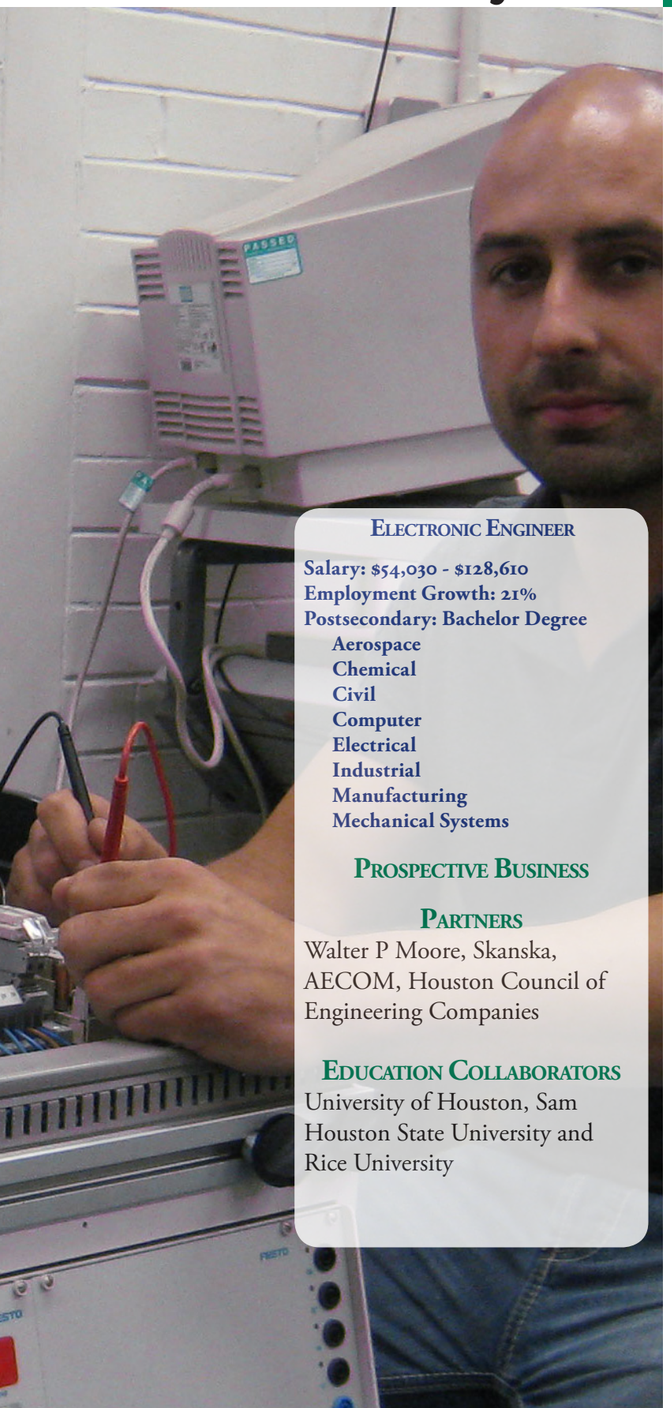
HiLZ

Houston Innovative Learning Zone

PROPOSAL *for the* School *of* Electronic Engineering @ Furr



Electronic Engineer

Salary: $54,030 - $128,610
Employment Growth: 21%
Postsecondary: Bachelor Degree

- **Aerospace**
- **Chemical**
- **Civil**
- **Computer**
- **Electrical**
- **Industrial**
- **Manufacturing**
- **Mechanical Systems**

Prospective Business

Partners

Walter P Moore, Skanska, AECOM, Houston Council of Engineering Companies

Education Collaborators

University of Houston, Sam Houston State University and Rice University

Overview

The School of Electronic Engineering provides students with the knowledge and ability for a career in electronics and information technology in the 21st century. The Program will provide:

- Courses taught by college professors utilizing a blend of face-to-face and online instruction
- Meaningful and engaging project-based assignments
- An Associate's Degree earned by August after the senior year of high school
- Valuable industry certifications embedded into the coursework
- Preparation to move directly into the workforce after graduation or on to pursue additional education at a premier college or university
- Technology-rich college atmosphere

Personalization

Every student at a **HiLZ** school has a staff advisor who monitors their personal, academic, and professional development. Students pursue personal interests through projects and compile and present their best work in personal digital portfolios. Facilities are tailored to individual and small-group learning, including networked wireless laptops, project rooms for hands-on activities and exhibition spaces for individual work.

Preparation

HiLZ schools make no distinction between college preparation and career & technical education; the program qualifies all students for college and success in the world of work immediately upon graduation. Enrollment is non-selective, and there is no tracking at I-TECH. The curriculum is rigorous, providing the foundation for entry and success at colleges and universities as well as direct-entry into the workforce.

Practice

HiLZ school students experience some of their best learning outside the school walls. Juniors complete a semester-long academic internship in a local business or agency. Seniors develop substantial projects that enable them to learn while working on problems of interest and concern in the community. Earlier, in 9th and 10th grade as well as middle school, students may "shadow" an adult through a workday, perform community service in a group project, or engage in "power lunches" with outside adults on issues of interest.

Performance

Assessment is performance-based and all students develop projects, solve problems, and present findings to community panels. All students are required to complete an academic internship, a substantial senior project, and a personal digital portfolio.

Curriculum and Plan of Study

Required Academic Classes
Students will complete four years of dedicated classes in Social Studies & Language Arts, Mathematics, English, and Science.

Dual-Credit Enrollment and/or Advanced Placement
Students will have the opportunity for Advanced Placement and Dual -Credit Enrollment academic classes throughout their high school career.

Career and Technical Education Courses

- Introduction to Sociology
- Technical Programming
- DC Circuits
- AC Circuits
- Digital Applications
- Solid State Devices
- Microprocessor
- Linear Integrated Circuits
- Advanced Microprocessor
- Introduction to Computer Technology
- Introduction to Computer Maintenance
- Composition I
- Composition II
- Fine Arts Elective
- College Algebra
- Elements of Calculus with Applications
- College Physics I
- College Physics II
- Program Elective

Students completing a four-year program receive certification; completed Dual Enrollment credits should transfer to most public colleges or universities.

HiLZ Facilities

The HiLZ facilities have a distinctive high-tech "workplace" feel with small-group learning and project areas, laboratories equipped with the latest technology, wireless laptop access, and common areas where artwork and prototypes are displayed.

- **The Commons**—the intellectual hub of the school, a centrally located meeting area for student gatherings, exhibitions, presentations, performances, and community meetings.
- **Seminars**—small rooms, studio spaces, and teachers' offices, designed to promote team teaching as well as a sense of ownership and place.
- **Studios**—multi-purpose spaces for shared use by groups from adjacent seminar rooms to support individual, small group, and large group activities.
- **Galleries**—exhibition walls and areas for display of student work, often located in or along corridors and circulation routes.
- **Specialty Labs**—labs and project rooms with access to technology and equipment for learning in specialized areas such as biotechnology, mechanical engineering, and graphic design.

Career Options Employment Outlook

Job Title	Employment Growtrh	Median Hourly Wage	Annual Salary
Engineers	21%	$44.58	$92,730
Operating Engineers & Construction Equipment Operators	22%	$15.61	$32,469
Computer Software Engineers, Systems Software	23%	$42.09	$88,795

Employment Outlook from 2008 to 2018 - Houston/Gulf Coast

Certification Credentials

A credential attests to the qualifications, competence, or authority of an individual to perform at levels of proficiency established by a third party with the relevant or de facto authority and competence to do so. It is the ultimate demonstration of the Knowledge and Skills outlined in the Programs of Study.

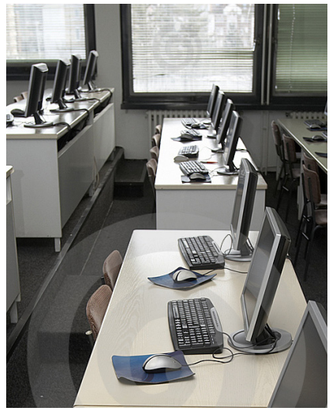
AutoCAD Certified Associate	Electronic System Associate
Autodesk Revit Architecture Certified Associate	Associate-Level Certified Electronics Technicians
Certified SolidWorks Associate	AutoCAD Civil 3D
Mastercam Certification	Autodesk 3D Max Design

At-A-Galance

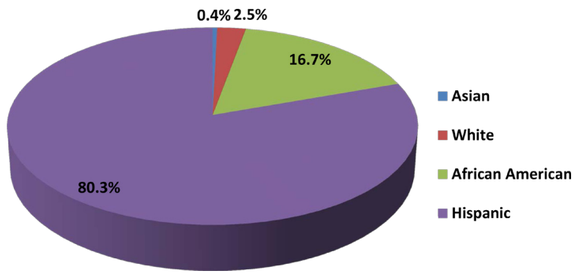
Furr High School opened in Fall 1961 and is named after Ebbert L. Furr, a long time rancher who once owned the land where the school is located and the property currently known as Songwood Homes subdivision, which is adjacent to Furr High. Forty-two years later Furr is a magnet school with the extra-curricular offerings of a traditional high school. To address student dropouts, the school submitted a proposal in 2006 to create Realizing Educational Achievement in the City of Houston (REACH) Charter. The school was designed to help dropouts between the ages of 16 and 21 return to school and graduate. REACH opened in Fall 2006, and is housed on the Furr High School Campus. Located in the northeast area of the Houston ISD, Furr shares three of its attendance zone borders with Galena Park ISD, Sheldon ISD, and North Forest ISD.

The Career & Technical Education (CTE) programs currently offered at Furr HS are:

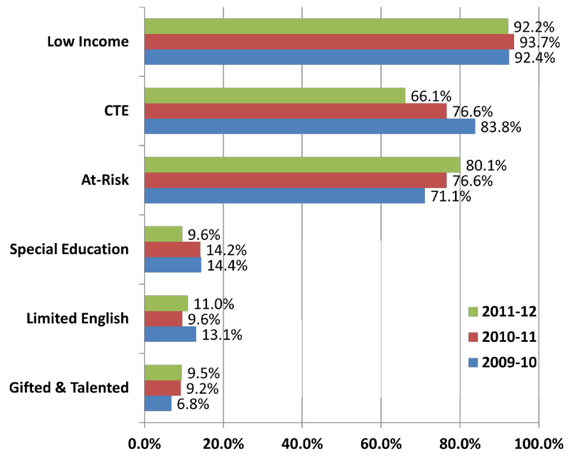
- Business Management & Administration
- STEM Career
- Human Services
- Architecture & Construction
- Health Science
- Career Preparation



Campus Demographics



Campus Statistics



CTE Weighted Funding Generated

These figures are estimated after the Career Academy programs have been in place four years. It assumes that the campus is only drawing funding for students in the CTE portion of the HiLZ schools.

Hrs per day	Instruc-tional days	# of students	Total	Contact Hrs Generated	FTE	PUA	Amount Generated by CTE
1	175	25	4375	1050	4.1667	$3,246	$13,525
1	175	25	4375	1050	4.1667	$3,246	$13,525
1	175	25	4375	1050	4.1667	$3,246	$13,525
3	175	25	13125	1050	12.5	$3,246	$40,575
						Total Amount Generated	**$81,150**

Budget

2011-12 Start Up & Year 1 Costs	
Curriculum Development	$68,750
Professional Development	$600
Materials & Supplies	$400
College Staff	$15,180
Tutoring / College Prep Staff	$10,109
Computer Equipment	$131,691
Other Costs - COMPASS testing	$5,400
Furniture	$50,000
Physical Renovations	$20,000
Technology Infrastructure	$16,480
Remediation software	$15,200
Textbooks	$14,250
Marketing/Publicity	$10,000
Contingency	$70,000
Total Start Up Costs	**$428,060**
2012-13 Year 2 Costs	
Professional Development	$600
Materials & Supplies	$400
College Staff	$47,380
Tutoring / College Prep Staff	$10,109
Textbooks	$26,250
GC Pass Grant Funds	-$13,500
Total Year 2 Costs	**$71,239**
2013-14 Year 3 Costs	
Professional Development	$600
Materials & Supplies	$400
College Staff	$86,480
Tutoring / College Prep Staff	$10,109
Textbooks	$36,750
GC Pass Grant Funds	-$13,500
Total Year 3 Costs	**$120,839**
2015-15 Year 4 Costs	
Professional Development	$600
Materials & Supplies	$400
College Staff	$88,020
Tutoring / College Prep Staff	$10,109
Textbooks	$45,375
GC Pass Grant Funds	-$13,500
Total Year 4 Costs	**$131,004**