



## Measuring Education Credentials Of Middle-Skill Jobs Gulf Coast Region

---

Workforce Solutions is an equal opportunity employer/program.

Auxiliary aids and services are available upon request to individuals with disabilities.

Please contact us at least 48 hours in advance to request accommodations 713.627.3200

Deaf, hard-of-hearing or speech-impaired customers may contact Relay Texas: 1-800-735-2989 (TTY) or 711 (Voice).

Equal opportunity is the law.

## Background

The ability to fill the workforce needs of local employers in the Gulf Coast Region has always been a high priority. Workforce demands are constantly undergoing transformations and occupations are increasingly using sophisticated technology driving the necessity for a better educated and skilled workforce. Over the last several years there has been an increasing number of studies on the demand and importance of middle-skilled jobs. The rising numbers of individuals approaching retirement age has only heightened awareness of the region's need to meet workforce demands both now and in the future.

Studies on middle-skill credentials have generally been limited largely due to a lack of ability to track the numerous sources of information, in particular when it comes to privately issued certifications. In recognition of this, the state is attempting to improve data collection and reporting of postsecondary credentials and licenses. This report provides a review of occupations by skill level followed by some insight on tracking postsecondary credentials.

## Middle-Skill Jobs

Most studies generally define middle-skill jobs as those requiring some education and training beyond a high school diploma but less than a four-year baccalaureate degree. This postsecondary learning may include college coursework, two-year associate's degrees, certificates, on-the-job training, or apprenticeships. The Bureau of Labor Statistic's typical education, experience, and training requirements by occupation were used to estimate workforce demands in the Gulf Coast Region by skill level. We divided occupations into three categories—low-skill, middle-skill, and high-skill—and examined their respective changes in shares of total employment and shares of projected job openings for three periods: 2000 to 2010, 2010 to 2020, and 2014 to 2024.

- Low-skill occupations – those with requirements up to and including a high school diploma and short-term on-the-job training
- Middle-skill occupations – those with requirements of an associate's degree or high school diploma and one of the following
  - Moderate-term on-the-job training
  - Long-term on-the-job training
  - Apprenticeship
  - One year or more experience in a related occupation
  - Some college, no degree
  - Postsecondary non-degree award
- High-skill occupations – those with requirements of a bachelor's degree or higher

## The Future and Occupations by Skill Level

As of **2014**, there were roughly **1,080,000 middle-skill jobs** in the Gulf Coast Region with employers needing to fill some **44,000** openings annually to meet growth and replacement demand.

- By **2024**, **58.8** percent of all jobs will require some kind of postsecondary education and training.
- By **2024** the number of **middle-skill jobs** in the Gulf Coast Region is projected to rise to **1,293,730** representing a **19.8% growth rate** over ten years.
- Through **2024**, approximately **54.4** percent of all job openings, due to growth and replacement, will require education or training beyond high school of which **56.8** percent will be middle-skill jobs.
  - Low-skills jobs will represent 45.7 percent of job openings, 65,135 annual openings
  - Middle-skills jobs will represent 30.9 percent of job openings, 44,040 annual openings
  - High-skills jobs will represent 23.5 percent of job openings, 33,480 annual openings
- By **2024**, approximately **58.8** percent of all jobs in the Gulf Coast Region will require education or training beyond high school of which **58.3** percent will be middle-skill jobs.
  - Low-skills jobs will represent 41.1 percent of all jobs or 1,550,000
  - Middle-skills jobs will represent 34.3 percent of all jobs or 1,293,730
  - High-skills jobs will represent 24.5 percent of all jobs or 925,070
- Middle-skill jobs paid an average **82.4** percent higher than low skill jobs in **2015**.
  - Hourly mean wage for low-skill jobs was \$13.04
  - Hourly mean wage for middle-skill jobs was \$23.79
  - Hourly mean wage for high-skill jobs was \$47.66

**Gulf Coast Region  
Occupations by Skill Level**

Category	2000 to 2010 Projections				Percent of 2000 Employment	Percent of 2010 Employment	Percent of 10 Year Growth	Annual Openings			Percent of Annual Openings
	2000	2010	Number Growth	Percent Growth				Growth	Repl.	Total	
Low Skill Occupations	1,034,240	1,216,650	182,410	17.6%	40.9%	40.5%	38.4%	18,920	29,935	48,855	45.1%
Middle Skill Occupations	905,290	1,060,610	155,320	17.2%	35.8%	35.3%	32.7%	15,700	18,510	34,210	31.6%
High Skill Occupations	592,080	729,830	137,750	23.3%	23.4%	24.3%	29.0%	13,935	11,260	25,195	23.3%
<b>Total</b>	<b>2,531,610</b>	<b>3,007,090</b>	<b>475,480</b>	<b>18.8%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>48,555</b>	<b>59,705</b>	<b>108,260</b>	<b>100.0%</b>

Category	2010 to 2020 Projections				Percent of 2010 Employment	Percent of 2020 Employment	Percent of 10 Year Growth	Annual Openings			Percent of Annual Openings
	2010	2020	Number Growth	Percent Growth				Growth	Repl.	Total	
Low Skill Occupations	1,183,110	1,446,610	263,500	22.3%	41.7%	41.5%	40.9%	26,635	31,125	57,760	44.1%
Middle Skill Occupations	1,065,780	1,285,660	219,880	20.6%	37.5%	36.9%	34.1%	22,070	22,360	44,430	33.9%
High Skill Occupations	589,590	750,610	161,020	27.3%	20.8%	21.6%	25.0%	16,080	12,745	28,825	22.0%
<b>Total</b>	<b>2,838,480</b>	<b>3,482,880</b>	<b>644,400</b>	<b>22.7%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>64,785</b>	<b>66,230</b>	<b>131,015</b>	<b>100.0%</b>

Category	2014 to 2024 Projections				Percent of 2014 Employment	Percent of 2024 Employment	Percent of 10 Year Growth	Annual Openings			Percent of Annual Openings
	2014	2024	Number Growth	Percent Growth				Growth	Repl.	Total	
Low Skill Occupations	1,244,400	1,550,000	305,600	24.6%	40.4%	41.1%	44.3%	31,020	34,115	65,135	45.7%
Middle Skill Occupations	1,080,280	1,293,730	213,450	19.8%	35.1%	34.3%	30.9%	21,850	22,190	44,040	30.9%
High Skill Occupations	753,860	925,070	171,210	22.7%	24.5%	24.5%	24.8%	17,080	16,400	33,480	23.5%
<b>Total</b>	<b>3,078,540</b>	<b>3,768,800</b>	<b>690,260</b>	<b>22.4%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>69,950</b>	<b>72,705</b>	<b>142,655</b>	<b>100.0%</b>

Category	2002 OES Wages			2011 OES Wages			2002 to 2011	2015 OES Wages			2002 to 2015
	Mean Wage	Entry Wage	Experienced Wage	Mean Wage	Entry Wage	Experienced Wage	Percent Increase in Mean	Mean Wage	Entry Wage	Experienced Wage	Percent Increase in Mean
Low Skill Occupations	\$ 9.97	NA	NA	\$ 12.42	\$ 9.10	\$ 14.08	24.6%	\$ 13.04	\$ 9.32	\$ 14.90	30.8%
Middle Skill Occupations	\$ 17.25	NA	NA	\$ 23.03	\$ 14.84	\$ 27.13	33.5%	\$ 23.79	\$ 14.72	\$ 28.32	37.9%
High Skill Occupations	\$ 30.64	NA	NA	\$ 45.66	\$ 26.24	\$ 55.37	49.0%	\$ 47.66	\$ 27.59	\$ 57.69	55.5%

Note: Source TWC LMCI Dept. Some wage data not available.

Data source Texas Workforce Commission LMCI Dept.

The Gulf Coast Region includes the following 13 Texas counties: Austin, Brazoria, Chambers, Colorado, Fort Bend, Galveston, Harris, Liberty, Matagorda, Montgomery, Walker, Waller and Wharton.

## Measuring Workforce Credentials - Middle-Skill Occupations

### Data Sources and Limitations

#### National Center for Education Statistics (NCES)

The NCES operates several databases that gather and report on educational statistics. One report that we currently use to track **certificate and award completions** is the Integrated Postsecondary Education Data System (IPEDS), which gathers data from every postsecondary educational, technical, and vocational institution in the nation that participates in any federal student aid program. This data set is the most inclusive available however, since it does not track privately issued credentials **aggregates derived represent a very conservative estimate of middle skill credentials issued in the Gulf Coast Region during any given time-frame.**

#### Texas Higher Education Coordinating Board (THECB)

The THECB also tracks **certificate and award completions**. The data is the same as provided by IPEDS and can be found at their website as part of the Perkins Core Indicator Data set. The limitations to data from THECB are:

- **Lacks the ability to make a distinction between each type of credential earned**
- **Does not** provide data from the many private educational, technical, and vocational institutions that is available when using IPEDS
- Only available in pdf format

The THECB also provides **licensure testing results** for approved technical associate degree and certificate programs leading to professions requiring licensure or certification at community and technical colleges across the state. Data is available from 2008 to 2014. Limitations are:

- Many state agencies do not track licensure examination results by college
- Does not provide results for four-year universities
- Licenses obtained outside of community colleges are not tracked

Texas Education Agency (TEA)

The Texas Education Agency collects data on **certifications awarded to senior high school students**. Data collection on certifications awarded to high school students is at an early stage. Growth in the number awarded have increased exponentially in recent years as districts have focused more on making these opportunities available due to federal Perkins accountability on technical skill attainment.

## Degrees, Certifications, and Award Completions – Results

According to available data from the National Center for Educational Statistics, during the **2013 to 2014** academic year, there were **31,925 middle-skill degrees and certifications** awarded in the Gulf Coast Region. While the number of **middle-skill degrees and certifications** awarded during the **2013 to 2014** academic year was slightly lower than a peak of **32,334** during the **2010 to 2011** academic year, it represented a **26.6** percent increase from **25,216** awarded during the **2008 to 2009** academic year.

- The number of **associate degrees** experienced the largest and fastest growth from the **2008 to 2009** academic year to the **2013 to 2014** academic year, up **6,137** or **59.4 percent**.
  - The number of associate degrees awarded was also the only category to experience positive growth throughout then entire time-period reviewed but the rate of growth declined during years of economic expansion.
- The number of **certifications awarded for at least 1 but less than 2 academic years** experienced the second largest growth from the **2008 to 2009** academic year to the **2013 to 2014** academic year, up **2,539** or **41.5 percent**.
  - Most of the expansion was during the 2010 to 2011 academic year, during the tail end of the Great Recession, when the number of certifications awarded for at least 1 but less than 2 academic years experienced a 49.4 percent increase, up 3,440.
  - Over a three-year period, the number of certifications awarded for at least 1 but less than 2 academic years was negatively impacted during rapid economic growth experiencing a 16.8 percent decline, down 1,742.
- The number of **certifications awarded for less than one academic year** was negatively impacted during rapid economic growth **declining** by **1,967** from the **2008 to 2009** academic year to the **2013 to 2014** academic year, down **22.5 percent**.
  - Over a three-year period, the number of certifications awarded for less than one academic year experienced a 34.5 percent decline, down 3,516.

## Results - Key Finding

The number of certifications issued **below the level of an associate degree declines during economic expansion and rises during economic contraction** in the region depending on the availability of easy access jobs. As a result, the number of middle-skill awards and certifications awarded as a percentage of all levels of awards and certifications declines during economic expansion and rises during economic contraction.

### Gulf Coast Region

#### Total Middle-Skill Degrees/Certificates

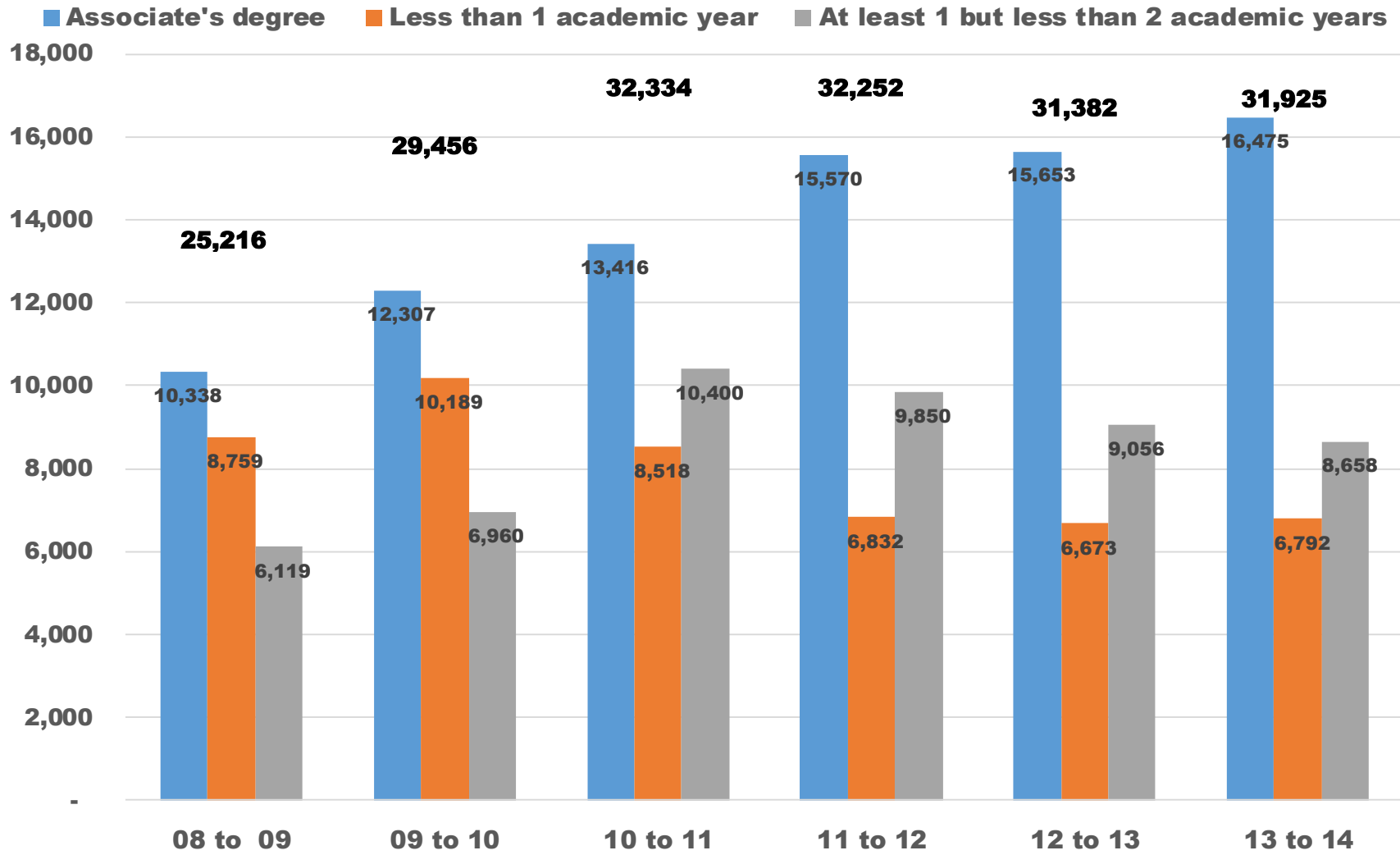
	08 to 09	09 to 10	10 to 11	11 to 12	12 to 13	13 to 14	Number Increase 08 - 09 to 13 - 14	Percent Increase 08- 09 to 13 - 14
Associate's degree	10,338	12,307	13,416	15,570	15,653	16,475	6,137	59.4%
Less than 1 academic year	8,759	10,189	8,518	6,832	6,673	6,792	(1,967)	-22.5%
At least 1 but less than 2 academic year	6,119	6,960	10,400	9,850	9,056	8,658	2,539	41.5%
Total middle-skill degrees/certificates	25,216	29,456	32,334	32,252	31,382	31,925	6,709	26.6%
Grand Total	52,357	56,299	60,427	61,249	59,898	63,348	10,991	21.0%
Percentage of Total Degrees/Certificates	48.2%	52.3%	53.5%	52.7%	52.4%	50.4%		

#### Growth (Decline) From Previous Academic Year

	09 to 10	10 to 11	11 to 12	12 to 13	13 to 14
Associate's degree	1,969	1,109	2,154	83	822
Less than 1 academic year	1,430	(1,671)	(1,686)	(159)	119
At least 1 but less than 2 academic year	841	3,440	(550)	(794)	(398)
Total middle-skill degrees/certificates	4,240	2,878	(82)	(870)	543
Grand Total	3,942	4,128	822	(1,351)	3,450

Source: NCES (IPEDS)

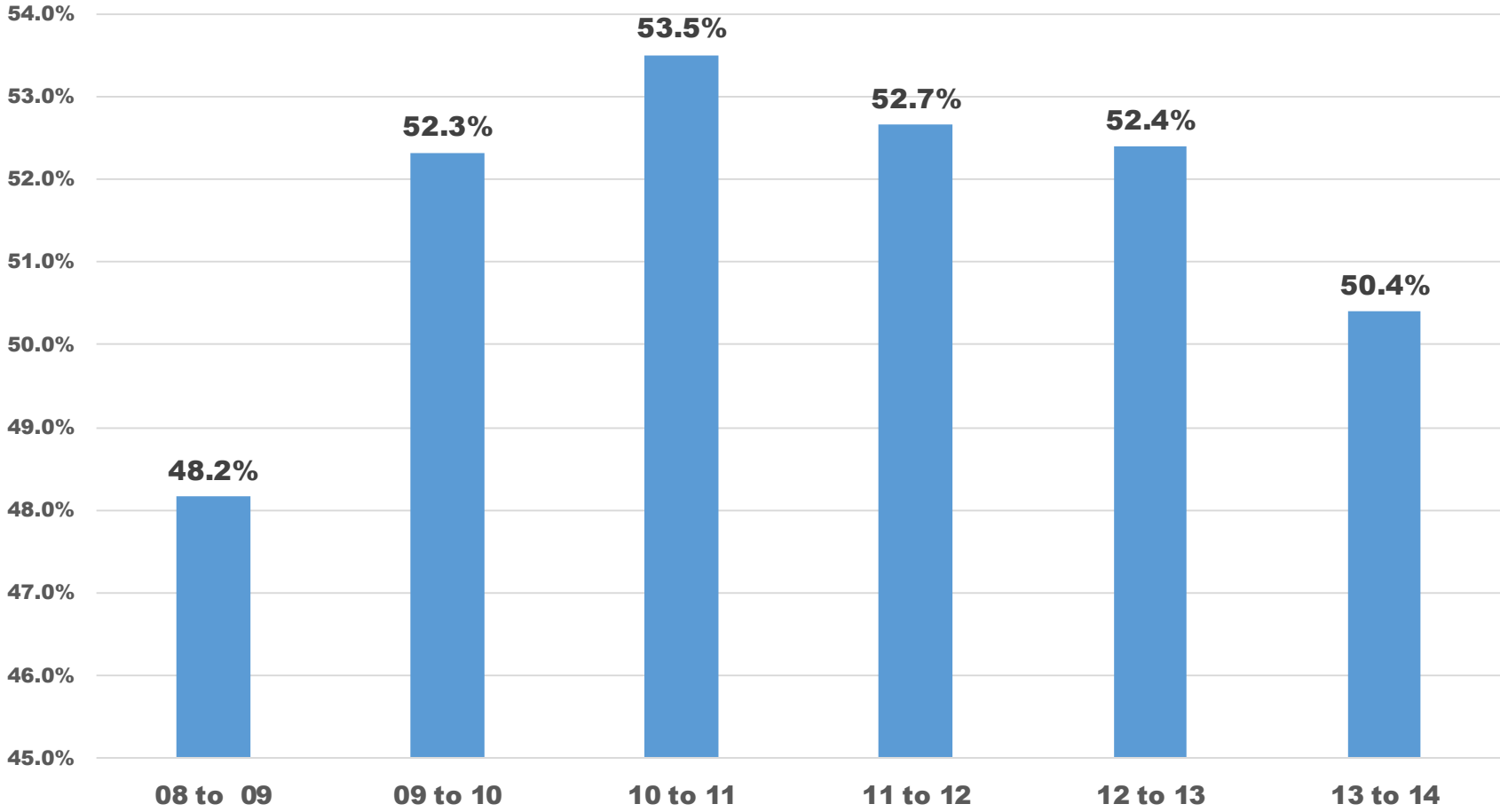
## Gulf Coast Region Middle-Skill Degrees/Certificates



Source: NCES (IPEDS)

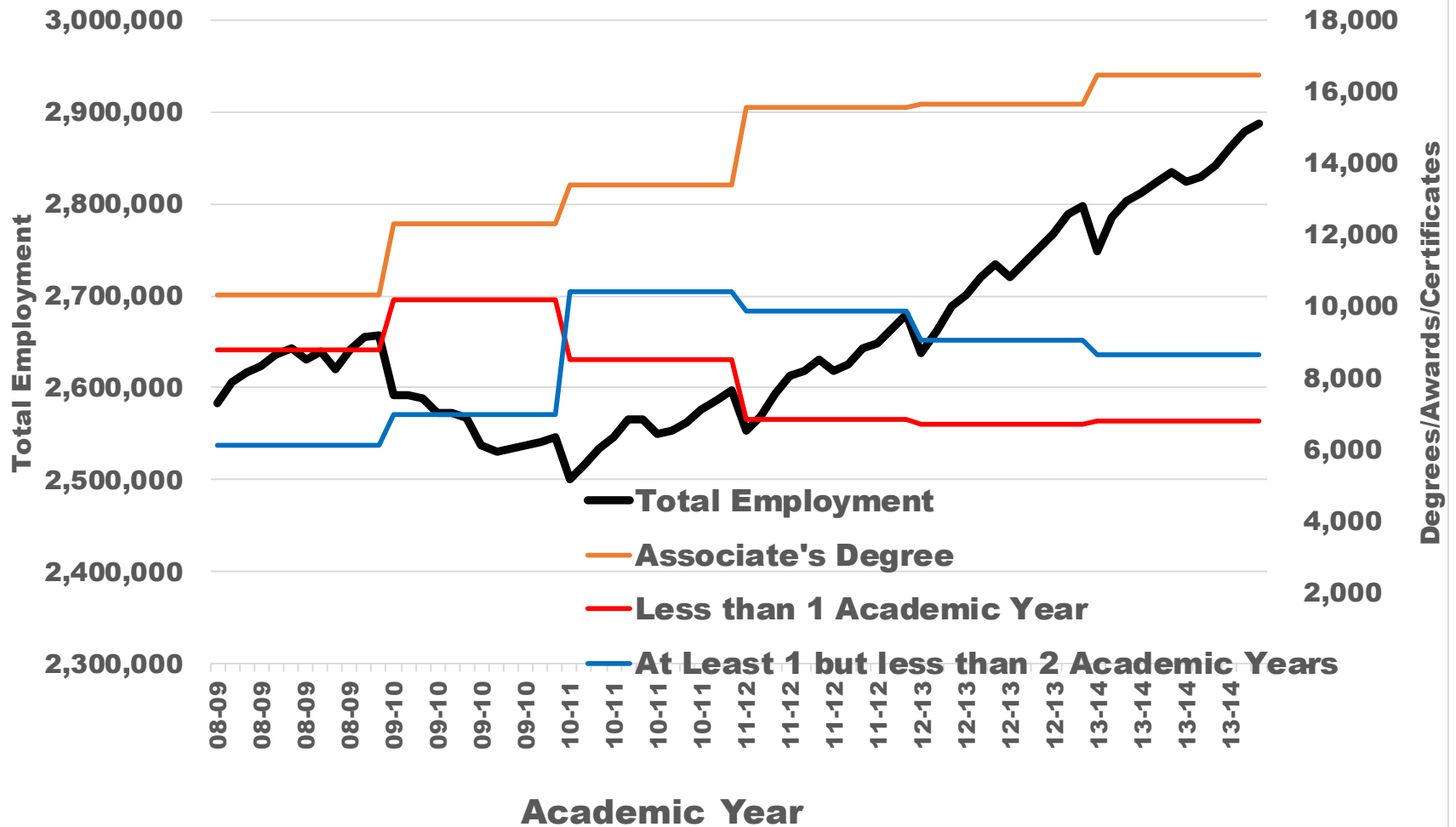


**Gulf Coast Region  
Middle-Skill Degrees/Certificates  
Percentage of Total Degrees/Certificates  
By Academic Year**



**Source: NCES (IPEDS)**

### Gulf Coast Region Degrees/Awards/Certifications by Academic School Year



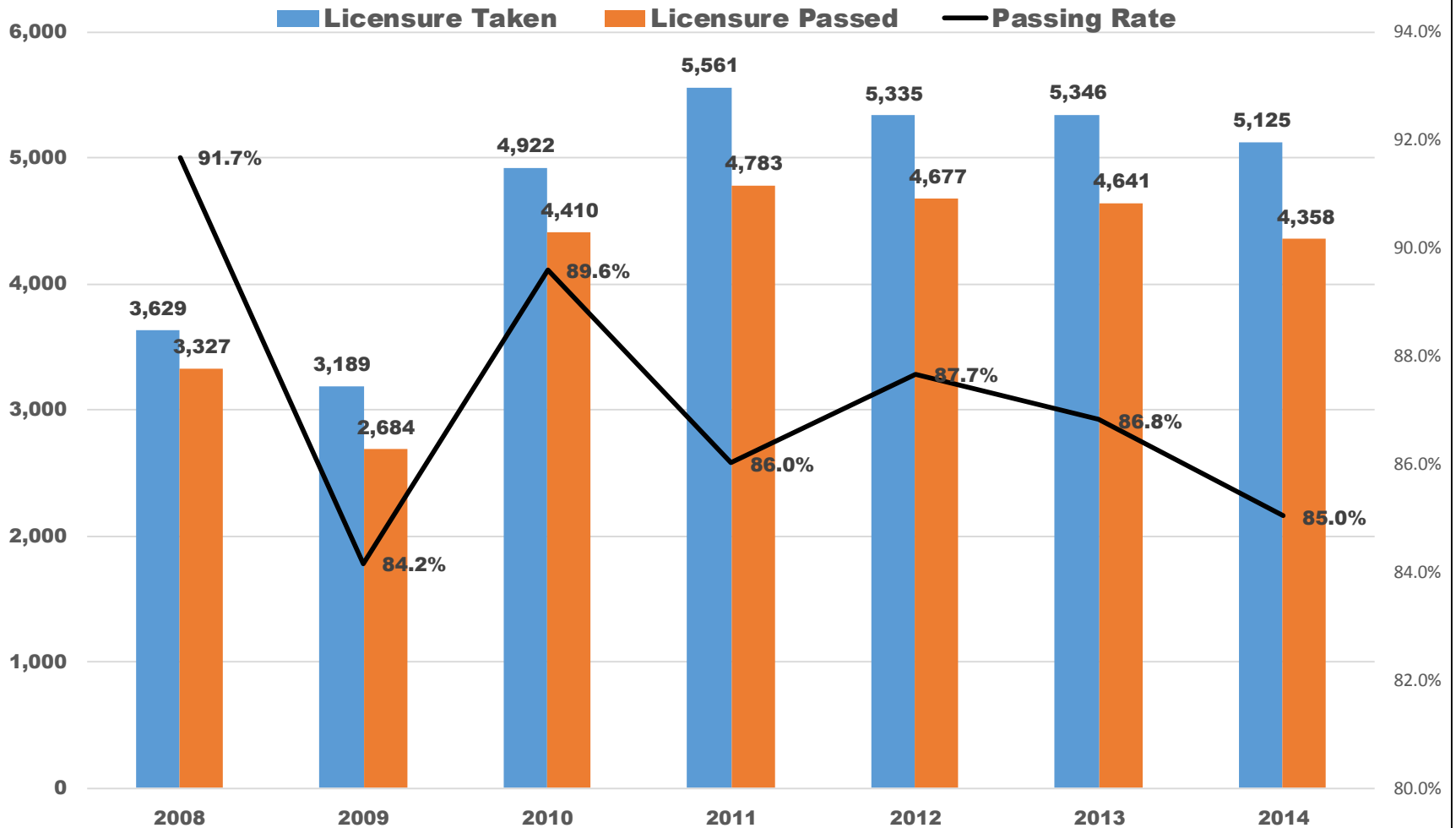
Source: Texas Workforce Commission LMCI and NCES (IPEDS)

## Licensure Testing Results

Data from the Texas Higher Education Coordinating Board was extracted for each year from 2008 to 2014. Validity of the data has been difficult to confirm. The data provided primarily represents licensures taken and passed at community colleges, not all institutions or licensing agencies participate in the report. Additional notes on the data:

- The total number of licensures passed peaked in 2012 as the Gulf Coast Region entered a period of rapid expansion. The total number of licensures passed fell 6.8 percent by 2014.
- Passing rates were at their highest during the first sampling year at 91.7 percent and have since declined an average 1.12 percent each year to 85.0 percent in 2014.
- Fifteen of the top twenty licensures were in the health care field.
- Numerous community colleges provided limited or in some cases no data for 2008 and 2009 affecting numerous categories. Strong declines were found across most licensure categories as a result for 2009, particularly in the area of registered nursing, licensed practical nursing, and pharmacy technicians.
  - While data from 2010 forward appears to be fairly consistent, the ability to analyze or identify definitive trends is not possible across licensure categories.
- Results from several categories represent a very small portion of the actual numbers licensed each year, for example:
  - Medical assistants
  - Dental hygienists
  - Dental assistants
  - Phlebotomy technician

## Annual Licensure Reporting Results Community Colleges in Gulf Coast Region



\*Data was limited and in some cases missing for 2008 and 2009.

**Source: Texas Higher Education Coordinating Board**

## Gulf Coast Region

### 2014 Top 20 Annual Licensures at Community Colleges

Major	2008*	2009*	2010	2011	2012	2013	2014
Registered Nursing/Registered Nurse	816	557	999	1,027	1,115	1,075	882
Emergency Medical Technology/Technician (EMT Paramedic)	259	396	751	864	866	702	858
Licensed Practical/Vocational Nurse Training	489	198	309	426	385	428	415
Cosmetology/Cosmetologist, General	470	411	379	478	426	430	372
Fire Science/Firefighting	202	224	389	337	310	317	246
Criminal Justice/Police Science	270	208	476	488	287	344	237
Radiologic Technology/Science - Radiographer	127	143	158	126	143	164	174
Pharmacy Technician/Assistant	102	36	83	192	196	195	133
Respiratory Care Therapy/Therapist	97	37	72	82	90	96	129
Physical Therapist Technician/Assistant	80	34	67	84	90	87	98
Surgical Technology/Technologist	38	44	60	61	80	64	76
Medical/Clinical Assistant	25	13	23	18	36	42	71
Graphic Communications, General	na	na	na	na	na	na	56
Occupational Therapist Assistant	41	11	53	48	47	48	53
Dental Hygiene/Hygienist	33	20	35	35	42	62	49
Dental Assisting/Assistant	11	12	14	21	16	25	48
Medical Radiologic Technology/Science - Radiation Therapist	40		36	48	50	51	46
Diagnostic Medical Sonography/Sonographer and Ultrasound Technician	23	24	35	41	64	64	46
Facial Treatment Specialist/Facialist	26	4	28	80	41	49	39
Phlebotomy Technician/Phlebotomist	na	na	na	na	na	na	38
<b>Total ALL Licensures</b>	<b>3,327</b>	<b>2,684</b>	<b>4,410</b>	<b>4,783</b>	<b>4,677</b>	<b>4,641</b>	<b>4,358</b>

\*Data was limited and in some cases missing for 2008 and 2009.

**Source: Texas Higher Education Coordinating Board**