- Apple Final Cut Pro
- Sound Studio Pro
- Adobe PhotoShop

Same activities and projects as HALF-YEAR course, but SIA/COMMUNICATION SYSTEMS fulfills NYS Art & Music graduation requirement.



Course fulfills NYS Art & Music Graduation Requirement

Transportation Systems

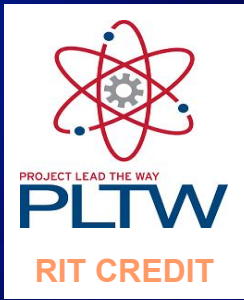
Topics Include:

- Land Transportation
- Marine Transportation
- Aerospace Transportation

Activities Include:

- Vehicle Maintenance
- Small Engines
- Boat Safety
- Boat Hull Design
- Rocketry
- Flight Simulator

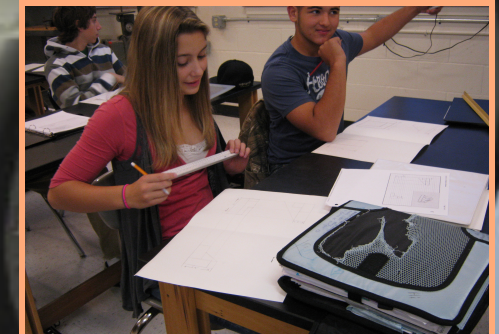
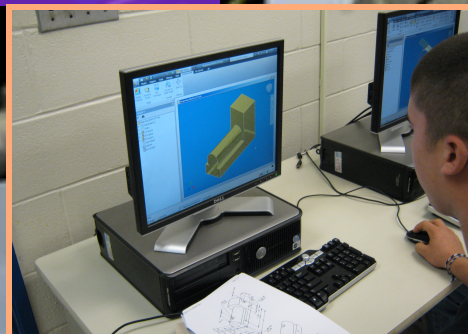
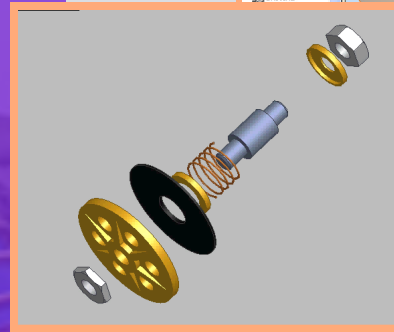
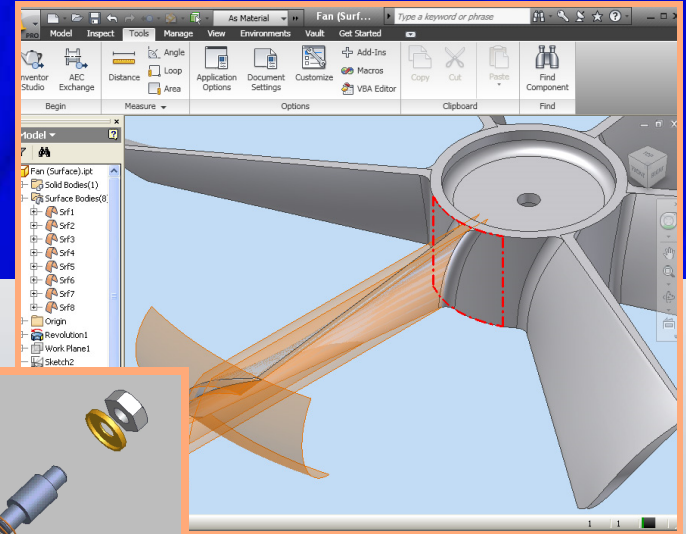




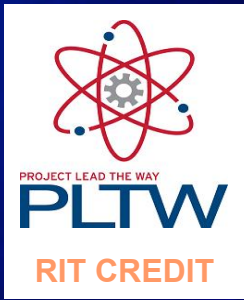
PLTW Design Drawing for Production - DDP

Topics/Activities/Projects

- The Role of an Engineer
- The Design Process
- Reverse Engineering
- Autodesk Inventor 3D Solid modeling
- Product Design
- Product Analysis and Improvement
- Designing as an Engineer
- Puzzle Cube Project
- Miniature Train
- DDP “Monster Garage”
- Trebuchet Design



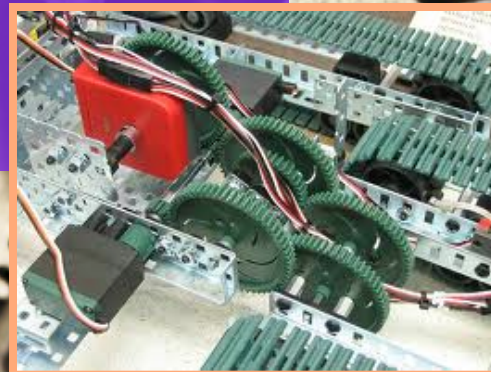
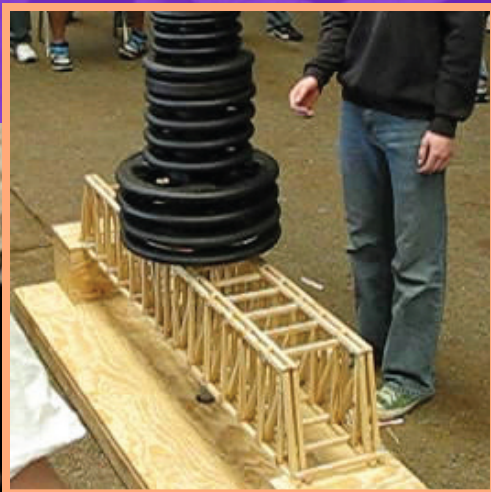
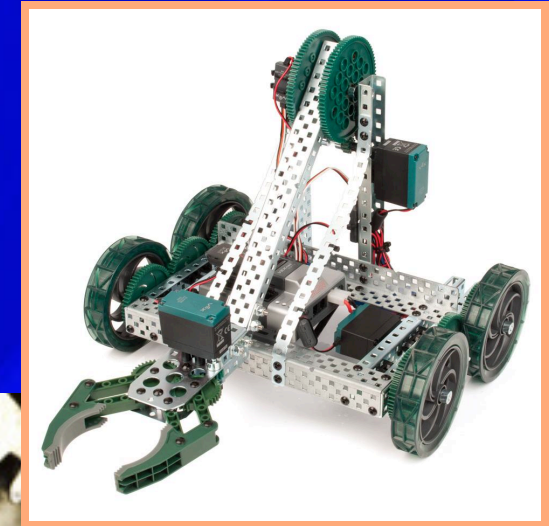
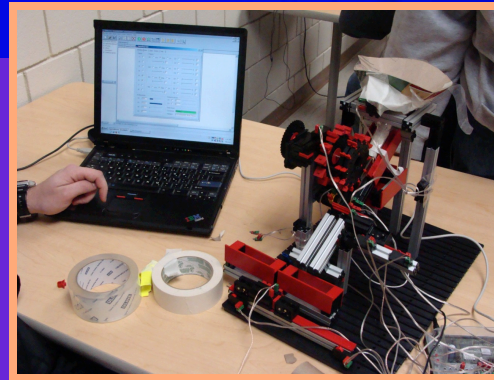
Course fulfills NYS Art & Music Graduation Requirement

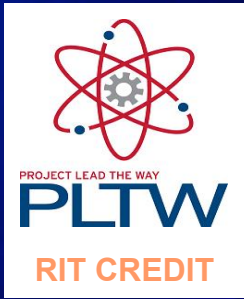


PLTW Principles of Engineering - POE

Topics/Activities/Projects

- Engineering systems and manufacturing processes
- Exploration of careers in engineering
- Hands-on activities involving models and robots

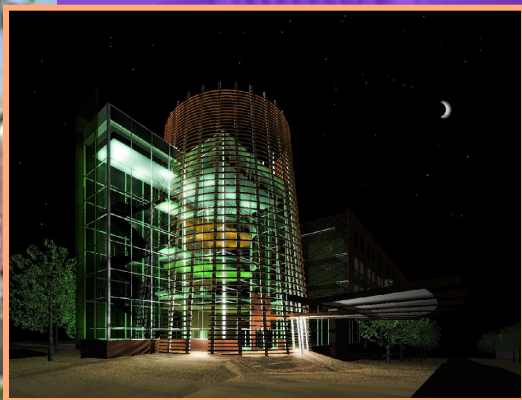
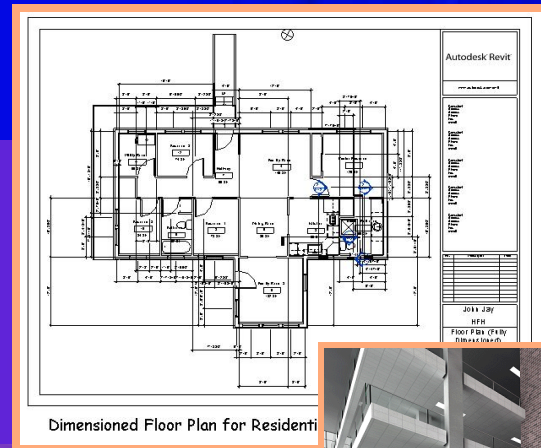




PLTW Civil Engineering & Architecture - CEA

Topics/Activities/Projects

- Learning what it takes to become a Civil Engineer and/or Architect
- Designing and learning about structures
- Elevations
- Building Codes & Specifications
- REVIT 3D





PLTW Engineering Design & Development - EDD

Topics/Activities/Projects


- Problem Solving
- Inventions & Innovation
- Patents
- Design Process
- Public Speaking
- School Improvement Projects
- Working with Mentors
- Final Product Presentations



CAPSTONE ENGINEERING COURSE

More Info?

*Visit Us Online
(See Business Card for Directions)*



<http://www.wappingersschools.org/johnjay>
navigate to: **ACADEMICS**
choose: **TECHNOLOGY EDUCATION & ENGINEERING**

links ■ brochures ■ college credit ■ course slideshows ■ program information

Course Info, Brochures, Faculty Directory, Articles, Student Work