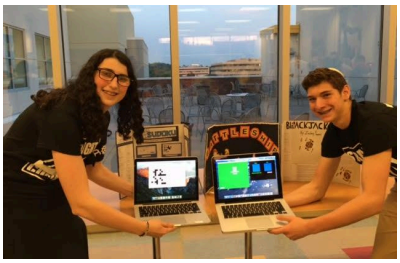

Our Program

Engineering students are challenged to expand their intellects and to develop skills in the areas of inquiry, critical thinking, problem seeking, problem solving, research, and presentation. Students develop the ability to access and analyze information, to view the world through multiple perspectives and to make connections between the disciplines of science, technology, mathematics and engineering. The Frisch School engineering program is supported by The Center for Initiatives in Jewish Education.

Freshman: Introduction to Scientific Engineering

Frisch offers a two-year elective in engineering. Freshmen have the opportunity to engage in an exciting, rigorous and accelerated curriculum, rich in laboratory and work-based experiences, in addition to simulated laboratory experiments and multimedia activities. Students learn the foundations of engineering design as they investigate systems and their classification, function and purpose. Throughout the course, they acquire skills in problem solving, dimension and unit analysis, measurements, calculations and documentation. Students then explore the foundations of electronics in the lab and discover the need for feedback and control in system design. Students apply their working knowledge to design and develop their own engineering projects in which they are involved in all aspects from idea generation to the production of a working prototype. Student teams brainstorm, research and use the skills acquired in class to plan and submit project proposals, design, build, program, test, debug, redesign and document their work, after which they present and “pitch” their project at an annual symposia.

Sophomore: Introduction to Biomedical Engineering

With a scientific engineering background, sophomores learn the foundations of bioengineering as they investigate the various biological systems, their functions and purpose. They research and present current engineering developments that dictate how disease is diagnosed and treated. Students study biomechanics by investigating levers, motion and robotics as they design prosthetics and monitor, measure and design diagnostic models to learn about engineering aspects of the circulatory system. In addition, they study artificial neural and mathematical models of the nervous system. Students apply their knowledge to design and develop a bioengineering project with a working prototype which uses advanced electronic hardware.

Junior Electives: AP Computer Science, Robotics

Senior Elective: Torah, Science, and Engineering

Students explore the Halachic implications and how they manifest in modern life. Students are exposed to the Zomet Institute with its current research, innovations and discussions that lead to high tech developments. Technological advancement is viewed from a religious perspective of partnering with Hashem. All students are required to work in groups, research and come up with a written proposal of a relevant project within the framework. Students are required to build a working prototype in the lab and have access to engineers at Zomet to consult on their projects.

The Frisch School Engineering Program

THE FRISCH SCHOOL ישיבת פריש
The Henry & Esther Swieca Family Campus

Engineering Projects 2015-2016

The Blink'n Bad Bike Jacket
Notify-er
Maximum Security Vault
Extreme Alarm Clock
Arduino Dog Track and Chase
Safe TRAINing
Smart Cane
Deaf Man Can Play
CNC Solderer
Super Spoon
Smart Aquarium
The Smart Classroom
Smart Shot
G.R.A.B.
The Exo~Arm
Smart Crib
M.A.T.
Personal Pull Up Trainer
The Automatic Garden
Moisture Mate
Stop n' Go
Project Just Right
Color Your Mood
Laser Harp
The Smart Intersection
The Color Caller
Smart Glove
The Smart Bat
SMY : A Second Set of Eyes
Self-Adjusting Ergonomic Chair
The Portable Snoezelen
Air Drums
Smart Greenhouse
rfiDoor
The Tech Boot


Engineering in the News

Frisch's Engineering Poster Presentation at #ISTE2016

Frisch Chosen as Only Jewish High School to Present Poster at ISTE 2016 Conference in Denver

Opening the door Frisch students combine halacha with engineering to create Shabbat-safe electric eye

Frisch Engineering Students Win Award at CIJE Engineering Symposium

Frisch Engineers Present Shabbat-Friendly Innovations to Zomet Institute Director

Frisch Engineering and Coding Students Visit Twitter

Israeli Non-Profit Inspires Frisch Engineering Students

Frisch Teacher Joins Israel STEM Education Delegation

Frisch Debuts New Afterschool Robotics Club

'Very, very cool' Frisch students learn high-level engineering

Exploring Israel's Silicon Wadi Frisch School STEM students win high-tech tour of Israel

Frisch Students at Forefront of Engineering Innovations

Frisch's "Girls Who Code" Club Makes Computer Science Cool

Frisch Engineering Students Take Israel Trip

Frisch Students Highlight Science and Engineering Research

Groups Presents "Smart Boot" at Frisch Engineering Symposium

November 25 Experiential Education at its Best

Update from the Engineering Lab

Spring is in Bloom in the Engineering Lab

Frisch Engineering - 2014 Projects

Frisch Engineering Video

The Frisch School Engineering Program

[Today I witnessed the future of education- and it wasn't the dancing robot.]

Additional Materials

- Frisch School Engineering Program Video: A Window into the Lab
- Student Evaluation Engineering and Technology
- Engineering Assessment
- 2nd Engineering Assessment
- BioMedical-Engineering Systems
- Engineering Application
- ENGINEERING SELF EVALUATION AND TEAM REQUEST 15-16
- Tech Articles
- Engineering Track Curriculum (Science Engineering 9th Grade)
- Poster Board Requirements
- In class assessment
- Final Project Rubric