

Labor Market Analysis for Program Recommendation: 1225.00/Radiologic Technology (*Imaging Assistant*)

Orange County Center of Excellence, November 2022



Summary

Program LMI Endorsement	Endorsed: All LMI Criteria Met <input checked="" type="checkbox"/>	Endorsed: Some LMI Criteria Met <input type="checkbox"/>	Not LMI Endorsed <input type="checkbox"/>
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Program LMI Endorsement Criteria

	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Supply Gap:	<i>Comments:</i> there is projected to be 587 annual job openings throughout Los Angeles and Orange counties for <i>radiologic technologists and technicians</i> , which is more than the 457 awards conferred by educational institutions .	
	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Living Wage: (Entry-Level, 25 th)	<i>Comments:</i> Entry-level wages for radiologic technologists and technicians are \$29.60, which is above the OC living wage of \$20.63.	
	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Education:	<i>Comments:</i> The typical entry-level education for <i>radiologic technologists and technicians</i> is an associate degree . Furthermore, 68% of workers in the field have completed some college or an associate degree as their highest level of education.	

Emerging Occupation(s)

Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<i>Comments:</i> N/A	

The Orange County Center of Excellence for Labor Market Research (OC COE) prepared this report to determine whether there is a supply gap in the Los Angeles/Orange County regional labor market related to one middle-skill occupation:

- Radiologic Technologists and Technicians (29-2034)

Based on the available data there appears to be a supply gap for *radiologic technologists and technicians*. Additionally, entry-level wages are above the living wage and typical education requirements align with a community college education. **Therefore, due to all of the regional labor market criteria being met, the COE endorses this proposed program.**

Exhibit 1 lists the occupational demand, supply, typical entry-level education, and educational attainment for the occupations included in this report.

Exhibit 1: Occupational Demand and Supply in Los Angeles/Orange Counties

Occupation (SOC)	Demand (Annual Openings)	Supply (CC and Non-CC)	Entry-Level Hourly Earnings (25 th Percentile)	Typical Entry-Level Education	Community College Educational Attainment
Radiologic Technologists and Technicians (29-2034)	587	457	OC: \$29.60	Associate Degree	68%

Demand:

- The number of jobs related to *radiologic technologists and technicians* is projected to increase 6% through 2026, equating to 587 annual job openings.
- Hourly entry-level wages for *radiologic technologists and technicians* are \$29.60 in Orange County, which is above the living wage of \$20.63.
- There were 3,864 online job postings for *radiologic technologists and technicians* over the past 12 months. The highest number of postings were for radiology technologists, radiologic technologists, and travel radiology technicians.
- The typical entry-level education for *radiologic technologists and technicians* is an associate degree.
- Approximately 68% of workers in the field have completed some college or an associate degree as their highest level of educational attainment.

Supply:

- There was an average of 205 awards conferred by seven community colleges in Los Angeles and Orange Counties from 2018 to 2021.
- Non-community college institutions conferred an annual average of 252 awards from 2017 to 2020.
- Orange County community college students that exited radiologic technology programs in the 2018-2019 academic year had a median annual wage of \$39,772 after exiting the program and 46% attained the regional living wage.
- Throughout Orange County, 76% of radiologic technology students that exited their program in 2017-18 reported that they are working in a job closely related to their field of study.

Demand

Occupational Projections:

Exhibit 2 shows the annual percent change in jobs for *radiologic technologists and technicians* from 2016 through 2026. Employment for *radiologic technologists and technicians* declined 2% from 2019 to 2020 due to the COVID-19 pandemic, which is less than the 7% decline across all occupations during that period. Employment for *radiologic technologists and technicians* increased sharply from 2020 to 2021 and is projected to increase each year through 2026.

Exhibit 2: Annual Percent Change in Jobs for Radiologic Technologists and Technicians, 2016-2026

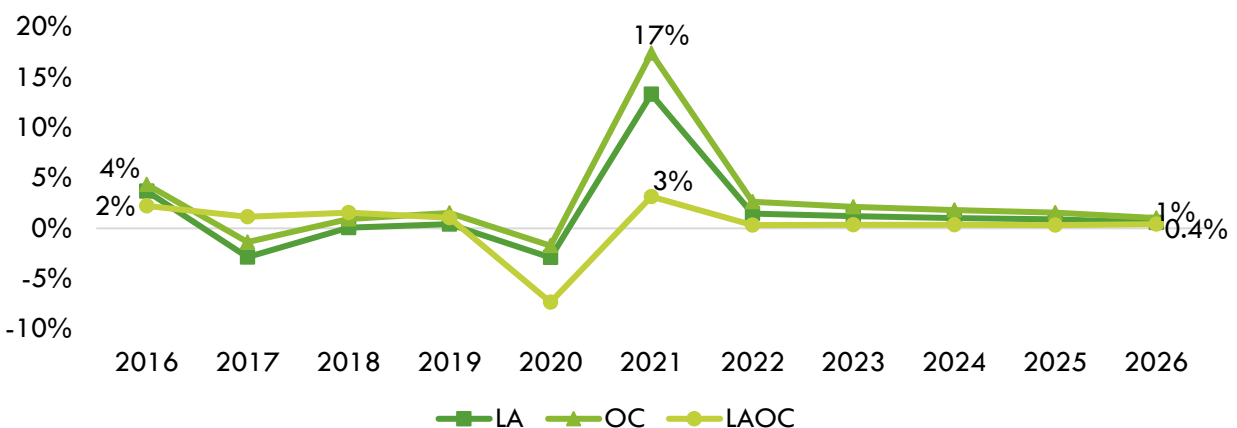


Exhibit 3 shows the five-year occupational demand projections for *radiologic technologists and technicians*. In Los Angeles/Orange County, the number of jobs for *radiologic technologists and technicians* is projected to increase 6% through 2026. There is projected to be 587 jobs available annually.

Exhibit 3: Occupational Demand in Los Angeles and Orange Counties¹

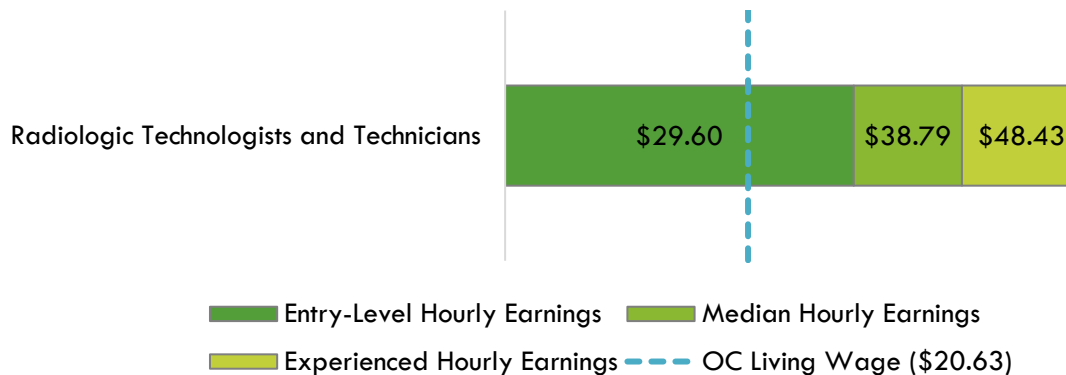
Geography	2021 Jobs	2026 Jobs	2021-2026 Change	2021-2026 % Change	Annual Openings
Los Angeles	5,203	5,478	275	5%	429
Orange	1,706	1,869	162	10%	157
Total	6,909	7,346	437	6%	587

Wages:

The labor market endorsement in this report considers the entry-level hourly wages for *radiologic technologists and technicians* in Orange County as they relate to the county’s living wage. Los Angeles County wages are included below in order to provide a complete analysis of the LA/OC region.

The typical entry-level hourly wages for *radiologic technologists and technicians* are \$29.60, which is above the living wage for one adult (\$20.63 in Orange County). Orange County’s average wages are below the average statewide wage of \$45.78 for *radiologic technologists and technicians*. Exhibit 4 shows the wage range for *radiologic technologists and technicians* in Orange County and how it compares to the regional living wage.

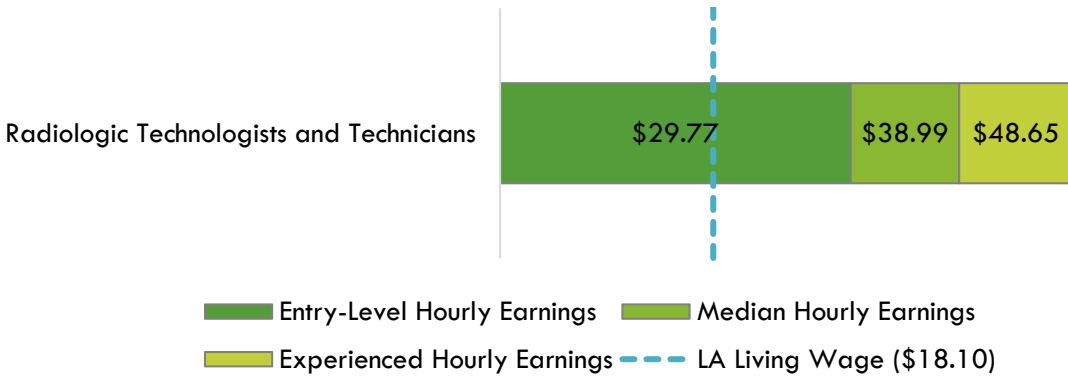
Exhibit 4: Wages by Occupation in Orange County



The typical entry-level hourly wages for *radiologic technologists and technicians* are \$29.77, which is above the living wage for one adult (\$18.10 in Los Angeles County). Los Angeles County’s average wages are below the average statewide wage of \$45.78 for *radiologic technologists and technicians*. Exhibit 4 shows the wage range for *radiologic technologists and technicians* in Los Angeles County and how it compares to the regional living wage.

¹ Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

Exhibit 5: Wages by Occupation in Los Angeles County



Job Postings:

There were 3,864 online job postings related to *radiologic technologists and technicians* listed in the past 12 months.

Exhibit 6: Number of Job Postings by Occupation (n=3,864)

Occupation	Job Postings	Percentage of Job Postings
Radiologic Technologists and Technicians	3,864	100%

The top employers in the region, by number of job postings, are shown in Exhibit 7.

Exhibit 7: Top Employers by Number of Job Postings (n=3,864)

Employer	Job Postings	Percentage of Job Postings
RadNet	188	5%
Cedars-Sinai	173	4%
Concentra	166	4%
Healthcare Employment Network	144	4%
Providence	123	3%
Prime Healthcare Services	86	2%
University of California	84	2%
Hoag	81	2%
PIH Health	65	2%
Focus Staff	59	2%

The top specialized, soft, and computer skills listed by those most frequently mentioned in job postings (denoted in parentheses) are shown in Exhibit 8.

Exhibit 8: Top Skills by Number of Job Postings (n=3,864)

Top Specialized Skills	Top Soft Skills	Top Computer Skills
Radiology (2,973)	Communications (897)	Audiogram (164)
Radiography (1,131)	Customer Service (759)	Microsoft Word (57)
Fluoroscopy (789)	Quality Assurance (405)	eClinicalWorks (ECW) (51)
Mammography (591)	Management (385)	Microsoft Office (50)

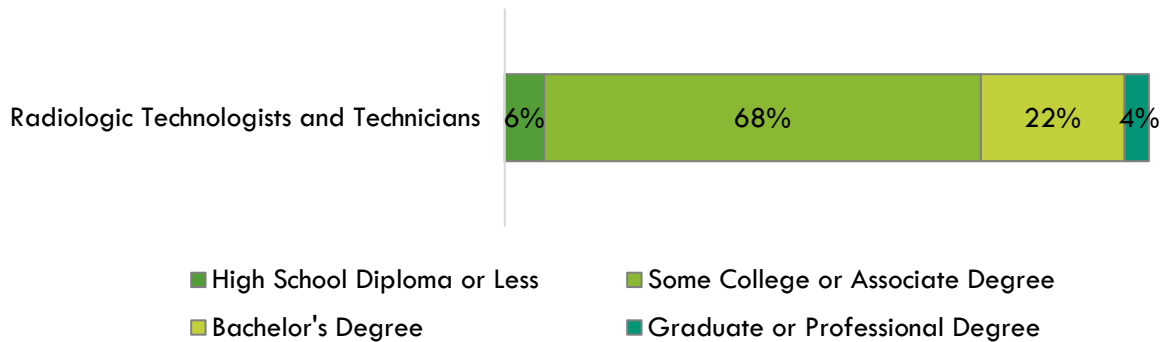
Top Specialized Skills	Top Soft Skills	Top Computer Skills
Medical Ultrasonography (546)	Computer Literacy (290)	Microsoft Excel (46)
Patient Positioning (538)	Quality Control (287)	Software Systems (35)
Radiation Protection (502)	Clerical Works (183)	Kronos (Timekeeping Software) (22)
Cardiopulmonary Resuscitation (CPR) (482)	Detail Oriented (175)	Microsoft Outlook (22)
X-Rays (329)	Compassion (168)	PHP (Scripting Language) (17)
Infection Control (305)	Interpersonal Communications (163)	Microsoft PowerPoint (15)

Educational Attainment:

The Bureau of Labor Statistics (BLS) lists an associate degree as the typical entry-level education for *radiologic technologists and technicians*. The national-level educational attainment data indicates 68% of workers in the field have completed some college or an associate degree as their highest level of education. Exhibit 9 shows the educational attainment for *radiologic technologists and technicians*.

Of the 25% of the cumulative job postings for *radiologic technologists and technicians* that listed a minimum education requirement in Los Angeles/Orange County, 87% (849) requested a high school diploma or an associate degree, 8% (81) requested a bachelor's degree, and 4% (41) requested a master's or doctoral degree.

Exhibit 9: National-level Educational Attainment for Occupations



Educational Supply

Community College Supply:

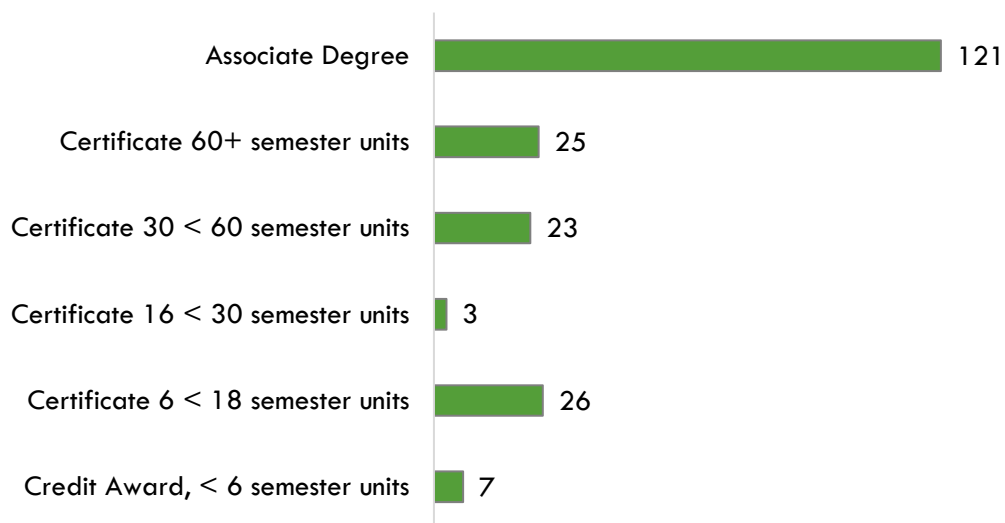
Exhibit 10 shows the three-year average number of awards conferred by community colleges in the related TOP codes: Radiologic Technology (1225.00). The colleges with the most completions in the region are: Cypress, LA City, and Mt. San Antonio. Over the past 12 months, there were two other related program recommendation requests from regional community colleges.

Exhibit 10: Regional Community College Awards (Certificates and Degrees), 2018-2021

TOP Code	Program	College	2018-2019 Awards	2019-2020 Awards	2020-2021 Awards	3-Year Award Average
1225.00	Radiologic Technology	El Camino	20	1	0	7
		LA City	63	39	27	43
		Long Beach	23	28	25	26
		Mt San Antonio	37	38	27	34
		Pasadena	29	19	15	21
		LA Subtotal	172	125	94	131
		Cypress	78	71	8	52
		Orange Coast	21	23	22	22
		OC Subtotal	99	94	30	74
		Supply Subtotal/Average			271	219
Supply Total/Average			271	219	124	205

Exhibit 11 shows the annual average community college awards by type from 2018-19 through 2020-21. The majority of the awards are for associate degrees, followed by certificates between 6 and less than 18 semester units, and certificates of more than 60 semester units.

Exhibit 11: Annual Average Community College Awards by Type, 2018-2021



Community College Student Outcomes:

Exhibit 12 shows the Strong Workforce Program (SWP) metrics for radiologic technology programs at Coast Community College District (CCCD) the Orange County Region, and California. Of the 516 radiologic technology students in the 2019-20 academic year, 30% (250) attended a CCCD college.

CCCD students that exited radiologic technology programs in the 2018-19 academic year had higher median annual earnings (\$48,452) compared to all applied radiologic technology students in Orange County (\$39,772). Additionally, a higher percentage of CCCD radiologic technology students attained the living wage (58%) than all radiologic technology students in Orange County (46%).

Exhibit 12: Radiologic Technology (1225.00) Strong Workforce Program Metrics, 2019-20²

SWP Metric	CCCD	OC Region	California
SWP Students	250	834	3,268
SWP Students Who Earned 9 or More Career Education Units in the District in a Single Year	24%	33%	43%
SWP Students Who Completed a Noncredit CTE or Workforce Preparation Course	Insufficient Data	Insufficient Data	45%
SWP Students Who Earned a Degree or Certificate or Attained Apprenticeship Journey Status	23	62	428
SWP Students Who Transferred to a Four-Year Postsecondary Institution (2018-19)	Insufficient Data	16	46
SWP Students with a Job Closely Related to Their Field of Study (2017-18)	86%	76%	88%
Median Annual Earnings for SWP Exiting Students (2018-19)	\$48,452 (\$23.29)	\$39,772 (\$19.12)	\$60,228 (\$28.96)
Median Change in Earnings for SWP Exiting Students (2018-19)	14%	19%	65%
SWP Exiting Students Who Attained the Living Wage (2018-19)	58%	46%	71%

Non-Community College Supply:

For a comprehensive regional supply analysis, it is also important to consider the supply from other institutions in the region that provide training programs for *radiologic technologists and technicians*. Exhibit 13, on the following page, shows the annual and three-year average number of awards conferred by these institutions in the related Classification of Instructional Programs (CIP) Codes: Medical Radiologic Technology/Science - Radiation Therapist (51.0907) and Radiologic Technology/Science – Radiographer (51.0911). Due to different data collection periods, the most recent three-year period of available data is from 2017 to 2020. Between 2017 and 2020, these institutions conferred an average of 252 awards annually in related training programs.

² All SWP metrics are for 2019-20 unless otherwise noted.

Exhibit 13: Regional Non-Community College Awards, 2017-2020

CIP Code	Program	College	2017- 2018 Awards	2018- 2019 Awards	2019- 2020 Awards	3-Year Award Average
51.0907	Medical Radiologic Technology/ Science - Radiation Therapist	West Coast Ultrasound Institute	127	124	74	108
Supply Subtotal/Average			127	124	74	108
51.0911	Radiologic Technology/ Science - Radiographer	California State University-Northridge	27	23	24	25
		Career Care Institute	35	45	52	44
		Charles R Drew University of Medicine and Science	18	28	26	23
		Modern Technology School	42	64	50	52
Supply Subtotal/Average			122	160	152	144
Supply Total/Average			249	284	226	252

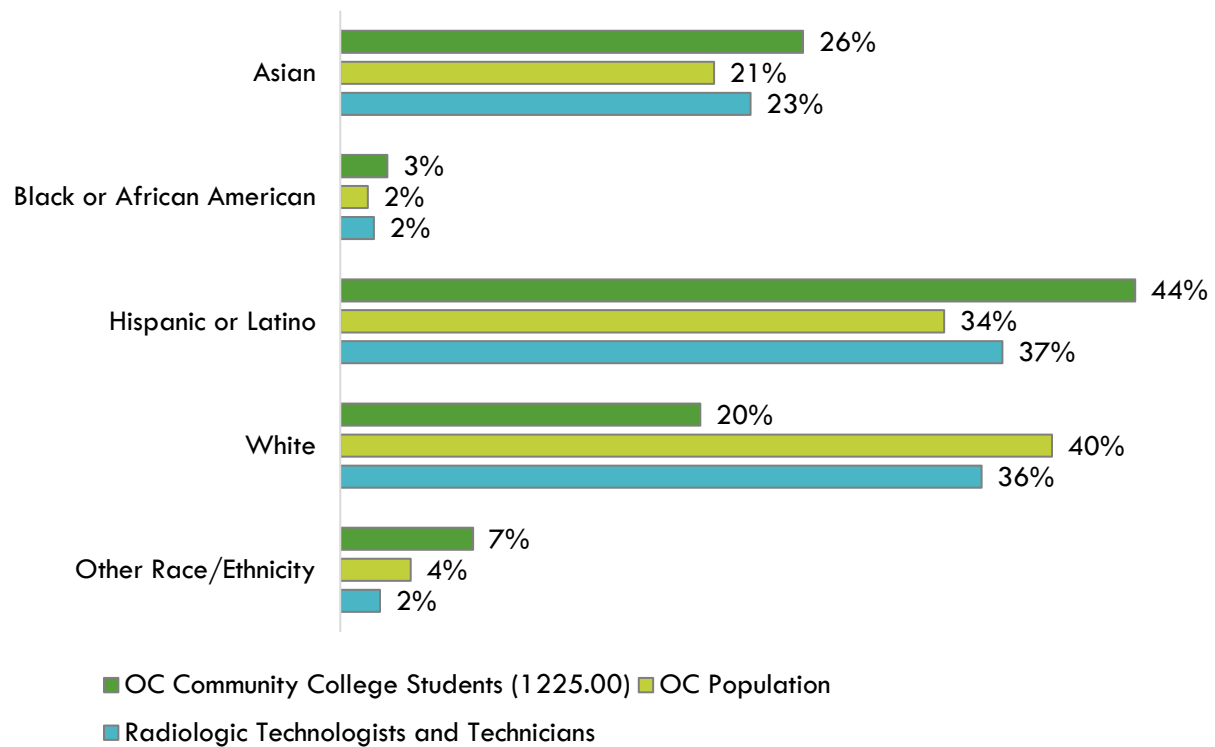
Regional Demographics

This section analyzes demographic data for Orange County community college students enrolled in radiologic technology compared to the OC population, as well occupational data, for the purpose of identifying potential diversity and equity issues that can be addressed by community college programs.

Ethnicity:

Exhibit 14 shows the ethnicity of Orange County community college students enrolled in radiologic technology programs compared to the overall Orange County population, as well as *radiologic technologists and technicians*. Notably, 36% of *radiologic technologists and technicians* are White, which is slightly lower than the population (40%) but significantly higher than community college radiologic technology students (20%). Conversely, 44% of radiologic technology students are Hispanic or Latino which is higher than the population (34%), and *radiologic technologists and technicians* (37%).

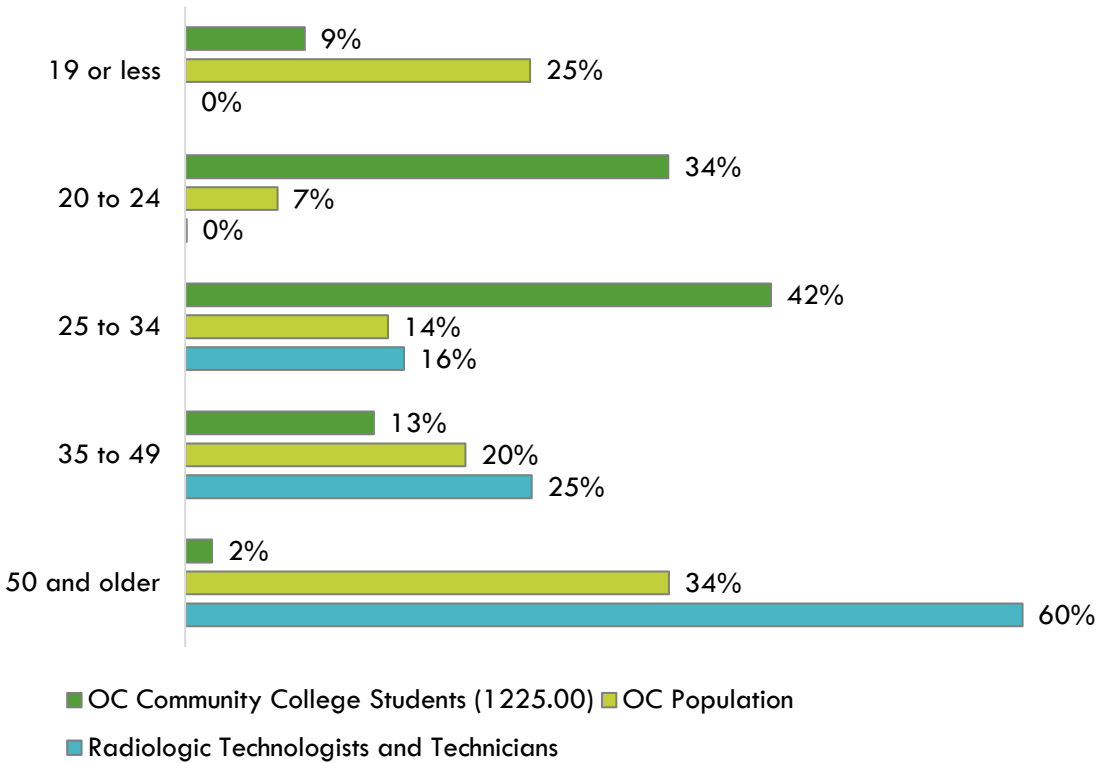
Exhibit 14: Program and County Demographics by Ethnicity



Age:

Exhibit 14 shows the age of Orange County community college students enrolled in radiologic technology programs compared to the overall Orange County population, as well as *radiologic technologists and technicians*. The majority (60%) of *radiologic technologists and technicians* are 50 and older, which is significantly higher than the population (34%) and community college radiologic technology students (2%). Conversely, 76% of community college radiologic technology students are 20 to 34, which is significantly higher than the population (21%), and *radiologic technologists and technicians* (16%)

Exhibit 14: Program and County Demographics by Age

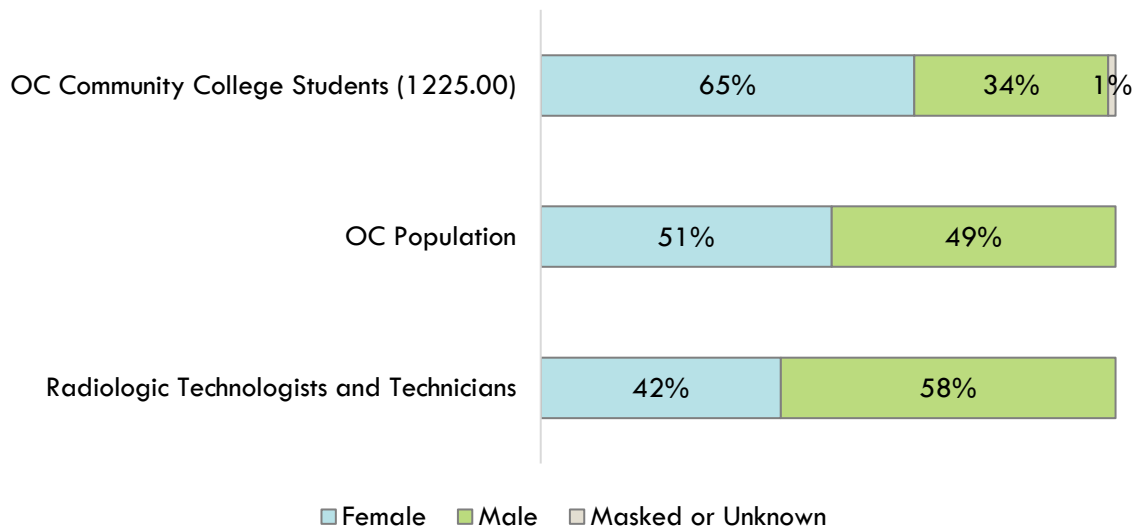


Sex:

Exhibit 15 shows the sex of Orange County community college students enrolled in radiologic technology programs compared to the overall Orange County population as well as *radiologic technologists and technicians*.

Though the Orange County population is split nearly evenly between men and women, there is a significantly higher percentage of female students in radiologic technology programs (65%) but a smaller percentage of female *radiologic technologists and technicians* (42%).

Exhibit 15: Program and County Demographics by Sex



Appendix A: Methodology A

The OC COE prepared this report by analyzing data from occupations and education programs. Occupational data is derived from Lightcast, a labor market analytics firm that consolidates data from the California Employment Development Department (EDD), U.S. Bureau of Labor Statistics (BLS) and other government agencies. Program supply data is drawn from two systems: Taxonomy of Programs (TOP) and Classification of Instructional Programs (CIP).

Using a TOP-SOC crosswalk, the OC COE identified middle-skill jobs for which programs within these TOP codes train. Middle-skill jobs include:

- All occupations that require an educational requirement of some college, associate degree or apprenticeship;
- All occupations that require a bachelor's degree, but also have more than one-third of their existing labor force with an educational attainment of some college or associate degree; or
- All occupations that require a high school diploma or equivalent or no formal education, but also require short- to long-term on-the-job training where multiple community colleges have existing programs.

The OC COE determined labor market supply for an occupation or SOC code by analyzing the number of program completers or awards in a related TOP or CIP code. The COE developed a “supply table” with this information, which is the source of the program supply data for this report. TOP code data comes from the California Community Colleges Chancellor's Office MIS Data Mart (datamart.cccco.edu) and CIP code data comes from the Integrated Postsecondary Education Data System (nces.ed.gov/ipeds/use-the-data), also known as IPEDS. TOP is a system of numerical codes used at the state level to collect and report information on California community college programs and courses throughout the state that have similar outcomes. CIP codes are a taxonomy of academic disciplines at institutions of higher education in the United States and Canada. Institutions outside of the California Community College system do not use TOP codes in their reporting systems.

Data included in this analysis represent the labor market demand for relevant positions most closely related to the proposed program as expressed by the requesting college in consultation with the OC COE. Traditional labor market information was used to show current and projected employment based on data trends, as well as annual average awards granted by regional community colleges. Real-time labor market information captures job post advertisements for occupations relevant to the field of study which can signal demand and show what employers are looking for in potential employees, but is not a perfect measure of the quantity of open positions.

All representations have been produced from primary research and/or secondary review of publicly and/or privately available data and/or research reports. The most recent data available at the time of the analysis was examined; however, data sets are updated regularly and may not be consistent with previous reports. Efforts have been made to qualify and validate the accuracy of the data and findings; however, neither the Centers of Excellence for Labor Market Research (COE), COE host district, nor California Community Colleges Chancellor's Office are responsible for the applications or decisions made by individuals and/or organizations based on this study or its recommendations.

Appendix B: Data Sources

Data Type	Source
Occupational Projections, Wages, and Job Postings	<p>Traditional labor market information data is sourced from Lightcast, a labor market analytics firm. Lightcast occupational employment data are based on final Lightcast industry data and final Lightcast staffing patterns. Wage estimates are based on Occupational Employment Statistics and the American Community Survey. For more information, see https://lightcast.io/</p>
Living Wage	<p>The living wage is derived from the Insight Center’s California Family Needs Calculator, which measures the income necessary for an individual of family to afford basic expenses. The data assesses the cost of housing, food, child care, health care, transportation, and taxes. For more information, see: https://insightccd.org/family-needs-calculator/</p> <p>The living wage for one adult in Orange County is \$20.63 per hour (\$42,910.40 annually). This figure is used by the CCCCCO to calculate the percentage of students that attained the regional living wage.</p>
Typical Education and Training Requirements, and Educational Attainment	<p>The Bureau of Labor Statistics (BLS) provides information about education and training requirements for hundreds of occupations. BLS uses a system to assign categories for entry-level education, work experience in a related occupation, and typical on-the-job training to each occupation for which BLS publishes projections data. For more information, see https://www.bls.gov/emp/documentation/education/tech.htm</p>
Emerging Occupation Descriptions, Additional Education Requirements, and Employer Preferences	<p>The O*NET database includes information on skills, abilities, knowledges, work activities, and interests associated with occupations. For more information, see https://www.onetonline.org/help/online/</p>
Educational Supply	<p>The CCCCCO Data Mart provides information about students, courses, student services, outcomes and faculty and staff. For more information, see: https://datamart.cccco.edu</p> <p>The National Center for Education Statistics (NCES) Integrated Postsecondary Integrated Data System (IPEDS) collects data on the number of postsecondary awards earned (completions). For more information, see https://nces.ed.gov/ipeds/use-the-data/survey-components/7/completions</p>
Student Metrics and Demographics	<p>LaunchBoard, a statewide data system supported by the California Community Colleges Chancellor's Office and hosted by Cal-PASS Plus, provides data on progress, success, employment, and earnings outcomes for California community college students. For more information, see: https://www.calpassplus.org/LaunchBoard/Home.aspx</p>

Data Type	Source
Population and Occupation Demographics	<p>The Census Bureau's American Community Survey (ACS) is the premier source for detailed population and housing information. For more information, see: https://www.census.gov/programs-surveys/acs</p> <p>Data is sourced from IPUMS USA, a database providing access to ACS and other Census Bureau data products. For more information, see: https://usa.ipums.org/usa/about.shtml</p>

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