



Technical Theater (TOP 1006.00)

October 2022

Prepared by the South Central Coast Center of Excellence for
Labor Market Research

Program Recommendation

This report was compiled by the South Central Coast¹ Center of Excellence to provide regional labor market data for the program recommendation – Technical Theater. This report can help determine whether there is demand in the local labor market that is not being met by the supply from programs of study (CCC and non-CCC) that align with this occupation group.

Key Findings

- In the South Central Coast region, the **number of jobs related to Technical Theater are expected to increase** for Sound Engineering Technicians, Lighting Technicians, and Costume Attendants, **and remain steady** for Set and Exhibit Designers and Carpenters.
- Technical Theater is anticipated to experience a **low risk of automation** for Set and Exhibit Designers & Sound Engineering Technicians, and a **medium risk** for the remaining occupations.
- In 2021 there were 1,089 regional completions in programs related to the occupations identified as aligned with Technical Theater and 891 openings, indicating **demand is being met**.
- Typical entry-level education ranges from a **high school diploma or equivalent** for Costume Attendants and Carpenters, a **postsecondary nondegree award** for Sound Engineering Technicians and Lighting Technicians, to a **Bachelor's degree** for Set and Exhibit Designers.
- Completers of Technical Theater programs from the 2018-2019 academic year in the South Central Coast region had a **median annual wage upon completion of \$21,918**.
- 41% of students are **employed within a year** after completing a program.
- 23% of students **attained a living wage** within a year of completion.
- Completers experienced an average of +46% **change in earnings after exiting**.
- 55% of students were **part-time**, 14% **skill builders**, 16% **first-generation**, and 70% **economically disadvantaged**.

¹ The South Central Coast Region consists of San Luis Obispo County, Santa Barbara County, Ventura County, and the following cities from North Los Angeles County: Canyon Country, Castaic, Lake Hughes, Lancaster, Littlerock, Llano, Newhall, Palmdale, Pearblossom, Santa Clarita, Stevenson Ranch, and Valencia.

Occupation Codes and Descriptions

There are five occupations in the standard occupational classification (SOC) system that were identified as related to Technical Theater for this analysis. The occupation titles and descriptions, as well as reported job titles, are included in Exhibit 1.

Exhibit 1 – Occupation, Description, and Sample Job Titles

SOC Code	Title	Description	Sample of Reported Job Titles
27-1027	Set and Exhibit Designers	Design special exhibits and sets for film, video, television, and theater productions. May study scripts, confer with directors, and conduct research to determine appropriate architectural styles.	Designer, Display Coordinator, Exhibit Coordinator, Exhibit Designer, Exhibit Preparer, Historical Society Window Dresser, Installations Designer, Projection Designer, Scenic Designer, Set Designer
27-4014	Sound Engineering Technicians	Assemble and operate equipment to record, synchronize, mix, edit, or reproduce sound, including music, voices, or sound effects, for theater, video, film, television, podcasts, sporting events, and other productions.	Audio Engineer, Audio Operator, Mastering Engineer, Mixer, Mixing Engineer, Recording Engineer, Sound Editor, Sound Engineer, Sound Technician, Studio Engineer
27-4015	Lighting Technicians	Set up, maintain, and dismantle light fixtures, lighting control devices, and the associated lighting electrical and rigging equipment used for photography, television, film, video, and live productions. May focus or operate light fixtures, or attach color filters or other lighting accessories.	--
39-3092	Costume Attendants	Select, fit, and take care of costumes for cast members, and aid entertainers. May assist with multiple costume changes during performances.	Costume Draper, Costume Seamstress, Costumer, Draper, Dresser, Wardrobe Assistant, Wardrobe Attendant

SOC Code	Title	Description	Sample of Reported Job Titles
47-2031	Carpenters	Construct, erect, install, or repair structures and fixtures made of wood and comparable materials, such as concrete forms; building frameworks, including partitions, joists, studding, and rafters; and wood stairways, window and door frames, and hardwood floors. May also install cabinets, siding, drywall, and batt or roll insulation. Includes brattice builders who build doors or brattices (ventilation walls or partitions) in underground passageways.	Bridge Carpenter, Cabinet Maker, Carpenter, Concrete Carpenter, Construction Carpenter, Form Carpenter, Frammer, Maintenance Carpenter, Rough Carpenter, Scaffold Builder

Source: O*NET Online

Current and Future Employment

In the South Central Coast region, the number of jobs related to Technical Theater are expected to increase for Sound Engineering Technicians, Lighting Technicians, and Costume Attendants, but remain steady for the remaining occupations.

Exhibit 2 – Five-Year Projections for Technical Theater in the South Central Coast Region

SOC	Occupation	2021 Jobs	2026 Jobs	2021-2026 Change	2021-2026 % Change
27-1027	Set and Exhibit Designers	223	219	-4	-2%
27-4014	Sound Engineering Technicians	123	141	18	15%
27-4015	Lighting Technicians	33	36	3	9%
39-3092	Costume Attendants	27	31	4	15%
47-2031	Carpenters	8,452	8,494	42	0%

Source: Economic Modeling Specialists International (EMSI)

Earnings

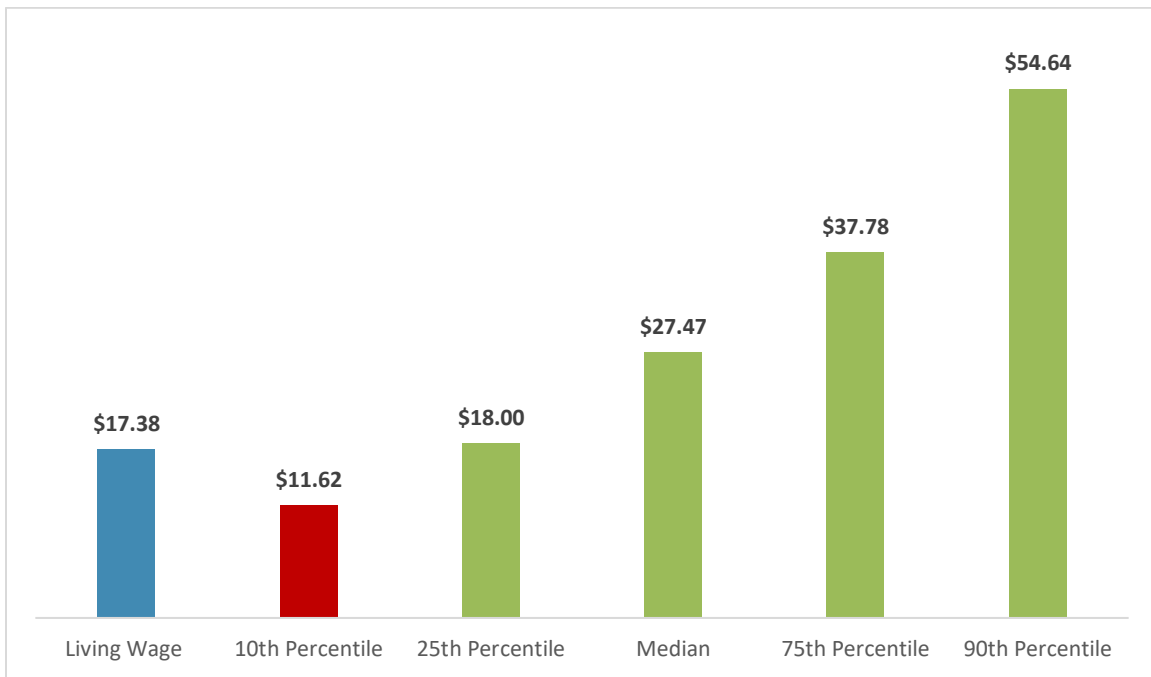
Exhibit 3 contains hourly wages and annual average earnings for these occupations. Entry-level hourly earnings are represented by the 25th percentile of wages, median hourly earnings are represented by the 50th percentile of wages, and experienced hourly earnings are represented by the 75th percentile of wages, demonstrating various levels of employment.

Exhibit 3 – Earnings for Technical Theater in the South Central Coast Region

SOC	Occupation	Entry-Level Hourly Earnings	Median Hourly Earnings	Experienced Hourly Earnings
27-1027	Set and Exhibit Designers	\$13.75	\$23.15	\$38.88
27-4014	Sound Engineering Technicians	\$22.49	\$30.37	\$46.31
27-4015	Lighting Technicians	\$18.52	\$26.99	\$32.00
39-3092	Costume Attendants	\$17.65	\$31.30	\$36.81
47-2031	Carpenters	\$17.56	\$25.72	\$34.89

Source: Economic Modeling Specialists International (EMSI)

Exhibit 3b – Earnings for Technical Theater in the South Central Coast Region



Source: Family Needs Calculator (Living wage is based on Single Adult households with no children); Economic Modeling Specialists International (EMSI)

Employer Job Postings

In this research brief, real-time labor market information is used to provide a more nuanced view of the current job market, as it captures job advertisements for occupations relevant to the field of study. Employer job postings are consulted to understand who is looking for theater arts workers, and what they are looking for in potential candidates. To identify job postings related to Technical Theater the following standard occupational classifications were used:

27-1027	Set and Exhibit Designers
27-4011	Audio and Video Equipment Technicians
27-4014	Sound Engineering Technicians
39-3092	Costume Attendants
47-2031	Carpenters

Top Occupations

In 2021, there were 573 employer postings for the occupations related to Technical Theater.

Exhibit 4 – Top Occupations by Job Postings

SOC Code	Occupation	Job Postings, Full Year 2021
47-2031	Carpenters	425
27-4011	Audio and Video Equipment Technicians	90
27-4014	Sound Engineering Technicians	35
27-1027	Set and Exhibit Designers	15
39-3092	Costume Attendants	8

Source: Labor Insight/Jobs (Burning Glass)

Exhibit 4b – Top Occupations and Risk of Automation

SOC Code	Occupation	Risk of Automation
47-2031	Carpenters	Medium
27-4011	Audio and Video Equipment Technicians	Medium
27-4014	Sound Engineering Technicians	Low
27-1027	Set and Exhibit Designers	Low
39-3092	Costume Attendants	Medium

Source: Labor Insight/Jobs (Burning Glass)

Top Titles

The top job titles for employers posting ads for jobs related to Technical Theater are listed in Exhibit 5. Carpenter is mentioned as the job title in 14% of all relevant job postings (83 postings).

Exhibit 5 – Job Titles

Title	Job Postings, Full Year 2021
Carpenter	83
Finish Carpenter	34
Framer	24
Journeyman Carpenter	14
Skilled Carpenter	9

Source: Labor Insight/Jobs (Burning Glass)

Top Employers

Exhibit 6 lists the major employers hiring professionals in the Technical Theater field. The top employer posting job ads was Michaels Arts and Crafts. The top worksite cities for these occupations were Santa Barbara, Ventura, Santa Clarita, San Luis Obispo, and Oxnard.

Exhibit 6 – Top Employers (n=185)

Employer	Job Postings, Full Year 2021
Michaels Arts and Crafts	16
Diversified	5
Six Flags Inc	4
Leidos	4
Centech Group	4

Source: Labor Insight/Jobs (Burning Glass)

Skills

The tables in Exhibit 7 list employers' most commonly requested skills in job postings related to Technical Theater. Carpentry is the most sought-after specialized skill for employers, followed by Framing and Finish Carpentry. Communication Skills, Physical Abilities, and Teamwork/Collaboration were the most requested baseline skills. Microsoft Excel, Microsoft Windows, and Audio Mixing were the most commonly requested software and programming skills.

Exhibit 7 – Specialized Skills (n= 359)

Skills	Job Postings, Full Year 2021
Carpentry	320
Framing	127
Finish Carpentry	98
Repair	93
Hand Tools	67
Drywall	47
Power Tools	41
Scheduling	35
Painting	33
Budgeting	32
Rough Carpentry	28
Sales	22
Fascia	22
Hardware and Software Installation	21
Occupational Health and Safety	20

Source: Labor Insight/Jobs (Burning Glass)

Exhibit 7b – Baseline Skills (n= 701)

Skills	Job Postings, Full Year 2021
Communication Skills	70
Physical Abilities	63
Teamwork/Collaboration	56
Detail-Oriented	48
Troubleshooting	39
Organizational Skills	37
Problem Solving	36
Computer Literacy	31
English	30
Building Effective Relationships	22

Source: Labor Insight/Jobs (Burning Glass)

Exhibit 7c – Software and Programming Skills (n= 99)

Skills	Job Postings, Full Year 2021
Microsoft Excel	9
Microsoft Windows	5
Audio Mixing	5
Adobe Premiere	5
Youtube	4
Microsoft Office	4
Level Design	4
Computer Aided Drafting/Design (CAD)	4
Python	3
Microsoft Word	3

Source: Labor Insight/Jobs (Burning Glass)

The table below lists the skill clusters most in demand for Technical Theater occupations.

Exhibit 7d – Skill Clusters in Demand (n=1,592)

Skill Cluster	Job Postings, Full Year 2021
Architecture and Construction: Carpentry	358
Maintenance, Repair, and Installation: Hand Tools	70
Maintenance, Repair, and Installation: Power Tools	51
Media and Writing: Audio Production	50
Architecture and Construction: Construction Management	50
Information Technology: Technical Support	48
Architecture and Construction: Drywall	47
Customer and Client Support: Basic Customer Service	44
Administration: Scheduling	35
Maintenance, Repair, and Installation: Painting	33

Source: Labor Insight/Jobs (Burning Glass)

Industry Concentration

Exhibit 8 shows the industries with the most Technical Theater postings in the South Central Coast region. Note: 49% of records have been excluded because they do not include an industry. As a result, the chart below may not be representative of the full sample.

Exhibit 8 – Industries Employing the Most in the Technical Theater Field, 2021

Industry	Occupation Group Jobs in Industry	% of Occupation Group in Industry
Construction	166	57%
Public Administration	21	7%
Retail Trade	18	6%
Education Services	16	6%
Manufacturing	13	5%

Certifications

Exhibit 9 lists the most in-demand certifications in the Technical Theater field. The top requested certification in job postings was Driver's License.

Exhibit 9 – Certifications (n= 167)

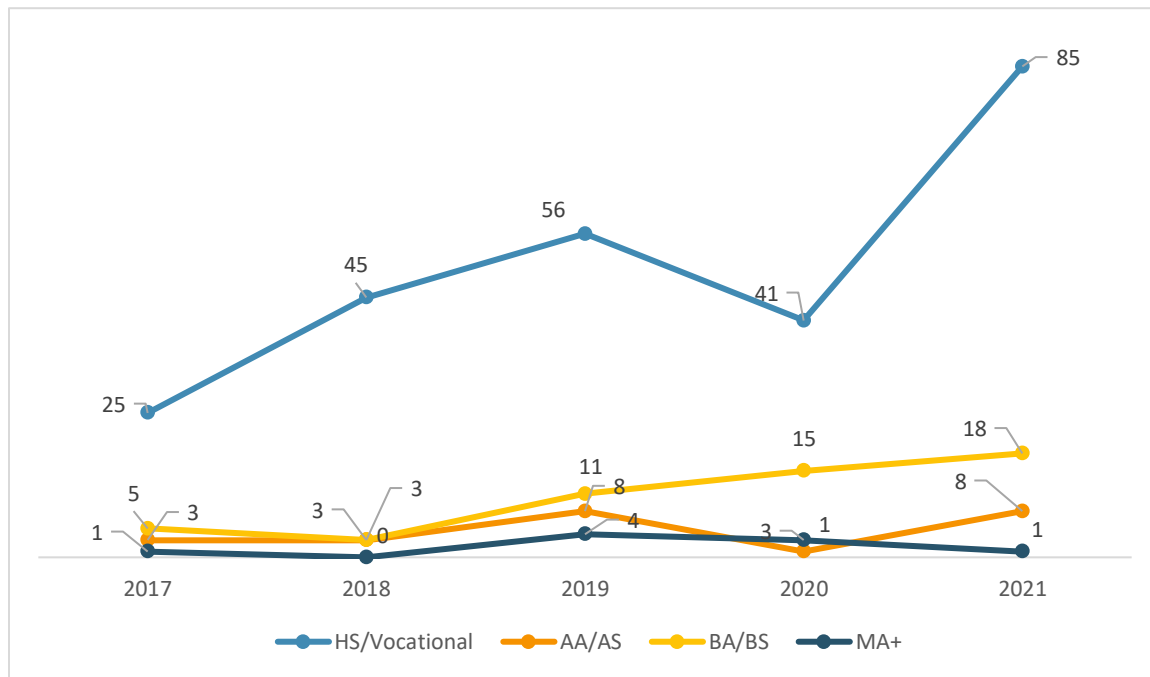
Certifications	Job Postings, Full Year 2021
Driver's License	112
CompTIA Security+	9
Security Clearance	4
Casino Gaming License	4
Carpentry Certification	4

Source: Labor Insight/Jobs (Burning Glass)

Job Postings - Minimum Educational Attainment Over Time

Exhibit 10 displays the change in job advertisements over the last five years for Technical Theater, according to the minimum advertised education. In 2021, there were 112 total job ads posted with a minimum advertised education, with 85 of them requiring high school diploma/vocational.

Exhibit 10 – Educational Demand, Minimum Advertised



Source: Labor Insight / Jobs (Burning Glass)

Job Postings – Proportion of Job Postings by Minimum Educational Attainment Required

To gauge employer preference for candidates with particular education levels, the proportion of job postings by minimum advertised education appears in Exhibit 11. Employers posting job ads for Technical Theater have frequently sought candidates with a high school diploma or vocational training.

Exhibit 11 – Occupational Demand by Education, Minimum Advertised

Minimum Education Requirement	2017	2018	2019	2020	2021
HS Diploma / Vocational Training	74%	88%	71%	68%	76%
Associate Degree	9%	6%	10%	2%	7%
Bachelor's Degree	15%	6%	14%	25%	16%
Graduate Degree	3%	0%	5%	5%	1%

Source: Labor Insight/Jobs (Burning Glass)

Education and Training

Exhibit 12 shows the typical entry-level education requirement for the occupations of interest, along with the typical on-the-job training needed to attain competency in the occupation.

Exhibit 12 – Education and Training Requirements

SOC	Occupation	Typical entry-level education	Typical on-the-job training
27-1027	Set and Exhibit Designers	Bachelor's degree	None
27-4014	Sound Engineering Technicians	Postsecondary Nondegree Award	Short-term on-the-job training
27-4015	Lighting Technicians	Postsecondary Nondegree Award	Short-term on-the-job training
39-3092	Costume Attendants	High school diploma or equivalent	Short-term on-the-job training
47-2031	Carpenters	High school diploma or equivalent	Apprenticeship

Source: Bureau of Labor Statistics Employment Projections (Educational Attainment)

Regional Completions and Openings

There were 1,089 regional completions (2021) and 891 regional openings (2021) in the South Central Coast region for programs related to the occupations in this report.

Exhibit 13 – Completions and Openings

20 Regional Institutions had Related Programs (2021)	1,089 Regional Completions (2021)	891 Annual Openings (2021)
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Source: Economic Modeling Specialists International (EMSI)

Related Programs

CIP Code	Program	Completions (2021)
50.0701	Art/Art Studies, General	292
50.0501	Drama and Dramatics/Theatre Arts, General	160
50.0901	Music, General	150
50.0702	Fine/Studio Arts, General	137
09.0701	Technical Theater	114
50.0502	Technical Theatre/Theatre Design and Technology	66
50.0703	Art History, Criticism and Conservation	56
50.0408	Interior Design	42
10.0203	Recording Arts Technology/Technician	36
46.0415	Building Construction Technology/Technician	25
09.0799	Radio, Television, and Digital Communication, Other	6
50.0913	Music Technology	5
46.0201	Carpentry/Carpenter	0
50.0402	Commercial and Advertising Art	0

Source: Economic Modeling Specialists International (EMSI)

CCC and Non-CCC Awards

Exhibit 14 lists the number of completers from programs related to Technical Theater in the South Central Coast region.

Exhibit 14 – CCC and Non-CCC Awards the South Central Coast, 2021

CCC Programs		Completers
Moorpark College		164
College of the Canyons		93
Cuesta College		75
Santa Barbara City College		72
Antelope Valley College		63
Ventura College		55
Allan Hancock College		31
Oxnard College		38
Non-CCC Programs		Completers
UC Santa Barbara		186
California Institute of the Arts		71
Cal Poly San Luis Obispo		70
CSU Channel Islands		65
Westmont College		35
California Lutheran University		32
The Master's University and Seminary		21
CET – Oxnard		13
CET – Santa Maria		4
Ventura Adult and Continuing Education		1

Source: Economic Modeling Specialists International (EMSI)

Student Outcomes

The CTE LaunchBoard provides student outcome data on the effectiveness of CTE programs. The following student outcome information was collected from exiters of the regional Technical Theater Programs (TOP: 1006.00) for the 2018-2019 academic year.

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Sources

O*Net Online, Labor Insight/Jobs (Burning Glass), Economic Modeling Specialists International (EMSI), MIT Living Wage Calculator, Bureau of Labor Statistics (BLS) Education Attainment, California Community Colleges Chancellor's Office Management Information Systems (MIS) Data Mart, CTE LaunchBoard, Statewide CTE Outcomes Survey, Employment Development Department Unemployment Insurance Dataset

Notes

Data included in this analysis represent the labor market demand for relevant positions most closely related to Technical Theater. 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 and 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.