

# Optical Technology

*Inland Empire/Desert region (Riverside and San Bernardino counties combined)*

## Summary

- Jobs in the optical technology occupational group are expected to have a total of **100 annual job openings** and **increase employment by 15%** over the next five years, 2018 through 2023.
- 25<sup>th</sup> percentile wages for the optical technology occupational group start at \$12.88 per hour, **above the MIT Living Wage estimate of \$12.39 per hour** for a single adult living in the Inland Empire/Desert region. Median wages start at \$14.70 per hour.
- Most employers are looking for optical technology workers with a level of educational attainment that is provided by the community colleges.
- **There appears to be an opportunity for optical technology program growth** because **100 average annual job openings** are projected over the next five years and there are no relevant community college training programs in the Inland Empire/Desert region. Private educational institutions issued an annual average of 30 credentials over the last three years.

## Introduction

This report provides data on the occupations related to the California Community College optical technology (TOP 1219.00) program. This program prepares students for employment by providing instruction on the theory of vision and lenses and techniques for the application of those principles to assisting in vision care (Taxonomy of Programs, 2012). The occupations included in the optical technology occupational group are the following:

- *Ophthalmic Medical Technicians*
- *Opticians, Dispensing*

## Job Opportunities

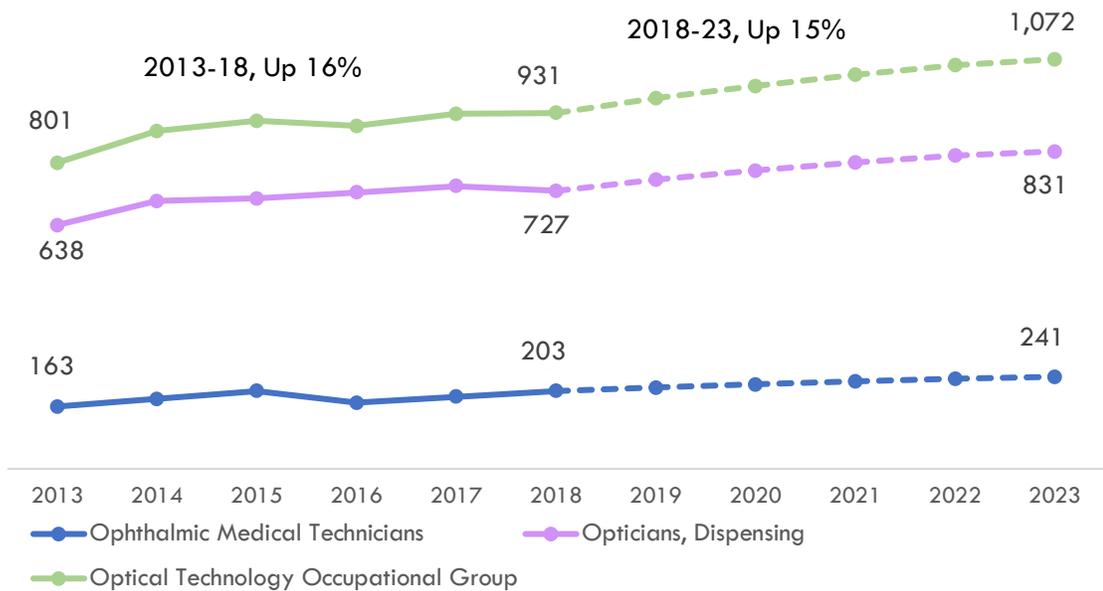
In 2018, there were 931 jobs in the optical technology occupational group in the Inland Empire/Desert region (IEDR). This occupational group is projected to increase employment by 15% by 2023. There will be 498 projected job openings over the next five years to fill new jobs and backfill jobs that workers are permanently vacating (includes occupational transfers and retirements). Exhibits 1 & 2 display five-year projections for the optical technology occupational group in the IEDR.

*Exhibit 1: Five-year projections for the optical technology occupational group*

Occupation	2018 Jobs	5-Yr % Change (New Jobs)	5-Yr Openings (New + Replacement Jobs)	Annual Openings (New + Replacement Jobs)	% of workers age 55+
Opticians, Dispensing	727	14%	376	75	22%
Ophthalmic Medical Technicians	203	19%	122	24	11%
<b>Total</b>	<b>931</b>	<b>15%</b>	<b>498</b>	<b>100</b>	<b>19%</b>

Source: EMSI 2019.3 -figures may not sum due to rounding

*Exhibit 2: Historical and projected jobs for the optical technology occupational group, 2013-2023*

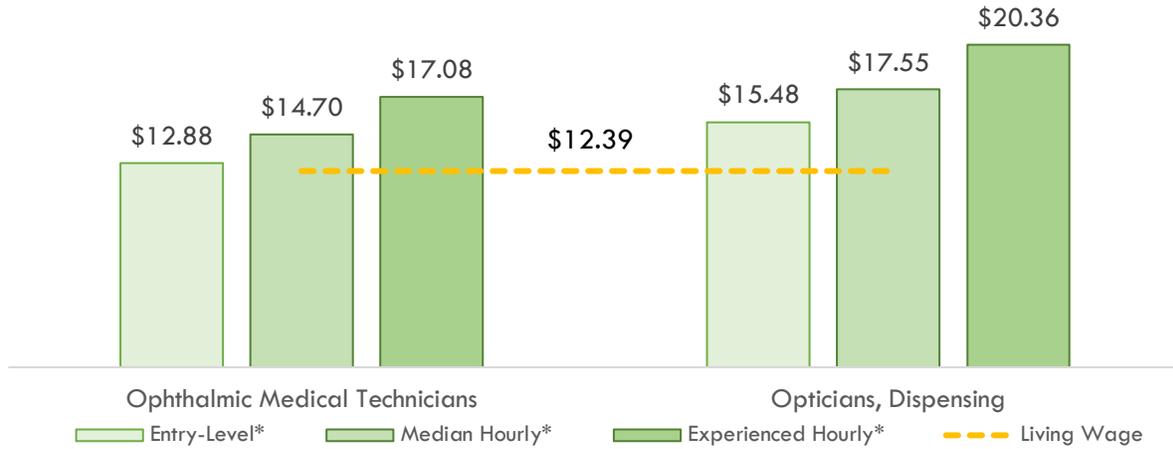


Source: EMSI 2019.3

## Earnings

The entry-level wages for the optical technology occupational group are above the MIT Living Wage estimate of \$12.39 per hour for a single adult living in the IEDR. The experienced-level wages are sufficient for two working adults and one child (\$14.75 per hour, per adult, or \$30,680 annually for each adult) (Glasmeier, 2019). Exhibit 3 displays wage information for the optical technology occupational group.

Exhibit 3: Hourly earnings for the optical technology occupational group



Source: EMSI 2019.3

\*Entry-level is 25<sup>th</sup> percentile wage, median hourly is 50<sup>th</sup> percentile wage, and experienced is 75<sup>th</sup> percentile wage.

### Job Postings, Employers, Skills, Education, and Certifications

Exhibit 4 displays the number of job ads posted during the last 12 months along with the regional and statewide average time to fill for the optical technology occupational group. On average, California and IEDR employers fill online job postings for the optical technology occupational group within 52 days, indicating that both areas face similar challenges when seeking candidates to fill these positions.

Exhibit 4: Job ads and time to fill for the optical technology occupational group, Sep 2018 – Aug 2019

Occupation	Job Ads	Regional Average Time to Fill (Days)	California Average Time to Fill (Days)
Opticians, Dispensing	81	57	57
Ophthalmic Medical Technicians	37	41	41
<b>Total</b>	<b>118</b>	<b>52</b>	<b>52</b>

Source: Burning Glass – Labor Insights

Exhibit 5 displays the employers posting the most job ads for the optical technology occupational group during the last 12 months in the IEDR.

*Exhibit 5: Employers posting the most job ads for the optical technology occupational group, Sep 2018 – Aug 2019*

Occupation	Employers
Opticians, Dispensing (n=77)	<ul style="list-style-type: none"> <li>• LensCrafters</li> <li>• Costco</li> <li>• Target</li> <li>• The Eye Group</li> <li>• National Vision, Inc.</li> <li>• Kaiser Permanente</li> </ul>
Ophthalmic Medical Technicians (n=32)	<ul style="list-style-type: none"> <li>• Eyecare Services Partners</li> <li>• National Vision, Inc.</li> <li>• Acuity Eye Group</li> <li>• Epic Management</li> </ul>

Source: Burning Glass – Labor Insights

Exhibit 6 displays a sample of specialized and employability skills that employers are seeking when looking for workers to fill positions in the optical technology occupational group. Specialized skills are occupation-specific skills that employers are requesting for industry or job competency. Employability skills are foundational skills that transcend industries and occupations; this category is commonly referred to as “soft skills.” The skills requested in job postings may be utilized as a helpful guide for curriculum development.

*Exhibit 6: Sample of in-demand skills from employer job ads for the optical technology occupational group, Sep 2018 – Aug 2019*

Occupation	Specialized Skills	Employability Skills
Opticians, Dispensing (n=54)	<ul style="list-style-type: none"> <li>Customer Service</li> <li>Optometry</li> <li>Ophthalmology</li> </ul>	<ul style="list-style-type: none"> <li>Multi-tasking</li> <li>Organizational Skills</li> <li>Computer Literacy</li> </ul>
Ophthalmic Medical Technicians (n=35)	<ul style="list-style-type: none"> <li>Medical Coding</li> <li>Patient Care</li> <li>Tonometry</li> </ul>	<ul style="list-style-type: none"> <li>Communication Skills</li> <li>Organizational Skills</li> <li>Computer Literacy</li> </ul>

Source: Burning Glass – Labor Insights

Exhibit 7 displays the entry-level education typically required to enter each occupation according to the Bureau of Labor Statistics (BLS), educational attainment for incumbent workers with “some college, no degree” and an “associate degree” according to the U.S. Census (2016-17), and the minimum advertised education requirement from employer job ads.

*Exhibit 7: Typical entry-level education, educational attainment, and minimum advertised education requirements for the optical technology occupational group, Sep 2018 – Aug 2019*

Occupation	Typical Entry-Level Education Requirement	Educational Attainment*	Minimum Advertised Education Requirement from Job Ads			
			Number of Job Ads (n=)	High school diploma or vocational training	Associate degree	Bachelor’s degree or higher
Opticians, Dispensing	High school diploma or equivalent	47%	11	-	100%	-
Ophthalmic Medical Technicians	Postsecondary nondegree award	56%	10	100%	-	-

Source: EMSI 2019.3, Burning Glass – Labor Insights

\*Percentage of incumbent workers with a Community College Credential or Some Postsecondary Coursework

California requires that opticians must obtain licensure through the American Board of Optometry and the National Contact Lens Examiners prior to employment. Please visit [OpticianEDU.org](http://OpticianEDU.org) for more information regarding certifications, examinations, and training programs (“How to Become an Optician in California,” 2019).

Exhibit 8 displays the certifications most frequently requested or required by employers in job postings for optical technology occupational group over the last five years in the IEDR. Fifty-eight (58%) of job postings for *opticians, dispensing* specified a need for optician licensure. Employer job ads mentioned certification requirements more frequently than minimum education requirements, indicating that the ABO-NCLE certification may be more important to employers than formal training. There are too few job ads including certifications for *ophthalmic medical technicians* to display reliable results.

*Exhibit 8: Certifications most frequently required by employer job ads, Sep 2018 – Aug 2019*

Occupation	Certifications
Opticians, Dispensing (n=47)	<ul style="list-style-type: none"> <li>Licensed Optician (American Board of Opticianry (ABO) and National Contact Lens Examiners (NCLE) Certification)</li> </ul>
Ophthalmic Medical Technicians (n=5)	<ul style="list-style-type: none"> <li>N/A</li> </ul>

Source: Burning Glass – Labor Insights

## Regional Programs

There are no known optical technology (TOP 1219.00) programs offered by IEDR community colleges. Moorpark College, located in Ventura County, is the only known community college in California that currently offers an Optical Technology program. While Moorpark offers an associate degree in optical technology, there are currently no reported completions for this program. Moorpark’s optical technology program purpose and description are displayed below which may provide guidance on curriculum development:

*The Optical Technology Program is a two-year associate of science (AS) degree career preparation program. The program prepares students to take for the American Board of Opticianry (ABO) and National Contact Lens Examiners (NCLE) examination to be licensed as an Optician. Students must complete the prerequisites, core optical technology, and general education courses to earn the AS degree. Students who complete the Optical Technology program will be provided the essential knowledge and skills to fabricate, fit, and dispense eyeglasses and contact lenses in manufacturing, retail, and professional vision care settings (Moorpark College 2019-2020 Catalog, p. 241).*

Opticianry/Ophthalmic Dispensing Optician credentials granted from private educational providers are displayed in Exhibit 9, along with the relevant CIP code. This CIP code is a close match to the community college optical technology (TOP 1219.00) program and provides similar occupational training. Student employment outcomes are not available for programs outside of the community college system. This is final release data compiled from the Integrated Postsecondary Education Data System (IPEDS) for the academic years 2014-15 and 2015-16, and provisional release data for 2016-17, the most recent three years available. Provisional release data have undergone the same quality control procedures as final release data.

*Exhibit 9: Annual average private educational institution completions for the opticianry/ophthalmic dispensing optician programs in the IEDR*

<b>51.1801 – Opticianry/Ophthalmic Dispensing Optician</b>	<b>Private Educational Institutions Annual Average Certificates or Other Credit Credentials (2014-17)</b>
<b>American Career College-Ontario</b>	
Award of at least 1 but less than 2 academic years	25
Award of less than 1 academic year	4
<b>Total annual average awards, Academic Years 2014-17</b>	<b>30</b>

Source: IPEDS

## Recommendation

The optical technology program prepares students for employment by providing instruction related to the theory of vision and lenses, and techniques for the application of those principles to assisting in vision care. There are no known optical technology programs offered by Inland Empire/Desert community colleges. Private educational providers issued an annual average of 30 credentials over the last three years. The occupations related to the optical technology program are projected to have 100 annual job openings over the next five years. Each of these occupations provides an entry-level wage that exceeds the regional living wage of \$12.39 per hour.

The COE recommends creating new programs to meet the potential demand of employers for optical technology jobs. New programs should include preparation for licensure by the American Board of Optometry and National Contact Lens Examination. Additionally, the COE also recommends that the colleges partner with local employers to discuss their individual future hiring needs and training requirements.



## References

- Burning Glass Technologies. (2019). *Labor Insights/Jobs*. Retrieved from <https://www.burning-glass.com/>
- California Community Colleges Chancellor's Office Management Information Systems (MIS) Data Mart. (2019). *Data Mart*. Retrieved from <https://datamart.cccco.edu/datamart.aspx>
- California Community Colleges Chancellor's Office, Curriculum and Instructional Unit, Academic Affairs Division. (2012). *Taxonomy of Programs, 6<sup>th</sup> Edition, Corrected Version*. Retrieved from [https://www.cccco.edu/-/media/CCCCO-Website/Files/Educational-Services-and-Support/x\\_topmanual6200909corrected12513ada.ashx](https://www.cccco.edu/-/media/CCCCO-Website/Files/Educational-Services-and-Support/x_topmanual6200909corrected12513ada.ashx)
- Economic Modeling Specialists International (EMSI) (2019). *Datarun 2018.4*. Retrieved from <https://www.economicmodeling.com/>
- Glasmeyer, A. Massachusetts Institute of Technology (MIT). (2019). Retrieved from <http://livingwage.mit.edu/>
- Moorpark College 2019-2020 Catalog. *Optical Technology*. Pg. 241. Retrieved from [https://www.moorparkcollege.edu/sites/default/files/files/apply-and-enroll/catalog/mc\\_19-20\\_catalog.pdf](https://www.moorparkcollege.edu/sites/default/files/files/apply-and-enroll/catalog/mc_19-20_catalog.pdf)
- National Center for O\*NET Development. (2019). *O\*NET OnLine*. Retrieved from <https://www.onetonline.org/>
- OpticianEDU.org. (2019). *How to Become an Optician in California*. Retrieved from <https://www.opticianedu.org/california/>

## Contact

Michael Goss, Director  
Center of Excellence, Inland Empire/Desert region  
[michael.goss@chaffey.edu](mailto:michael.goss@chaffey.edu)  
September 2019

## **Appendix: Occupation definitions, sample job titles, five-year projections for optical technology occupations**

*Occupation Definitions (SOC) code), Education and Training Requirement, Community College Educational Attainment*

### **Ophthalmic Medical Technicians (29-2057)**

Assist ophthalmologists by performing ophthalmic clinical functions. May administer eye exams, administer eye medications, and instruct the patient in care and use of corrective lenses.

**Sample job titles:** Certified Ophthalmic Assistant, Certified Ophthalmic Medical Technician, Certified Ophthalmic Technician, Certified Ophthalmic Technician with Surgical Assisting, Certified Ophthalmic Technician-Surgical Assistant (COT-SA), Ophthalmic Assistant, Ophthalmic Medical Assistant, Ophthalmic Medical Technician, Ophthalmic Technician, Surgical Coordinator

*Entry-Level Educational Requirement: Postsecondary nondegree award*

*Training Requirement: None*

*Incumbent workers with a Community College Award or Some Postsecondary Coursework: 56%*

### **Opticians, Dispensing (29-2081)**

Design, measure, fit, and adapt lenses and frames for client according to written optical prescription or specification. Assist client with inserting, removing, and caring for contact lenses. Assist client with selecting frames. Measure customer for size of eyeglasses and coordinate frames with facial and eye measurements and optical prescription. Prepare work order for optical laboratory containing instructions for grinding and mounting lenses in frames. Verify exactness of finished lens spectacles. Adjust frame and lens position to fit client. May shape or reshape frames. Includes contact lens opticians.

**Sample job titles:** Certified Optician, Contact Lens Technician, Dispensing Optician, Licensed Dispensing Optician (LDO), Licensed Optician, Ophthalmic Dispenser, Optical Technician, Optician, Optometric Assistant, Optometric Technician

*Entry-Level Educational Requirement: High school diploma or equivalent*

*Training Requirement: More than twelve months of on-the-job training*

*Incumbent workers with a Community College Award or Some Postsecondary Coursework: 47%*

Table 1: 2018 to 2023 job growth, wages, education, training, and work experience required for the optical technology occupational group, Inland Empire/Desert region

Occupation (SOC)	2018 Jobs	5-Yr Change	5-Yr % Change	Annual Openings (New + Replacement Jobs)	Entry-Experienced Hourly Wage (25 <sup>th</sup> to 75 <sup>th</sup> percentile)	Median Hourly Wage (50 <sup>th</sup> percentile)	Average Annual Earnings	Typical Entry-Level Education & On-The-Job Training Required	Work Experience Required
Opticians, Dispensing (29-2081)	727	104	14%	75	\$15.48 to \$20.36	\$17.55	\$41,100	High school diploma or equivalent & more than 12 months	None
Ophthalmic Medical Technicians (29-2057)	203	38	19%	24	\$12.88 to \$17.08	\$14.70	\$32,300	Postsecondary nondegree award & none	None
<b>Total</b>	<b>931</b>	<b>141</b>	<b>15%</b>	<b>100</b>	-	-	-	-	-

Source: EMSI 2019.3