FOCUS ON CHEMICAL ENGINEERING

Houston Gulf Coast Region*

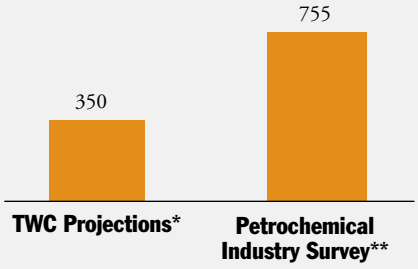
MAKING THINGS HAPPEN ...

In classrooms, on farms, in offices and on highways, the signature of chemical engineers is everywhere. Chemical engineers design, operate and maintain the chemical processing plant equipment used to manufacture fuels, chemicals, synthetic rubber, plastics, fertilizers, detergents, paper, pulp and many other goods.

And there's always a need for ***more*** chemical engineers. The Gulf Coast region has a large number of chemical and petro-chemical manufacturing plants and is facing an increasing challenge to fill upcoming vacancies, as many baby boomers retire.

A RECENT SURVEY INDICATES THAT DEMAND FOR CHEMICAL ENGINEERS HAS MORE THAN DOUBLED ORIGINAL ESTIMATES!

Total Hires Needed 2008 to 2012 – Gulf Coast Region



*Estimates produced by the Texas Workforce Commission are for the following counties: Austin, Brazoria, Chambers, Colorado, Fort Bend, Galveston, Harris, Liberty, Matagorda, Montgomery, Walker, Waller and Wharton.

**Refinery and Petrochemical Industry Survey estimates are for the following counties: Brazoria, Chambers, Galveston and Harris.

Brought to you by the Education Committee of The Gulf Coast Workforce Board.
For more information visit us on the web at www.wrksolutions.com
Latest data available. May 2011.

*Includes the following counties: Austin, Brazoria, Chambers, Colorado, Fort Bend, Galveston, Harris, Liberty, Matagorda, Montgomery, Walker, Waller, and Wharton.

Workforce Solutions

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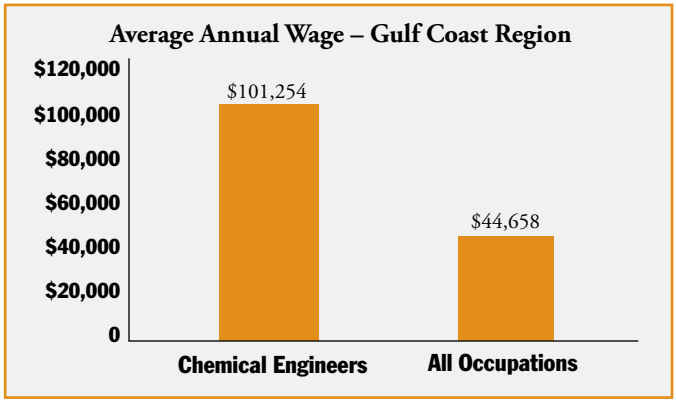
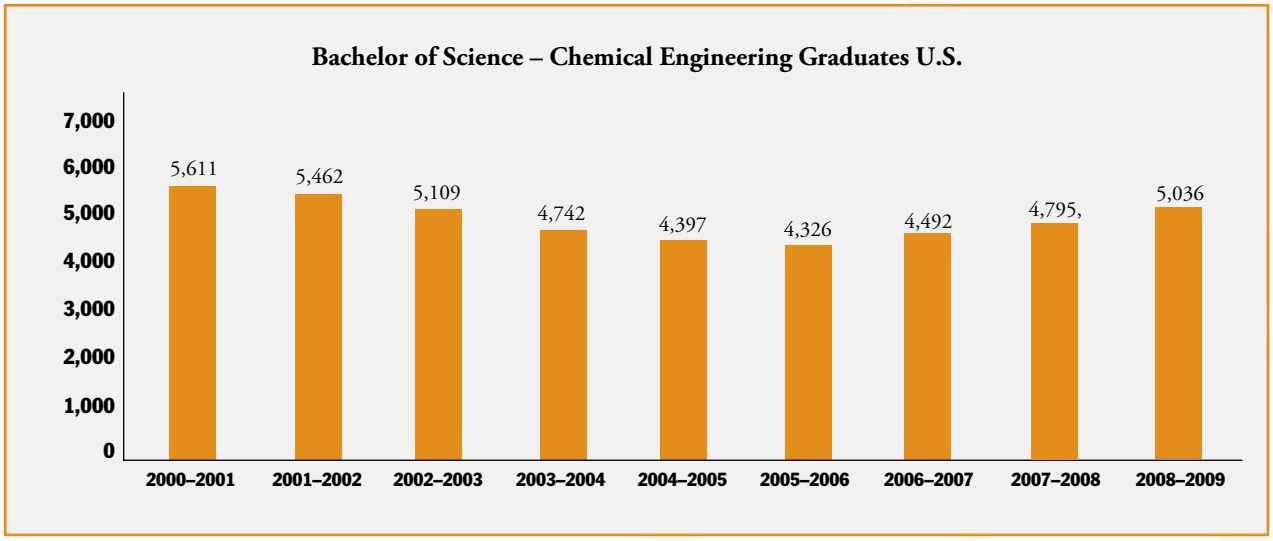
THE PAY IS GOOD AND THE WORK IS PLENTY

Chemical engineers earn more than twice the region's average annual wage for all occupations. As baby boomers approach retirement, companies face the task of replacing them with fewer chemical engineering graduates.





Source: National Center for Educational Statistics

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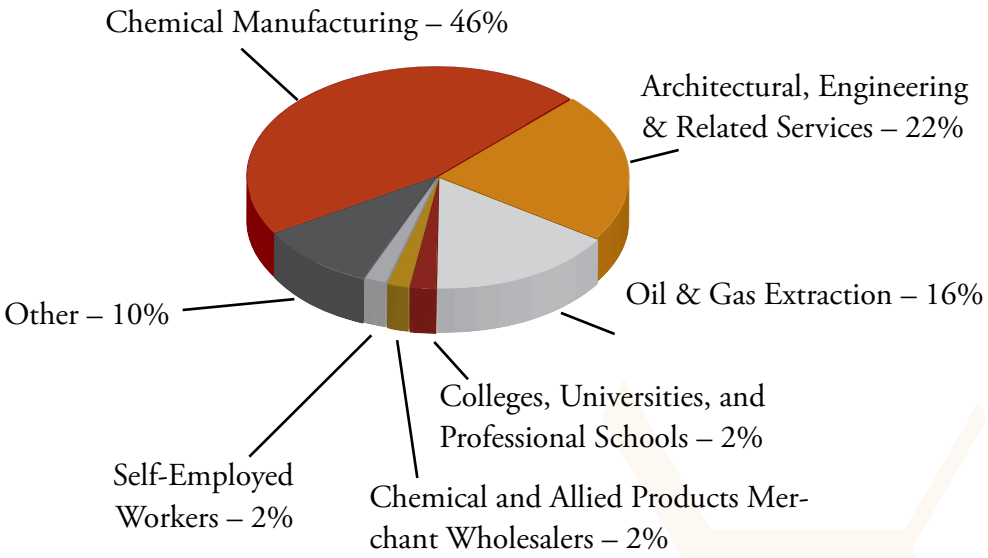
CHEMICAL ENGINEERS ARE IN DEMAND ACROSS A NUMBER OF INDUSTRIES

Where the Jobs Will Be in 2018 for Chemical Engineers – Gulf Coast Region



YOUR JOURNEY STARTS HERE ...

New chemical engineering prospects are generally required to have at minimum a bachelor's degree in chemical engineering. Earning a master's degree or Ph.D. opens up additional opportunities for higher level positions.

Additionally, employers look for internship experience, volunteer experience and teamwork skills. Students should strive for the highest GPA possible to provide them with the edge needed for acceptance into a chemical engineering program. High school preparation should encompass chemistry, physics, mathematics and science.

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PREPARING FOR A CHEMICAL ENGINEERING CAREER*

9th Grade	Suggested Coursework		
	English I	World Geography	**Career-Related Electives:** Technology Systems (Modular Lab Based)
	Algebra I	Languages other than English I	
	Biology	Health/PE or Equivalent	
10th Grade	**Suggested Coursework**		
	English II	World History	**Career-Related Electives:** Engineering Principles or Engineering Graphics or Electricity/Electronics Technology
	Geometry	Languages other than English II	
	Chemistry	Technology Applications	
11th Grade	**Suggested Coursework**		
	English III	United States History	**Career-Related Electives:** Bio-related Technology Systems or Energy, Power, and Transportation Systems or Manufacturing
	Algebra II	Communication Applications	
	Physics	PE or Equivalent	
12th Grade	**Suggested Coursework**		
	English IV	Government/Economics	**Career-Related Electives:** Research Design and Development or Communication Graphics or Computer Multimedia and Animation
	Precalculus	Fine Arts	
	Engineering		

*Source: AchieveTexas.org

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GULF COAST REGION CHEMICAL ENGINEERING PROGRAMS

Universities

- Prairie View A&M University
- Rice University
- Sam Houston State University
- University of Houston

Major Employers in the Gulf Coast Region

- Air Liquide
- Air Products and Chemicals
- Akzo Nobel Polymer Chemicals
- BASF Corporation
- Bayer Corporation
- BP America
- Celanese
- Chevron Phillips Chemical Company
- ConocoPhillips
- The Dow Chemical Company
- DSM Nutritional Products, Inc.
- E.I. Du Pont de Nemours & Company
- Equistar Chemicals, L.P.
- ExxonMobil
- FMC Corporation
- Freeport LNG
- Goodyear Chemical
- Gulf Chemical
- Huntsman
- INEOS Olefins and Polymers, USA
- Kaneka Texas Corporation
- Lubrizol Corporation
- LyondellBasell Chemical Company
- Nalco Company
- Oxy Vinyls, L.P.
- PPG Industries, Inc.
- Praxair, Inc.
- Rhodia, Inc.
- Rohm & Haas
- Shell
- Shin-Etsu Silicones
- Shintech
- SI Group
- Solutia
- Solvay Chemicals, Inc.
- Sunoco Chemicals
- Texas Petrochemicals, L.P.
- Valero Refining

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