

ALBERT LEONARD MIDDLE SCHOOL
25 GERADA LANE
NEW ROCHELLE, NEW YORK 10804

Just Say...



A Unique Summertime Academy for Middle School Students to Meet the Challenges of **STEM**

Science, Technology Engineering & Mathematics.

Stephen G. May, Director
sgmay@nredlearn.org



Session I: July 1 - July 5 & July 8—July 12
9 am—3 pm

OR

Session II: July 15 - July 19 & July 22 - July 26
9 am—3 pm

OR

Session III: July 29 - Aug. 2 & Aug 5 - Aug. 9
9 am—3 pm

Held at

Due to construction

Relocated to William B. Ward School

Mr. Franco Miele, Principal

Through

The City School District of New Rochelle

Dr. Parvey, Interim Superintendent

LUNCH AND SNACK WILL BE PROVIDED.

STUDENTS MUST SUPPLY THEIR OWN TRANSPORTATION

FOR THE EXPERIENCED*

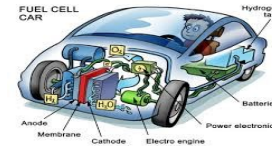
YOUNG ENGINEER

* Previously attended the Y.E.S. Program

Be a part of an Engineering Team and interact with some of the engineering marvels of tomorrow!

HYDROGEN FUEL CELL

Discover the latest in 21st century Automotive Technology. Around the world, scientists and engineers are looking to find new ways to meet our growing energy needs without further damaging our environment, endangering our planet or increasing our dependence on foreign oil.



T-BOT ROBOTICS

- Students work together to build robotic arms and then develop some serious teamwork as they try to operate its hydraulic controls in order to accomplish a task.
- Concepts learned and utilized:
 - Coordinate systems—Simple Machines
 - Basic Programming—Mechanical Advantage.

EXPLORE NEW TECHNOLOGY!

SUPER CAPACITOR DRAGSTERS



The latest technology—power a model dragster using super capacitors. Students will be able to explore and learn about this new technology that can be used in future vehicles to store energy. The models they build can be used over and over again by using regular batteries to charge up the super capacitor.

ELECTRIC POWERED MAGNETIC LEVITATION

Students can prepare to join the award winning New Rochelle High School Science Olympiad Team as a mag-lev specialist, while experimenting, building and testing a mag-lev vehicle.

FIRST LEGO LEAGUE ROBOTICS

FIRST Lego League engages students with real-world engineering by challenging them to build LEGO-based robots to complete tasks. Prepares middle school students to join the Y.E.S. FLL Team for school year competitions.

REMOTE CONTROL RACERS

Gears, Motors, printed circuit board, 7 remote functions and a remote controller. Learn about proportions and gear ratios as you solder and build your own remote control car!



XARCONIAN CRUISER ROCKET



- The Jet-Fighter/Rocket that cruises through the clouds and floats back gently via its dual recovery system.



AERO RACERS

- Design and build a prop-racer car.
- Design and implement a braking system.
- Test the car, record the data, and use math to determine how to make the car stop at a specific distance.

SENSORS AND INSTRUMENTATION



- Allow us to perceive the world around us in a way in which we cannot when relying only on the use of our own senses. We will delve into the world of sensors via a series of scientific experiments such as:
 - Motion Detectors / Air Resistance
 - Photo Gates / Projectile Motion

EARTHQUAKE CHALLENGE: TOWER CONSTRUCTION

- Why skyscrapers stay standing
- Experiment, problem solve, construct and test balloon and paper towers.
- Design, build and test student engineered basswood structures for earthquake resistance.
- Use basic principles of engineering design:
 - Compression and Tension
 - Stress and Triangulation



ROCKETRY

- Design, construction and launch of water/air powered rockets.
- Engineering / Aerodynamic Drag
- Use and Function of a range of hand and power tools.
- Measurement concepts as they relate to:
 - Apogee, Forces, Estimation, and Trigonometry
 - Computer Data Collection
 - Formula Calculation / Microsoft Excel



STEM Based Instruction...

...allows us to demonstrate the pragmatic value of Science and Math skills through actual Technology and Engineering application. It is this philosophy that opens the door for student success. We encourage them to think about how to use math and science concepts rather than simply committing the material to memory.



Engineering is all around us.

From the moment our day begins, to the moment our day ends, engineering impacts everything and everyone. We believe that this program will help to maximize students' individual strengths and abilities while inspiring them to become the leaders of tomorrow.



Students learn best by doing.

They will make the connections between Science, Technology, Engineering and Mathematics (S.T.E.M.) through a variety of hands-on activities. We will engage, entertain and educate them in a fun and interactive way as they begin to develop the skill-set and problem solving abilities needed for the world of tomorrow.

The Young Engineers School (Y.E.S.) is an outstanding enrichment opportunity for current middle school students to enjoy interactive engineering. We offer expert instruction combined with fascinating experiments and activities specially designed for the interests of middle school students.



Interactive Enrichment Activities

Name _____

Address _____

City _____ Zip Code _____

Phone (Home) _____ Current Grade _____

Emergency Contact Name & Phone Number _____

Relationship to student _____

Parent E-Mail Address _____

****Check off which middle school this student attended:**

ALMS IEY

Sign up for only one of the Sessions.
Student attendance at all 10 meetings is required.

- Session I: July 1 - July 5 & July 8 - July 12
OR
- Session II: July 15 - July 19 & July 22 - July 26
OR
- Session III: July 29 - Aug. 2 & Aug. 5 - Aug. 9

For each student per session there is a Program fee of \$ 375.00
Please return this application and a check for \$375.00
(Payable to Albert Leonard Middle School)

to
Albert Leonard Middle School
Attention: Mr. Stephen G. May, Tech Ed. Dept.
25 Gerada Lane
New Rochelle, NY 10804
Phone: (914) 576-4339
Email: sgmay@nredlearn.org

There are limited seats available per session. First come, first served. Preference will be given to students who excel in Math, Science and Technology. Applicants must attend the New Rochelle Public Schools.

For More Program Information and Scholarship Information
Mr. Stephen G. May, Tech Ed. Dept.
Email: sgmay@nredlearn.org