

# BLUEPRINT



*Research Milestones in Civil & Environmental Engineering*



**UNIVERSITY** of **HOUSTON**

CULLEN COLLEGE of ENGINEERING  
Department of Civil & Environmental Engineering

# CIVIL ONLINE MASTER'S PROGRAM RANKED AMONG

## The Best In The Nation

Intelligent.com, a student-focused website, included UH's online civil engineering program in its 2019/2020 national rankings list of best public institution programs. The college's online master's program in civil engineering, offered through the Department of Civil and Environmental Engineering, ranked No. 9 and received special recognition as the "Best Blended Program."

The program prepares students to solve present and future challenges in the civil and environmental engineering field. Located in Houston, a city with one of the highest concentrations of civil and environmental engineering companies in the country, the Cullen College offers unique opportunities to enrolled students.



**NO 9**



**Best Online  
Program  
(Intelligent.com)**



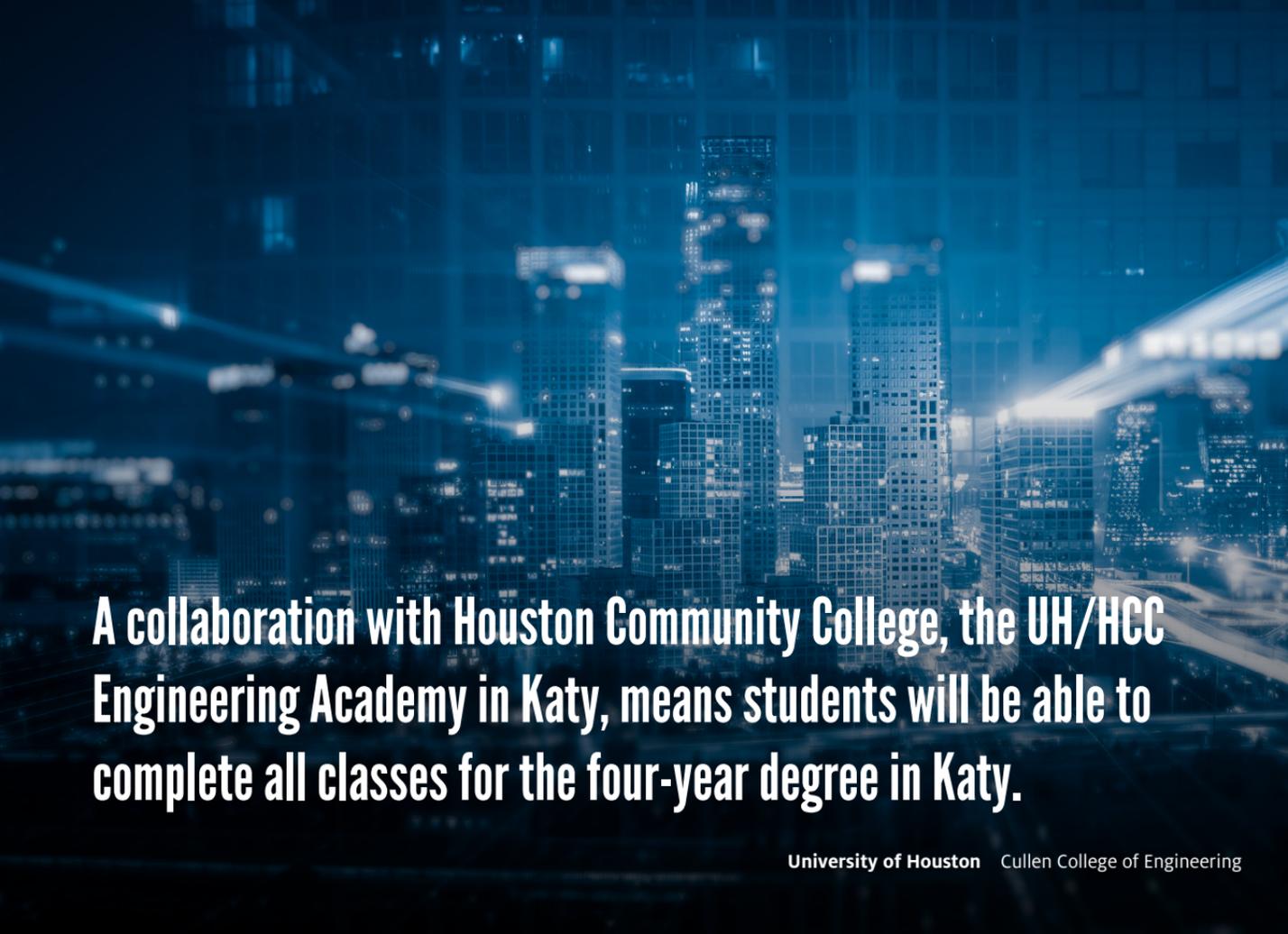
UH At Katy To Offer New

# **CONSTRUCTION ENGINEERING DEGREE FOR FALL 2020**

In a significant move to expand higher educational offerings across the Houston region, the University of Houston has received approval from the Texas Higher Education Coordinating Board to offer a new bachelor's degree in construction engineering in Katy.

A collaboration with Houston Community College, the UH/HCC Engineering Academy in Katy, means students will be able to complete all classes for the four-year degree in Katy. All engineering courses will be taught by UH faculty, while students will take lower division classes and core requirements, such as math and English, through HCC.

Enrollment for the new degree programs will begin with the freshman class in fall 2020. Enrollment is expected to grow to about 750 students when classes are fully enrolled, with about 180 graduates anticipated annually.



**A collaboration with Houston Community College, the UH/HCC Engineering Academy in Katy, means students will be able to complete all classes for the four-year degree in Katy.**

Can A New Kind Of

# POWER PLANT IMPROVE AIR QUALITY, RESILIENCE?

Researchers from UH, led by principal investigator **Hanadi Rifai**, John and Rebecca Moores Professor of environmental engineering and director of the environmental engineering graduate program, have joined a pilot project testing the use of supercritical CO<sub>2</sub>, or pressurized carbon dioxide, to produce low-cost, low-emission electric power. The project is backed by \$4 million in funding from the Texas Commission on Environmental Quality.

The project, funded by the U.S. Department of Energy and located at the Southwest Research Institute in San Antonio, will demonstrate a new technology, known as Supercritical Transformational Electric Power, which can operate so efficiently that a desk-sized turbine is able to power about 10,000 homes.



***Dr. Hanadi Rafai is leading a pilot project testing the use of supercritical CO<sub>2</sub>, or pressurized carbon dioxide, to produce low-cost, low-emission electric power.***

Understanding

# POROUS MEDIA AND FLUID DISPLACEMENT

**Devin Shaffer**, an assistant professor of civil and environmental engineering at the University of Houston, received a grant totaling \$110,000 from the American Chemical Society – Petroleum Research Fund for a project titled “Mechanism of Wettability Alteration and Its Impacts on Immiscible Fluid Displacement in Carbonate Porous Media”. The project’s proposed dates run from this September through August 2022.

The project will aim to improve understanding of the mechanism of wettability alteration in carbonate porous media and the resulting impacts on immiscible fluid displacement.

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