

Milby's STEM Institute (MSI) Magnet Program hosts a variety of Science, Technology, Engineering, and Math career programs. Strands are coupled with a rigorous academic curriculum designed to prepare students for college and career opportunities. Enhanced with real-world learning experiences, students will be able to participate in job shadowing, industry forums, externships, fieldtrips, and earn entry-level industry certifications. The successful student will be enabled to meet the challenges of a 21st Century Global Economy upon graduation.

## MSI STEM Strands

### Applied Science Health Professions Strand

9th Grade – Principals of Health Science  
10th Grade – Health Science  
11th Grade – Anatomy & Physiology or Advanced Biotechnology  
12th Grade – World Health Research or Practicum in Health Science

### Computing Science Strand

9th Grade – Concepts of Engineering & Technology  
10th Grade – Robotics  
11th Grade – Principles of Technology  
12th Grade – Engineering Mathematics

### Petroleum Exploration & Engineering Strand

9th Grade – Environmental Systems  
10th Grade – Concepts of Engineering  
11th Grade – Engineering Design & Presentation  
12th Grade – Engineering Design & Problem Solving

The courses above represent the typical MSI courses for each of the three STEM strands. Students may individualize their choices with Advanced Placement, Dual-Credit Courses through our partnership with Houston Community College (HCC), or elective courses where appropriate.

## Applying to MSI is Easy

The Milby STEM Institute (MSI) is open to all students residing in HISD. Transportation may be provided to students who meet qualifications.

### To apply for admission:

Submit your application to the address below, with a copy of the following required documentation:

- Previous year's report card
- First grading period of current report card
- Test record card
- Proof of HISD residency (apartment rent receipt, utility bill receipt, or statement of residence)

A matrix will be used to evaluate applicants based on grades, conduct, and test scores.

Be sure to mail your completed application with required documentation to this address:

### Milby High School

ATTN: Magnet Coordinator  
1601 Broadway  
Houston, Texas 77012

### How to contact us:

Main Milby Phone:  
713-928-7401  
Magnet Office:  
713-928-7403  
Fax: 713-928-7474  
Website: [www.Milby.org](http://www.Milby.org)



It is the policy of the Houston Independent School District not to discriminate on the basis of age, color, handicap or disability, ancestry, national origin, marital status, race, religion, sex, veteran status, or political affiliation in its educational or employment programs and activities.

# Milby STEM Institute(MSI) Magnet Program



Applied Science  
Health Professions

Computing Science

Petroleum Exploration  
and Engineering

## MISSION

**"We Develop Learning Capacity Every Day"**

# APPLIED SCIENCE AND HEALTH PROFESSIONS STRAND

*Environmental Science, Health Science Technology*

**Are you interested in a career in the health professions so that you can help people?**



**Here is what MSI offers for this strand:**

**Certifications/Professional Licenses:**

CPR Certification, First Aid Certification, OSHA Certification

**Job Shadowing/Fieldtrips/Internships:**

Texas A & M, University of Texas, Texas Women's, Everest College, Memorial Hermann's Trauma Unit, Houston Museum of Natural Science, Memorial Hermann Life Flight Center, Fall & Spring Leadership Conferences, Alternative Fuel sources Wind Turbine Farms, Bay City Nuclear Power Facility

**On-site Clinical Observations:**

at JFK Harris County Hospital, Ben Taub County Hospital, Strawberry Health Clinics Community Outreach and Service: Houston Rodeo Roundup Blood Center, Gulf Coast Blood Center, Texas Parks & Wildlife "Project Wild" certification

**Summer Research Opportunities:**

Sheldon Lake State Park & Environmental Learning Center, Prairie Chicken National Wildlife Refuge,

**Guest Speakers:**

Texas Children's Hospital, Everest College, The Houston Zoo, Environmental Scientists, and others.

**Organizations:**

Health Occupations Students of America (HOSA), Environmental Science Club

# COMPUTING SCIENCE STRAND

*Computer Maintenance and Networking, Forensics*

**Do you love working with computers?**



**Here is what MSI offers for this strand:**

**Certifications/Professional Licenses:**

A+ & A++ Certifications, Comp TIA & Comp TIA 602 Industry examinations. Comptia Network + Exam.

**Job Shadowing/Fieldtrips/Internships:**

University Interscholastic League (UIL) Competitions, AT & T Job Shadowing, U of H Geographical Information Systems HP CodeWars Contest, The Houston Museum of Natural Science

**Guest Speakers/Partners:**

Texas Computer Association, Published authors, Forensic & Security Services, Computer Animators, CNN producers and analysts, and others

**Organizations:**

Skills USA, National Technical Honor Society (NTHS)



# PETROLEUM EXPLORATION & ENGINEERING STRAND

*Engineering, HVAC, Welding*

**Are you interested in a career with petroleum exploration and engineering?**



**Here is what MSI offers for this strand:**

**Certifications/Professional Licenses:**

OSHA, Process Tech, Welding, HVAC,

**Job Shadowing/Fieldtrips/Internships:**

International Petroleum Association of America (IPAA), Doris Richardson, Schlumberger Sugar Land, Weiss Energy Hall, Halliburton Real Time Center, CGG Veritas, Western Geco, Ocean Star, Offshore Museum in Galveston, The Oil Sim Competition, The OTC Conference, HISD CTE Expo Competition, NASA Engineering Camp, UT Exploration Camp, BP Engineering Day, Texas A&M Engineering Summer Camp, El Paso Corp, Marathon Oil, Shell, FMC, Oceaneering, Society for Petroleum Engineers, CRANE AC

**Guest Speakers/Partners:**

Economists, Geopolitical Specialists, Petroleum Engineers, Negotiators, Land and Offshore Specialists, Exploration and Production Specialists, Reporters, Structural Engineers, Junior Achievement's Young Professionals, Geologists, Geophysicists, and others.

**Organizations:** Robotics Club, Energy Club