The HuaXia Chinese School STEMbrick Academy STEM courses

The HuaXia Chinese School and STEMbrick Academy STEM courses were designed and created by two of the top STEM coaches in the Nation with over 50 years of experience working with companies like Schlumberger, Shell, Fluor, NSTA, Citgo, Chevron, Verizon, and PLTW.

The curriculum is very hands on and age appropriate for young budding STEM explorers to aspiring Innovators and advanced learners. Students have individualized lessons and learn at various paces based on their skill level and ability. We pride ourselves on providing enrichments that go beyond the typical public or private school environment. Coach Doremus is the current CTE Department Chair at one of the top performing schools in Texas, Clements HS. He teaches Engineering advanced courses, has over 30 years of teaching experience, is specialized in Math with a math background, and was the owner/operator of the Huntington Learning Center for ACT and SAT testing. Coach Embrick is the CTE Department Chair at Wright JH and teaches Engineering courses that he is currently designing. He has a background in business and Science and is the recipient of 3 National and 10 State teaching awards.

Meet your Instructors/Coaches

Richard Embrick

Chairperson

NSTA Shell Teaching Award Panel

About Richard:

Embrick created the entire STEM program for FBSID middle schools, won over $150K in teaching grants, and was a National Judge and past department Chair for the NSTA Shell Science STEM teaching Awards. Recently, Embrick was inducted into the STEM Teacher Hall of Fame by the Houston Astro's and Honeywell. Both instructors have celebrated 5 years working with Hua Xia and have been with the school since 2018.

Meet your
Instructors/Coaches
Daniel Doremus

Department Chair CTE for Clements HS Teaching Advanced Engineering Courses.

Former Owner/Operator Hunnington Learning Center

About Coach Doremus

Daniel Doremus has BS Degree in Applied Mathematical Sciences from Texas A&M University. He has taught Math from grades 6th through Pre-Calculas and SAT/ACT preparation courses for over 25 years for over in Bryan ISD, Alief ISD as well as Fort Bend ISD. He is currently teaching Project Lead the Way: Gateway to Technology project-based program. This course emphasizes the Design Process in order to solve real world problems using Industry standard programs such as Autodesk Inventor Professional and RobotC.

Robotics, coding, and Technology I

Open to 2nd – 3rd grade

Saturday   1:00pm–2:00pm

Students will explore robots that recently won the Edison Awards in 2018, Tech Learning Awards of Excellence Best of 22 winner, 5Dtech Breakthrough Award 2023, and Tech & Learning Best of show 2023 winner. Students will learn how to code the robots using screen-free application and on-screen visual programming with 5 varying skill levels. In addition to exploring robotics, students navigate the wonderous world of coding using physical blocks that they assemble. These blocks are easy and intuitive, but as they progress, the student will learn to build complex commands. "The screen plus hands-on-pieces combination really keeps my child engaged in learning" is one parents response to our curriculum. In addition, students are introduced to sequencing, order of operations, logic, math computation, block coding, and develop other skills that will prepare them for Robotics, coding, and the Technology II course with a variety of curriculum software designed specifically for this age group.

Robotics, coding, and Technology 2

Open to 4th – 5th grade

Saturday: 2:00pm–3:30pm

Learning Pathway
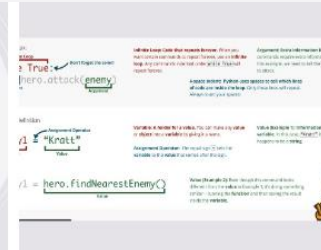
This course is for students that have had some or no experience in technology, coding, programming, or STEM related content. Students interested in exploring STEM content will love this popular course. Students are immersed in an adventure game in which their knowledge of Computer Science advances with the storyline – we call this learning Edutainment. Students build real-world skills through the power of play. Our curriculum meets CTSA and ISTE standards as students master core Computer Science concepts, develop computational thinking skills, and learn about the relevance of Computer Science to their daily lives. Students learn Sequences, Problem solving, troubleshooting, objects, methods, debugging, loops, impacts of computing, algorithms, syntax, variables, networks and internet, conditionals and Boolean logic, computing systems, data types, variable arithmetic, For loops, Nesting, Nested loops, Nested structures, while loops, encryption, else/if and compound conditionals, physical and digital security, introduction to functions, writing functions, Impacts of bias and stereotypes. Students also explore Robotics and Robotic engineering using a faster, smarter, and more flexible robotics platform than previous iterations. Students not only learn to program robots to complete various tasks as designed by the Carnegie Mellon Robotics Academy in Pennsylvania, but they work with various sensors including touch, light, infrared, servo's and motors. Students learn how to program various sensors using a custom made testbed. Finally, students will explore various physics, cyber security software, animation, and introduction to CAD design and programming.

Coding, Technology and Engineering 3

Open to 6th - 8th grade

Saturday 10:30 am -12 Noon

This course is for students that have completed our technology 2 course and are entering the 6th grade. In this award winning program our students gain experience in the following fields: coding, programming, molecular engineering, electrical engineering, mechanical engineering, drones, and develop programming skills with html, css, python and game design. Students will experience CAD programming to design items for manufacturing. When a student shows interest, they can also compete in many of the STEM competitions that occur during the span of this course.

Throughout the course, students will also develop teamwork skills, learn the engineering design process, work with electronic components, code various IOT (internet of things), prototype, and solve problems with Escape room scenarios. Students will explore labs in VR settings, conduct experiments, and have a lot of fun exploring advanced STEM concepts.

Advanced Robotics, Mechanisms, and Programming Course

Open to grades 5th - 8th   Saturday 9:00 am. - 10:30 am.

This course is designed for students wanting to specialize in Robotics Engineering and programming content. Students design and build large mechanized 4-foot robots and code algorithms to bring them to life. They learn and build various mechanisms used in automation and robotics machines like bevel gears, simple and complex gears, crank and sliders, chain drives, and leadscrews. Students will build pull toys and super mechanisms to demonstrate mastery. In the second semester, students will tackle a survival challenge building custom machines. Throughout the course, students will build a custom robot using position and rotation servos, LED (both single and tri-color) lights, sensors such as distance, light, sound, and dial, and other parts from everyday household materials. They will program the robot to come alive. Several programming opportunities with robots and simulators will ensure students are always building their skills that can prepare them for Coding and Technology III or competition. We already need double the number of qualified workers to fill STEM positions and our course creates a pathway to inspire students to pursue opportunities in technology.