



Engineering byDesign

GHS follows the Pre-Engineering Curriculum from the International Technology and Engineering Educators Association titled Engineering byDesign (EbD). EbD courses are based on standards from Science, Technology, Engineering and Math (STEM). More information about EbD can be found at <http://www.iteea.org/EbD/ebd.htm>

Introduction to Technology (Foundations of Technology):

This trimester course introduces students to the history of technology and how the use of technology effects society. Students use the engineering design process to solve problems in

the areas of energy & power, manufacturing, construction, transportation, communication, agriculture, and telemedicine. Students present their design brief solutions to the class.

Technology in Society (Technology & Society):

This course encourages students to investigate, analyze and decide if our use of technology is a benefit or detriment to human kind. Students weigh the unintended consequences of using technology and whether a proposed solution is the most ethical solution.



Supporters

AFA - AIAA
Autodesk
BG Harrison Thyng Chapter # 249, AFA
Civil Air Patrol
Engineering byDesign
Experimental Aircraft Association
Federal Aviation Administration, AVSED
Gilford District PTA
Goddard Space Flight Center, NASA
Granite State Glass, Inc
IEEE NH Section
Laconia Airport Authority
Lakes Region Community College
Lowe's Home Improvement
NH Department of Transportation
NH National Guard - NH SPE
Sky Bright Aviation
Technology Education Concepts
WinnAero

Speakers and eMentors

Air Force Association - FAA - FuturePlus, Inc.
Mainstay Technologies - NHDOT - NHSPE
Misiaszek Turpin PLLC - NHSPE - NASA
SAU 73 - Scotia Technology - SilverTech, Inc.
Titeflex Aerospace - WinnAero

Additional Information

Contact:
Dan Caron
Gilford High School
88 Alvah Wilson Rd.
Gilford, NH 03249
dcaron@sau73.org

Gilford High School



Technology & Engineering

Course Offerings
&
Extra-Curricular Activities





Welcome to Technology & Engineering Education

We are completely surrounded by the engineered world. Everything we use was designed and constructed by engineers and technologists. Technology is all around us, and it is important for us to be aware of, and understand how, technology works in order to use it responsibly.

The purpose of the Technology and Engineering curriculum at GHS is to teach students to “think like engineers.” This is not as difficult as it sounds, since engineering is a creative problem solving process and the required skills can be easily learned. Additionally, much of the science and math skills used are taught in other courses. This makes technology and engineering activities true **Integrative STEM** activities.

GHS offers two, trimester-long engineering courses and a number of trimester courses that teach and/or reinforce additional skills used when engineering. Extra curricular offerings provide students with an opportunity to practice creativity and problem solving skills in a less formal setting.

“Math **COUNTS** and
Science **MATTERS**;
Technology Education is the innovation and
application of all that **COUNTS** and
MATTERS.”

Peter Olesen Lund

Skills Classes

Architectural Design:

Students will design their “Dream House,” and produce a set of drawings using architectural CAD. They will then build a 3D model of their “Dream House.”

Aviation and Space Technology

Students will model the principles of flight with a variety of lab activities, work with simulators and experience flight in a small plane. Students will then design/build/launch model rockets, experiment with orbital mechanics through computer simulations, and explore new efforts to launch people into space.

Computer Aided Design:

Students will use CAD to design and make a toy that moves. Students will use various machines available in the lab to make some of the parts of their toy.

Material Design:

Students will design and construct personal projects using wood, metal, and plastic. Students will analyze the design and manufacturing process as they create useful products for themselves and others.

Robotics:

Working with a partner, students build a robot and write programs to make it move. Students will learn about and use, sensors, and motors to allow their robot to complete simple tasks such as grasping objects and moving them from place to place.

Extra Curricular

Technology Student Association:

TSA students prepare to compete against other New Hampshire students in a variety of competitive events. Over 30 events are offered to test skills in all technologies and leadership.



Projects of Opportunity

These are projects that pop up and are appropriate for the current classes. Samples include:

- Blue felt installed in Athletic display cabinet with help from the softball team
- Unified Sport sign in Gym designed & built by the Technology in Society class
- House plan activities for Math classes with house designs by the Architectural Design students
- Veteran’s flag boxes fabricated by the Material Design classes
- CAD students designing work benches for the Tech Ed Lab that will be built by Material Design students

