

### 2020 Academy Highlights

## INSPIRE



## IMAGINE



# **EQUIP**







### INSPIRE

## **Inspired** by Our Mission

The Engineering Academy was founded in 1999 at Hightower High School. In 2010, the Freshman Class of the Engineering Academy began their education at Elkins High School. The Engineering Academy now utilizes the renowned curriculum from Project Lead the Way to foster the engineering class and learning experience.

Mission: The Engineering Academy exists to provide students with opportunities to receive in-depth exposure to a specific career pathway in the engineering field.

Vision: The Engineering
Academy is comprehensive in
nature and covers the multiple
disciplines in the general field
of engineering with an
emphasis on the engineering
design process.



#### **ENROLLMENT & STUDENT INFO**

- 349 students currently enrolled in the Engineering Academy
- 62 seniors, 106 juniors, 84
   sophomores, and 97 freshmen
- 609 students applied for admission for the 2021-2022 school year
- The Engineering Academy Class of 2020 had a 100% graduation rate

#### **ENRICHMENT ACTIVITIES**

Students in the Engineering Academy participate in a minimum of 4 enrichment activities each year. These activities allow students to experience the engineering world outside of the classroom and to bond with their fellow peers. Some of these opportunities include:

- Guest Speakers:
  - ∠ **Dr. Shahrukh Irani**, Industrial Engineer, *Lean & Flexible*, *LLC*
  - Dr. Uyiosa Abusomwan, Mechanical Engineer, Schlumberger
  - ∠ **Sathvik Vasam,** Solar Engineer, *Simplify Solar*
  - ∠ **Anil Mehta,** Chemical Engineer, *DOW Chemical*
  - ∠ **Brad Wood**, Civil Engineer, ExxonMobil
- Field Trips:
  - ∠ Ocean Star Offshore Drilling Rig & Beach Trip
  - ∠ HOK Architecture Firm
  - ∠ Amazon Warehouse
  - ∠ Boccard Pipe Fabricators
  - ∠ NASA Aerospace Trip
- Houston Inventathon
- Envision Conference at Texas A&M
- Engineering Career Fair
- Science Engineering Fair of Houston
- Hobby Fest at Hobby Airport
- Houston Maker Faire

#### **CLUBS & CAMPUS INVOLVEMENT**

Students in the Engineering Academy are encouraged to pursue their interests, both those related to engineering and those outside of the STEM field. Students are involved in and hold leadership roles within many of the organizations and clubs at Elkins High School, such as:

- Math and Science Club
- Robotics Club
- Technology Student Association (TSA)
- Junior Achievement
- Habitat for Humanity
- DECA
- Mu Alpha Theta (Math Honor Society)
- Science National Honor Society (SNHS)
- Spanish Honor Society (SHH)
- Athletics
- and countless more!

#### **COMMUNITY INVOLVEMENT**

Students in the Engineering Academy complete a minimum of 25 community service hours each year, including:

- FBISD Community Events
- Science Fair at ASE
- Robotics Camp at DMS
- Houston Food Bank
- Chevron Marathon

#### **CAMPUS RATING & ACCOUNTABILITY**

In 2019, Elkins High School was rated by the Texas Education Agency (TEA) as an A-rated school on an A-F scale. This accountability rating was given based on school and student achievement, progress, quality, and post-secondary readiness.

Elkins High School also earned Distinctions in all Academic categories: ELA/Reading, Mathematics, Science, and Social Studies.

### **KEEP IN TOUCH & STAY UP-TO-DATE!**

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Stay up-to-date by checking our website, Instagram, and Twitter feed!

Website: www.fortbendisd.com/engineering

Twitter / Instagram: @elkinsengineers

#### **STUDENT ACHIEVEMENTS**

- Fu-Yao Yu, Joshua Bello, Ankit Patel, Brian Xu, and Sannidhya Desai took 1st place at both the Houston Inventathon and the Houston Ideas Pitch for their invention of Flow H2O.
- Brandon Yeh, Harrison Pao, Punit Desai, Derek Lu, and Jeran Kong took 1st place in the Collision category at the Texas A&M EnVision Engineering Conference.
- Math and Science Club members consistently placed in the top 5 at their local, district, and state-level contests.
- Elkins Junior Achievement (EVO), with Academy members, was named the National Company of the Year.
- **Technology Student Association** members qualified to the state-level TSA Competition.
- Kirthivel Ramesh served as the Elkins Debate Team captain for two years. ranked top 30 in the State, and qualified to the national-level contest.
- Ralph Yongoueth won at the statelevel competition and qualified for the international-level DECA contest.
- Abigail Jeyaraj is a member of FBISD's Leadership 102 cohort.
- Sakthivel Ramesh was crowned Homecoming King.
- Jeffary Stephen is a Thespian in the Thespian Society.
- Thien Pham received a top spot at the All-State Choir Area audition.
- Anya Patwa was the Elkins Volleyball Team Captain in her freshman year.

#### **INTERNSHIPS & MENTORSHIPS**

With the help of the Booster Club, a parent-run organization designed to advance student experience at the Academy, students have the opportunity to obtain summer internships or mentorships from various companies and universities, including, but not limited to:

- Applied Automation and Controls Inc
- **Bechtel Corporation**
- City of Sugar Land
- Karl Storz Endoscopy
- Lean and Flexible, LLC
- NASA
- Siemens Energy
- **QED** Energy Associates
- Texas Southern University
- University of Houston

#### **STUDENT LEADERSHIP OPPORTUNITIES**

Each year, students have the option to apply to become an Academy officer. Our officers listen to students' feedback, host events, provide opportunities for students, and better the Academy.

#### 2020-2021 Academy Executive Board:

- President: Fu-Yao (Jefferson) Yu
- Director of Activities: Janavi Seshadri
- Director of Communications: Joshua Bello
- Director of Houses: Jakub Sciuk
- Secretary: Ada Sze

Additionally, many Academy students hold officer positions in other clubs and organizations. Students not directly involved in leadership or officer positions also have many leadership opportunities through committee work, projects, community service, and more.



### **Equipped** for Success

#### **ACADEMY ADVANTAGES & OPPORTUNITIES**

Attending the Engineering Academy provides many advantages for students.

- Surrounded by a group of like-minded peers interested in the Engineering field
- Rigorous coursework and exceptional STEM and Engineering teachers in preparation for college
- Internship, mentorship, and partnership opportunities
- Guest speakers, field trips, and company visits
- Field experience and exposure to the engineering workforce



#### **ACADEMY COURSES & ENDORSEMENTS**

Academy programs of study are aligned with House Bill 5, laying the groundwork for graduation and career planning. The outlined course of study ensures that students complete a rigorous set of courses within the focal point of the Academy.

#### **Required Engineering Courses:**

9th Grade: Introduction to Engineering Design 10th Grade: Principles of Engineering 11th Grade: Civil Engineering and Architecture OR Aerospace Engineering 12th Grade: Engineering Design and Development

#### **Required STEM Courses:**

- Enrollment in Pre-AP, AP, Honors, or Dual Credit math and science courses for all four years at the campus, inclusive of Calculus AB or BC, Physics, and Chemistry
  - Complete Pre-AP or AP Computer Science

<sup>\*</sup>Course offerings are subject to change in the event that the Texas Education Agency makes changes to approved courses and/or due to low enrollment.



### **IMAGINE**

## **Imagine** their futures!

Every year, our students are awarded a variety of scholarships, grants, and awards, such as:

- Jacob Louis: Full Tuition
   National Merit Scholar
- Isha Chaudhary, Punit
  Desai, Derek Lu, Kirthivel
  Ramesh, Shenuka
  Wijeratne: Engineering
  Academy Senior
  Scholarship
- Derek Lu: Fort Bend
   Optimist Club Scholarship
- Matthew Sze: Second Century Scholarship, Discovery Scholarship
- Fu-Yao Yu: Presidential
   Volunteer Service Award
- Academic Excellence Award

Many years, students' awards total over \$1 million!

#### STANDARDIZED TESTING HIGH SCORES. 2020

SAT: 1590 / 1600 PSAT: 1520 / 1520 ACT: 36 / 36

#### **POST-SECONDARY STUDIES**

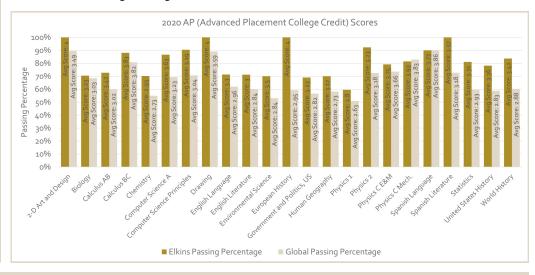
Our students go on to study a variety of fields in their post-secondary education. A sampling of their majors are:

- Applied Mathematics
- Applied Physics
- Architecture
- Automechanics
- Biochemical Engineering
- Biomedical Engineering
- Biotechnology
- Chemical Engineering
- Civil Engineering
- Computer Science
- Electrical Engineering
- Engineering Management
- Industrial Engineering
- Mechanical Engineering
- Nursing
- Petroleum Engineering

#### **POST-SECONDARY DESTINATIONS**

Our students graduate and are ready to attend a variety of post-secondary institutions, including:

- Baylor University
- Colorado School of Mines
- Howard University
- Lamar University
- Massachusetts Institute of Technology
- Pennsylvania State University
- Rice University
- Rose-Hulman Institute of Technology
- Texas A&M University
- Texas Tech University
- Trinity University
- University of Houston
- University of Pennsylvania
- University of Texas Austin
- University of Texas Dallas



#### **STUDENTS IN ACTION**



Academy students participate in fun social events.



Academy students present their capstone project from their senior-level Engineering class.



Academy students partake in a variety of hands-on field experiences.



Academy students are inspired by the guest speakers at our monthly meetings.