

Aligning Supply and Demand: THECB's Labor Market Information (LMI) Data Tool

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Agenda

- Background
- What is LMI data tool?
- LMI data tool goals
- Key features
- Key data elements and sources
 - Supply and demand
- Case study
- Data limitations
- Future development



Background

State Level

- Credentials of value:
 - strong career trajectories;
 - High earnings opportunities;
 - align with high-demand jobs offered by Texas employers;
 - earn enough within 10 years to pay for the cost of their education and surpass the earnings of a typical high school graduate;
- HB 8
 - Outcome-based funding for community colleges that tied to
 - credentials of value
 - The number of credentials in high-demand fields

National level

- Increasing calls for more accountability and transparency on the connection between work and degrees.
- Whether the rising cost of college education has provided a return of investment.
- U.S. Department of Education's Financial Value Transparency and Gainful Employment regulation.

Institutional level

- increasingly recognizing the importance of aligning their programs and credentials with industry needs
- How to help students prepare for their careers

What is labor market information data tool?

LMI refers to data and insights related to the job market, employment trends, and workforce needs.

Other States Initiatives

- State employment/wage data.
 - State labor departments continue to produce and distribute traditional data on the labor market.
 - NCES SOC-CIP crosswalk
 - Limited to regional and state education/workforce alignment.

Institutional Practices

- Data about job market, student outcomes, and degree programs
- Core Areas of Application:
 - Program review and development
 - Academic and strategic planning
 - Recruitment and enrollment
 - Student career advising
- Data Sources of LMI
 - Public Government Sources (State and Federal)
 - Private Vendors (Lightcast)
 - Internal Institutional Data
 - Community, Employers, and Industry Organizations

What are the goals for the THECB LMI data tool?

1. Creating an analytics platform to assist THECB make informed decisions about approving new academic programs.
2. Engaging more higher education stakeholders to the labor market information.

What are the key features of the THECB LMI data tool?



Three-level view:



Data can be drilled down to academic programs using CIP codes



Assessing how the supplies of academic programs are meeting the demands of regional and state labor markets



Users can identify the most popular location, top industry, employer, and occupation that their graduates have been employed with.

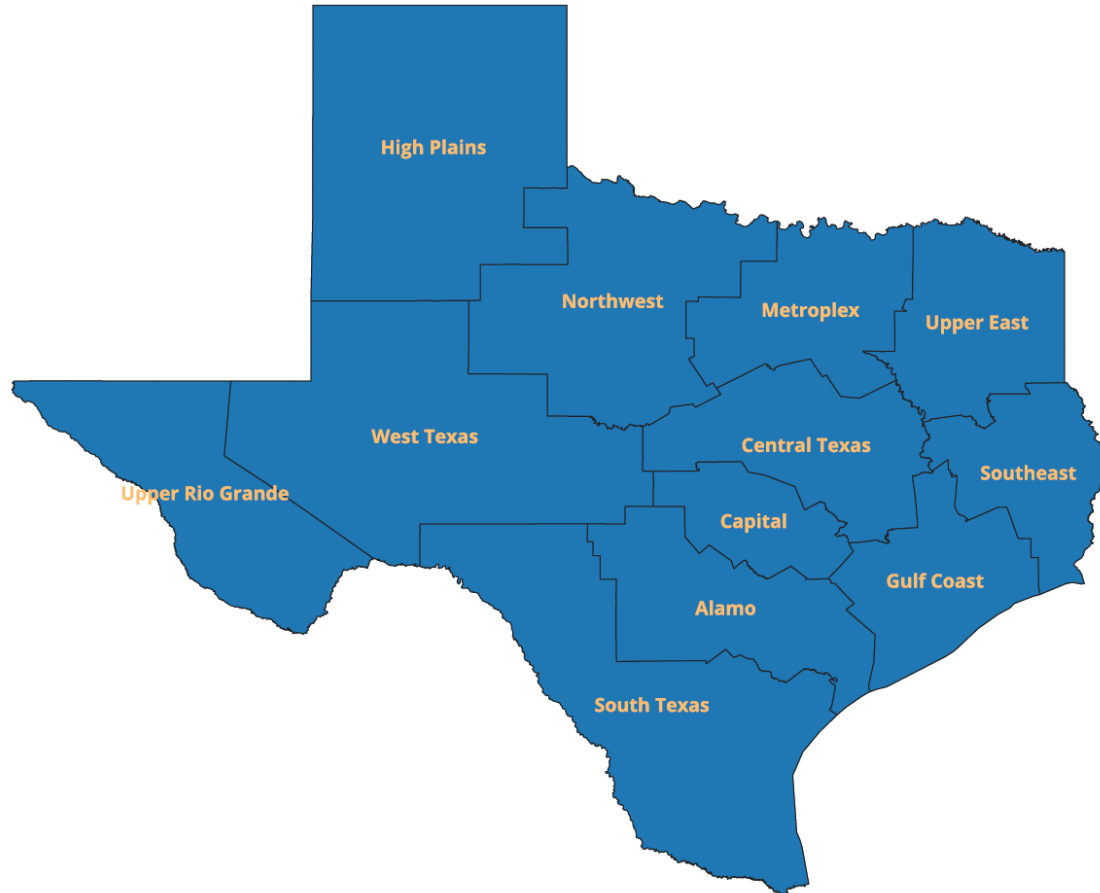


Allow multiple selection of programs in wage, supply and demand, and graduates and enrollment dashboards and provide combined data view.



Formed Network of Improvement Community to have workshops and provided user experience-based feedback on the data tool.

Texas 12 Economic Regions



The Texas Comptroller of Public Accounts has organized the 261,000 square miles and 254 counties of Texas into 12 economic regions. Each region has at least one Census Bureau-defined metropolitan statistical area (MSA), which is an area with relatively high population density and close economic integration.



Key data elements



SUPPLY AND DEMAND

Are degree programs producing graduates in proportion to their demand?

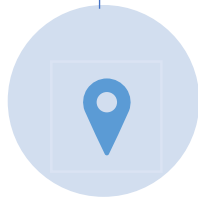
Supply: CBM009, CBM0C1/001, TWC UI data, IPEDS data.
Demand: Lightcast job posting data, Linked-In profile data of Texas workers, and TWC UI data.



EMPLOYMENT

What are the top industries, employers, and occupations employing graduates?

Lightcast LinkedIn profile data of Texas workers and TWC UI report data.



JOB DISTRIBUTION MAP

In which counties do our graduates find employment?

Lightcast LinkedIn profile data of Texas workers and TWC UI report data.



EDUCATIONAL JOB REQUIREMENT

What percent of graduates are in occupations that require their degree level or higher?

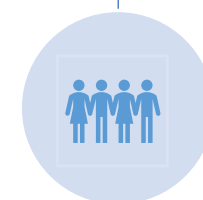
Bureau of Labor Statistics listed education requirements by occupation



WAGES

What may graduates expect to earn 1, 5, 10 years post graduation?

Texas Workforce Commission in their Unemployment Insurance (UI) Reports



GRADUATES AND ENROLLMENT

What is the supply of graduates entering the workforce?

CBM001/0C1 enrollment report, CBM009 graduation report, (2001-2022)

What are demand and supply?



Demand: Unique job postings for graduates of a degree program as a percentage of all unique job postings seeking to hire at the same degree level.



Supply: Graduates of a Texas public college degree program who fully entered the labor market and were employed (not pursuing a higher degree) as a percent of all graduates at the same degree level who fully entered the labor market and were employed.



Supply and demand ratio: share of supply of graduates per degree program as percent of all degrees at the same level divided by the share of demand of graduates per degree program as percent of all degrees at the same level.



Both measures were calculated on the institution, region and state level.

Case Study

How can we use this tool?

Case study scenario

- University X, a mid-sized public institution located in a Gulf Coast region, is considering launching a *Medical Informatics* program to meet the evolving needs of the regional labor market.

Question 1: How much do the graduates can expect to earn after graduation from the relevant programs?

- Wages
 - Bachelor's degree
 - CIP four digits level
 - Major: 11.04 Information Science/Studies
 - 51.07 Health and Medical Administrative Services
 - 51.27 Medical Illustration and Informatics
 - Region: Gulf Coast
 - Institution: University of Houston; University of Houston-Clear Lake; University of Houston-Victoria

The user will know the median wage and wages at 25th and 75th percentile for graduates in those programs on the state level and gulf coast region. The user could also look at X University or peer institutions for institutional level wage data.



Highest Degree

Bachelor's

Level of CIP

4

Major

Multiple selections

Guiding Question:
What may graduates expect to earn following graduation?

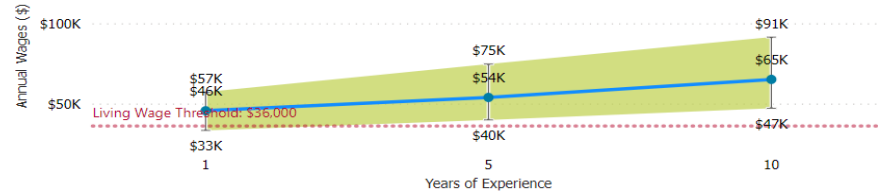
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Statewide View



Median Wages of Graduates 1, 5, 10 Years Post Graduation

Upper Band = 75th Percentile, Lower Band = 25th Percentile



Regional View

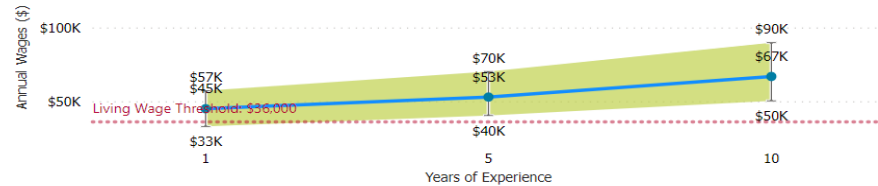
Region Descriptions

- Alamo
- Capital
- Central Texas
- Gulf Coast
- High Plains
- Metroplex
- North Texas

Number of Regions Selected
1

Median Wages of Graduates 1, 5, 10 Years Post Graduation

Upper Band = 75th Percentile, Lower Band = 25th Percentile



Institutional View

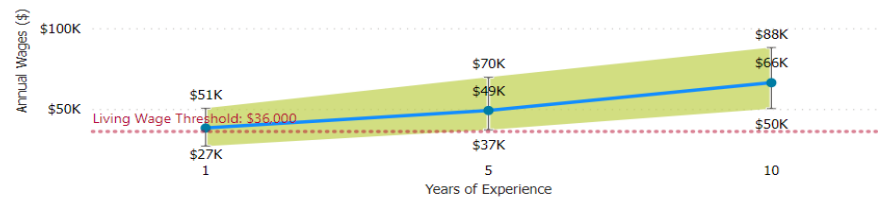
Higher Ed. Institution

- The University of Texas-Rio Grande Valley
- Tyler Junior College
- University of Houston
- University of Houston-Clear Lake
- University of Houston-Victoria
- University of North Texas

Number of Institutions Selected
3

Median Wages of Graduates 1, 5, 10 Years Post Graduation

Upper Band = 75th Percentile, Lower Band = 25th Percentile



Question 2: What are the top industries, employers and occupations that employed the graduates from the relevant programs?

- Employment

- Bachelor's degree
- CIP four digits level
- Major: 11.04 Information Science/Studies
 - 51.07 Health and Medical Administrative Services
 - 51.27 Medical Illustration and Informatics
- Region: Gulf Coast
- Institution: University of Houston; University of Houston-Clear Lake; University of Houston-Victoria (one institution at a time)

The user can find hospitals are the top industries employing graduates on the state level and in Gulf Coast region. She/she can also view data for X University or similar peer institutions.



Highest Degree

Bachelor's

Level of CIP

4

Major

Multiple selections

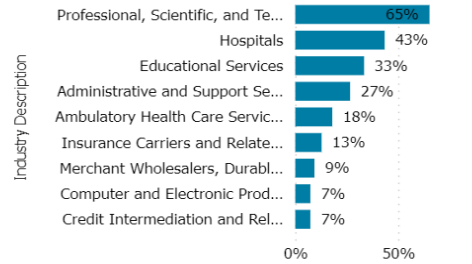
Guiding Question:
Who is hiring graduates, and in which occupations?

Note: single selection function is enabled for all the slicers in this page.

Statewide View



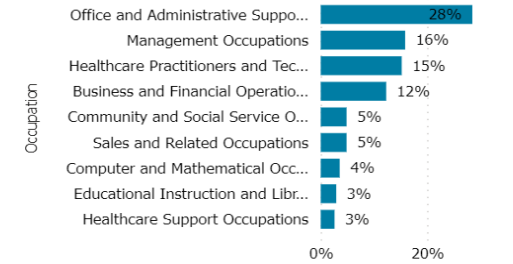
Top Industries Employing Graduates



Top Employers Employing Graduates

No Data is Availa...

Top Occupations Employing Graduates



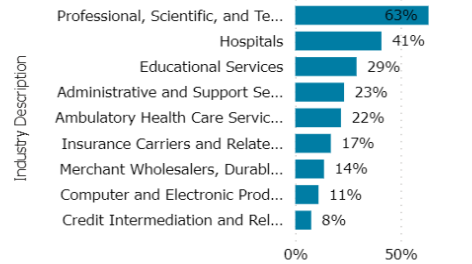
Regional View

Region Descriptions

- Alamo
- Capital
- Central Texas
- Gulf Coast
- High Plains
- Metroplex

Number of Regions Selected
1

Top Industries Employing Graduates



Top Employers Employing Graduates

No Data is Availa...

Top Occupations Employing Graduates

No Data is Availa...

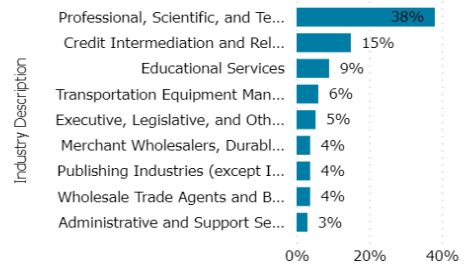
Institutional View

Higher Ed. Institution

- The University of Texas Southwestern Med...
- The University of Texas-Rio Grande Valley ...
- Trinity Valley Comm College
- Tyler Junior College
- University of Houston
- University of Houston Medical School

Number of Institutions Selected
1

Top Industries Employing Graduates



Top Employers Employing Graduates

No Data is Available

Top Occupations Employing Graduates

No Data is Available

Question 3: What is the supply-demand assessment like for the relevant programs?

- Labor Market
 - Bachelor's degree
 - CIP four digits level
 - Major: 11.04 Information Science/Studies
 - 51.07 Health and Medical Administrative Services
 - 51.27 Medical Illustration and Informatics
 - Region: Gulf Coast
 - Institutions: University of Houston; University of Houston-Clear Lake; University of Houston-Victoria
- The first graph showed that the proportion of unique job postings associated with these graduates, a proxy for demand, equaled 153%. It also showed that this share was below the average as compared to other majors. The regional view also shows oversupply and a lower-than-average demand for those programs.



Highest Degree

Bachelor's

Level of CIP

4

Major

Multiple selections

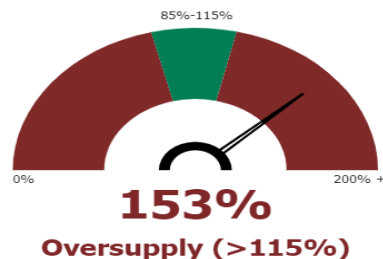
Guiding Question:
Are degree programs producing graduates in proportion to their demand?

Note: multiple selection function is enabled for all the slicers in this page.

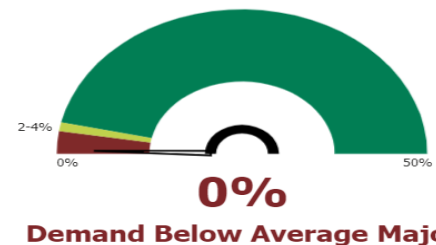
Statewide View



Supply/Demand Ratio in First Year After Graduation



Demand in First Year After Graduation



Regional View

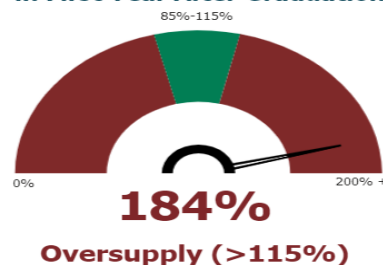
Region Descriptions

- Alamo
- Capital
- Central Texas
- Gulf Coast
- High Plains
- Metroplex
- Northwest
- South Texas

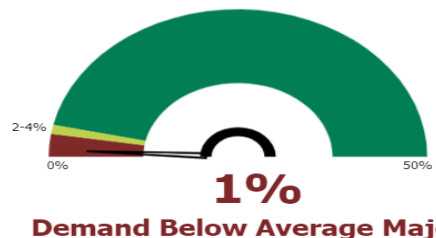
Number of Regions Selected

1

Supply/Demand Ratio in First Year After Graduation



Demand in First Year After Graduation



Institutional View

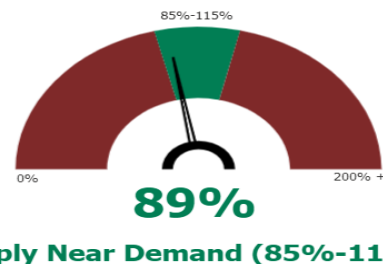
Higher Ed. Institution

- The University of Texas at Dallas
- The University of Texas of the Permian Ba...
- The University of Texas Rio Grande Valley
- The University of Texas-Rio Grande Valley ...
- University of Houston
- University of Houston-Clear Lake
- University of Houston-Victoria
- University of North Texas

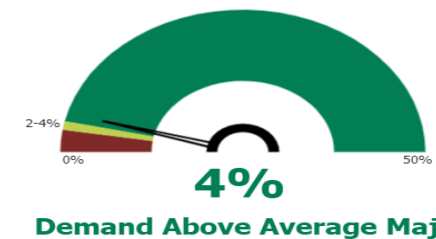
Number of Institutions Selected

3

Supply/Demand Ratio in First Year After Graduation



Demand in First Year After Graduation



Question 4: Where do graduates from X University find employment?

- Job distribution map
 - Bachelor's degree
 - Institutions in the same region
 - University of Houston

The user can find where the graduates found employment in Texas and the percentage of them sought employment out of state.

Highest Degree

Bachelor's

Higher Ed. Institution

University of Houston

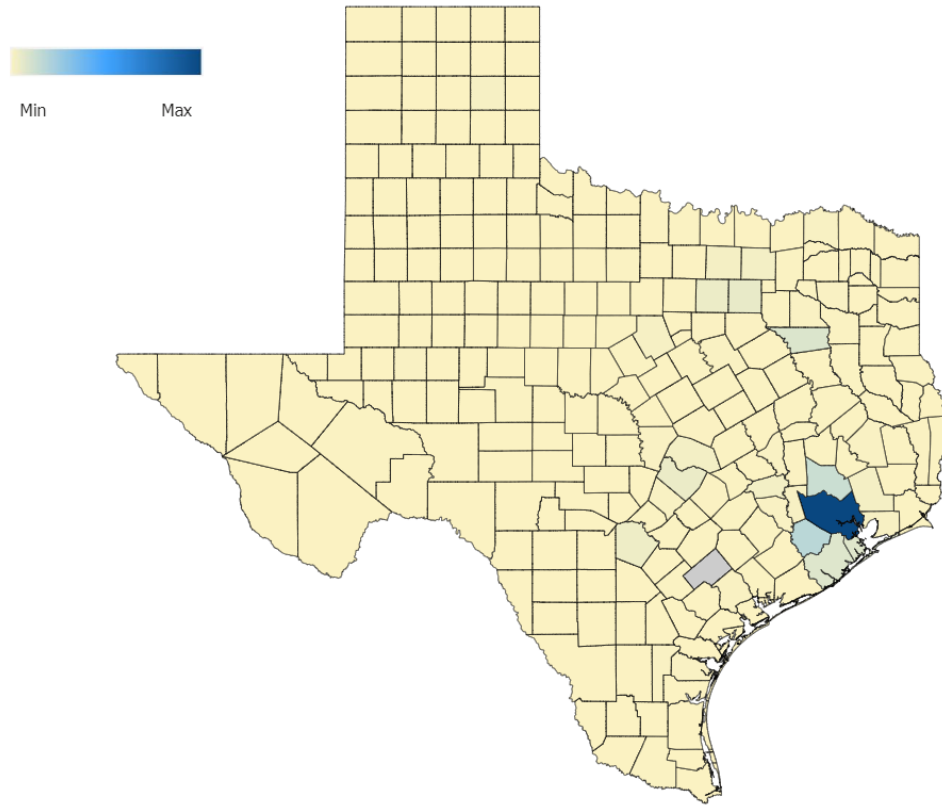
Guiding Question:
In which counties do our graduates find employment?

Note: single selection function is enabled for all the slicers in this page.

Top 20 Counties Employing Graduates by Degree Level and Institutions

County	County Weights
Harris	35.44%
Out of State	24.39%
Fort Bend	6.16%
Montgomery	4.65%
Henderson	3.03%
Brazoria	2.79%
Galveston	2.63%
Dallas	1.81%
Travis	1.56%
Tarrant	1.46%
Bexar	1.23%
Washington	0.74%
Williamson	0.74%
Collin	0.74%
Liberty	0.69%
Denton	0.63%
Gray	0.52%
Erath	0.44%
Waller	0.43%
Chambers	0.35%
Total	90.41%

Map of Texas Counties Employing Graduates by Degree Level and Institutions



Question 5: What percent of graduates are in occupations that require their degree level or higher?

- Educational Job Requirement
 - Bachelor's degree
 - CIP four digits level
 - Major: 51.07 Health and Medical Administrative Services
 - Region: Gulf Coast
 - Institutions: University of Houston; University of Houston-Clear Lake; University of Houston-Victoria

The percentage of graduates are in occupations that require the same degree level or higher.

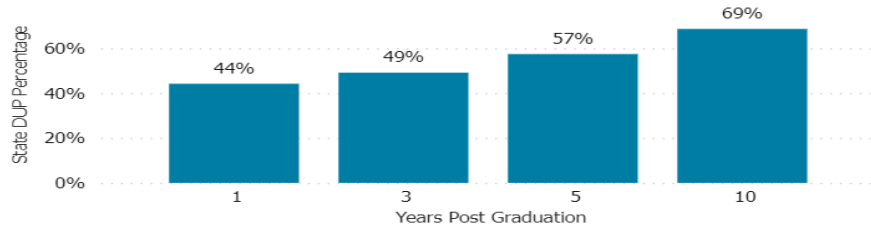
Highest Degree: Bachelor's | Level of CIP: 4 | Major: 51.07 Health And Medical Administr...

Guiding Question:
What percent of graduates are in occupations that require their degree level or higher?

Statewide View



Proportion of Graduates in Jobs Requiring Equal or Higher Education Level



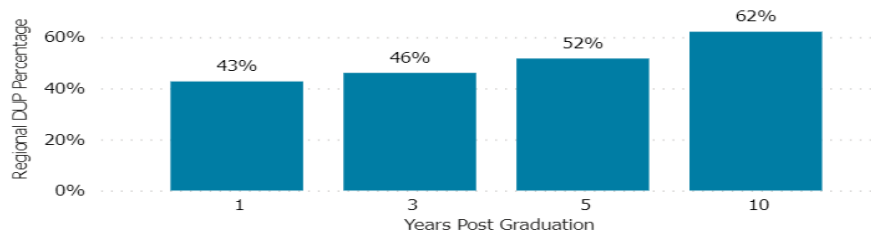
Regional View

Region Descriptions

- Alamo
- Capital
- Central Texas
- Gulf Coast
- High Plains
- Metroplex

Number of Regions Selected: 1

Proportion of Graduates in Jobs Requiring Equal or Higher Education Level



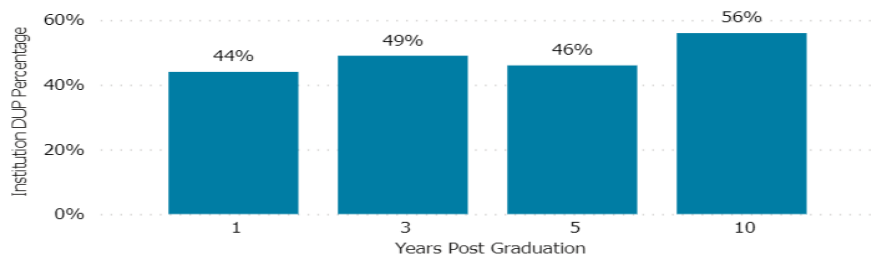
Institutional View

Higher Ed. Institution

- The University of Texas at Arlington
- The University of Texas at Dallas
- The University of Texas at El Paso
- University of Houston
- University of Houston-Clear Lake
- University of Houston-Victoria

Number of Institutions Selected: 1

Proportion of Graduates in Jobs Requiring Equal or Higher Education Level



Question 6: How many students enrolled or graduated from the relevant programs?

- Graduates and enrollment
 - Bachelor's degree
 - CIP four digits level
 - Major: 11.04 Information Science/Studies
 - 51.07 Health and Medical Administrative Services
 - 51.27 Medical Illustration and Informatics
 - Region: Gulf Coast
 - Institutions: University of Houston; University of Houston-Clear Lake; University of Houston-Victoria

The number of students enrolled or graduated from the relevant programs.

Graduates and Enrollment Dashboard

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Refresh Date/Time

- Introduction
- Wages
- Employment
- Labor Market
- Job Distribution Map
- Educational Job Requirement
- Graduates and Enrollment**
- Comparison
- Methodology

Highest Degree
Level of CIP
Major

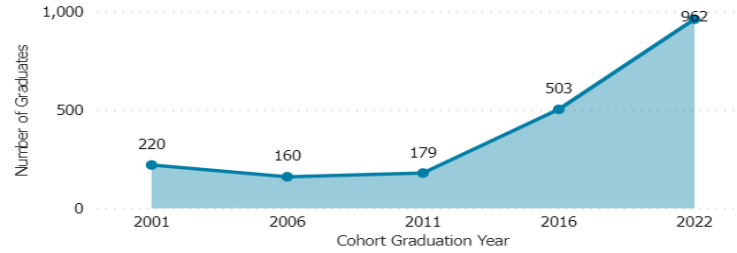
Guiding Question:
What is the supply of graduates entering the workforce?

Note: multiple selection function is enabled for all the slicers in this page.

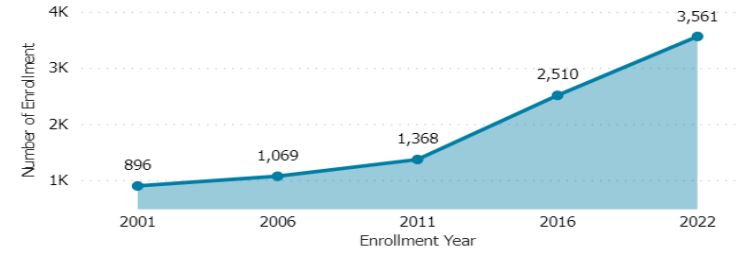
Statewide View



Graduates by Year (2001-2022)



Enrollment Count by Year (2001-2022)



Regional View

Region Descriptions

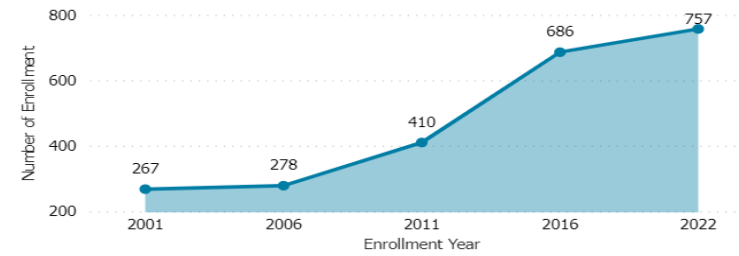
- Alamo
- Capital
- Central Texas
- Gulf Coast
- High Plains
- Metroplex

Number of Regions Selected
1

Graduates by Year (2001-2022)



Enrollment Count by Year (2001-2022)



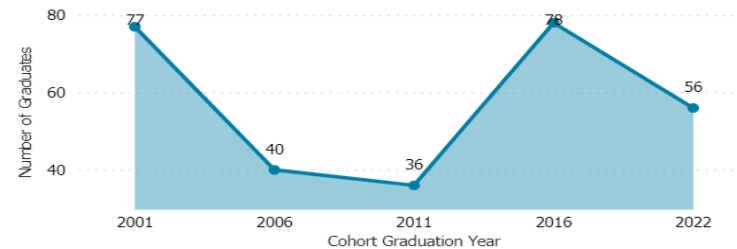
Institutional View

Higher Ed. Institution

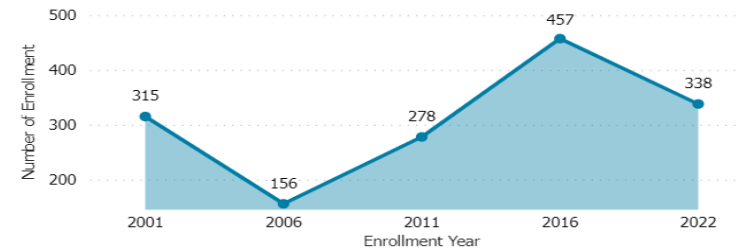
- University of Houston-Victoria
- University of North Texas
- University of North Texas at Dallas
- University of North Texas Health Science C...
- Vernon College
- Victoria College

Number of Institutions Selected
4

Graduates by Year (2001-2022)



Enrollment Count by Year (2001-2022)



Question 7: How do programs in peer institutions compare to one another?

- Comparison view
 - Bachelor's degree
 - CIP four digits level
 - Major: 51.07 Health and Medical Administrative Services
 - Institutions: University of Houston, University of Houston – Downtown, University of Houston-Clear Lake, University of Houston – Victoria

The user can have a comprehensive view on the key employment outcomes for the institutions serve the same region.

Comparison Dashboard

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Introduction	Wages	Employment	Labor Market	Job Distribution Map	Educational Job Requirement	Graduates and Enrollment	Comparison	Methodology
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Highest Degree
Higher Ed. Institution
Level of CIP
Major

Guiding Question:
How do different programs compare with one another?

Note: multiple selection function is enabled for all the slicers in this page.



Table of Comparison

Highest Degree Earned	School Name (FICE unique)	Programs	Supply and Demand Ratio	Demand Share	Top Industry that Employed Graduates	Top Employer Employed Graduates	Top Occupation that Employed Graduates	Proportion of Graduates in Jobs Requiring Equal or Higher Education Level	Median Wage One Year after Graduation	Number of Graduates in the Latest Cohort	Max Enrollment
Bachelor's	University of Houston-Clear Lake	51.07 Health And Medical Administrative Services.	Undersupply (<85%)	4.40%	Hospitals			38%	\$36,152	48	268
Bachelor's	University of Houston-Victoria	11.04 Information Science/Studies.	Oversupply (>115%)	0.00%	Professional, Scientific, and Technical Services			38%	\$40,246	8	125
Bachelor's	University of Houston	11.04 Information Science/Studies.	Oversupply (>115%)	0.00%	Professional, Scientific, and Technical Services			38%	\$47,403	Less than 5	96
Bachelor's	University of Houston	51.07 Health And Medical Administrative Services.	Data is not available					38%		Less than 5	less than 5
Bachelor's	University of Houston-Clear Lake	11.04 Information Science/Studies.	Data is not available					38%	\$33,379	28	151
Bachelor's	University of Houston-Victoria	51.07 Health And Medical Administrative Services.	Data is not available					38%		Less than 5	less than 5

Limitations

Data availability:

- When market data at the certificate level is missing, we relied on a combination of associate and certificate data.
- AAs, certificates, and community college outcomes are reported only at the 2-digit level, while other degree outcomes are (usually) presented at 2- and 4-digit levels.
- Top employers hiring graduates by percentages are only available on 2-digit CIP level data.

Data computation:

- To fix zero denominator problem for calculating supply/demand ratio, zero demand was replaced by the minimum non-missing demand number. Similarly, zero supply count was replaced by the minimum non-missing supply count.

Future development

- Addressing the data availability issue for 2-years institutions.
- Locating more reliable data resources for Texas labor market data.
- Collecting constructive feedback from various sources.
- Revisit and make additional update on this tool in summer 2024

Feedback is appreciated!

- User experience matters and we want to make continuous improvement on this tool



Contact

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- Data Management and Research
- Texas Higher Education Coordinating Board



Texas Higher Education

COORDINATING BOARD

