

Los Medanos College

Certificate Title: Construction Pre-Apprenticeship

Type of Certificate: This is a Non-Credit CDCP Certificate of Completion in Construction Crafts Technology

Certificate of Completion Pursuant to Title 5, § 55151, students completing noncredit courses in a prescribed pathway, chaptered by the Chancellor's Office, leading to improved employability or job opportunities, a Certificate of Completion may be awarded. A noncredit Certificate of Completion means a document confirming that a student has completed a noncredit educational program of noncredit courses that prepares students to progress in a career path or to take degree applicable credit courses (CCR, Title 5 §55151(h)).

Item 1. Program Goals and Objectives

In Contra Costa County, and East Contra Costa County in particular, residential and commercial construction projects are expected to grow, thus requiring a labor force skilled in the various and necessary construction trades. LMC is meeting this workforce need by implementing a Construction Trades curriculum that will prepare individuals for high wage and high demand careers, of which there is abundant need. The target population for the program is matriculating high school and adult education students (formerly incarcerated) as well as unemployed or underemployed adults wanting to enter the construction trades.

Upon successful completion of this pre-apprenticeship program, students desiring entry into the construction trades may earn a certificate issued by the North America's Building Trades Unions entitled Multi-Craft Core Curriculum. The program is made possible through a partnership with the Contra Costa Building and Construction Trades Council (CCBCTC).

Learning Outcomes:

1. Explain basic construction principles and techniques and adapt them to various construction situations.
2. Discuss professional conduct, teamwork, and responsibility.
3. Name various construction materials and their applications.
4. Identify hand tools and their various applications to construction processes.
5. Identify power tools and their various applications to construction processes.
6. Practice job site safety, housekeeping, and professional behavior.
7. Participate in job site experience in the construction field.

Student Fees:

A mandatory fee of \$100 will be collected for the Multi-Craft Core Curriculum (MC3) certification. Fee will be refunded to students who do not complete the program. Students must provide personal protective equipment (PPE) and purchase uniform shirt at their own expense. Costs of PPE are approximately \$200 if purchased new.

Item 2. Catalog Description

The Construction Pre-Apprenticeship program features the Multi-Craft Core (MC3) curriculum approved by the National Building Trades that gives participants a leg up in understanding the crafts, gaining safety certificates, and being able to prepare for a successful apprenticeship. The program includes 176 hours of classroom instruction and 96 hours of hands-on training where

students will gain experience in framing, electrical, plumbing, sheet metal, masonry and more. Also included is instruction in blueprint reading, CPR/First Aid, Hazmat, and OSHA 10 training.

If you like the idea of working outside, working with your hands, and working as part of a team, then a career in construction might be for you. Pre-Apprenticeship enables you to learn about various crafts and explore which ones you might want to pursue. You will be introduced to the tools of the trades, beef up your math skills, learn about how to work safely, and much more. This 16-week program is geared to preparing you for the rigors of the industry, but they do NOT guarantee entrance into an apprenticeship program.

Item 3. Program Requirements

COURSE NAME	COURSE #	HOURS
Construction Pre-Apprenticeship Fundamentals	CONST-010N	96
Applied Construction Pre-Apprenticeship Skills	CONST-012N	96
Math for Construction	MATH-009N	80
Total Hours:		272

- a. **Construction Pre-Apprenticeship Fundamentals CONST-010N**, An introduction to the construction trades to include • Construction Industry Orientation • Tools and Materials • Construction Health and Safety • Blueprint Reading • Basic Math for Construction • Heritage of the American Worker • Diversity in the Construction Industry • Green Construction • Financial Literacy
- b. **Applied Construction Pre-Apprenticeship Skills CONST-012N**, Hands-on skills training in an on-site lab where students practice construction procedures and skills using construction tools and equipment.
- c. **Math for Construction MATH-009N**: Additional practice with math skills directly related to the construction field. Curriculum may include practice entry exam for the apprenticeship application process.

Item 4. Master Planning

The Construction Pre-Apprentice program touches each of the college's four broad strategic directions to promote equity, engagement, and effectiveness for student success:

1. Increase equitable student engagement, learning, and success.

Los Medanos College has a strong history of innovative workforce development initiatives including the Career Advancement Academies, California Apprenticeship Initiative, Workforce Accelerator Fund grants, etc. Each of these is focused on innovative ways to engage students using strategies such as learning communities and early alert software. The pre-apprenticeship cohorts will benefit greatly from this experience.

2. Strengthen community engagement and partnerships.

Los Medanos College prides itself in its strong community partnerships with agencies such as the Contra Costa Building Construction and Trades Council which enthusiastically approved the college's access to MC3 curriculum. Each of the three (3) high school districts that lie within the college's service area are enthusiastically waiting for the program to launch. Lastly, the local workforce development board as well as community-based organizations supporting the region's hardest to serve populations, including those justice-involved, are strong supporters of the program.

3. Promote innovation, expand organizational capacity, and enhance institutional effectiveness.

The development of a new Construction program at LMC and the opportunity to offer pre-apprenticeship using noncredit Career Development & College Preparation (CDCP) is consistent with the college's desire to reach students previously unserved in its service area. With vast expanses of yet-to-be-developed land in East Contra Costa the opportunities for local employment in union construction careers with family-sustaining wages will define the institutional effectiveness of the college in coming years.

4. Invest in technology, fortify infrastructure, and enhance fiscal resources.

In the summer of 2020, the college will invest \$2M plus to remodel and expand existing career education lab space in order to accommodate the addition of the construction program and others. Design efficiencies will allow the space to be transformed with minimal effort to accommodate instruction in fabrication technology, HVAC and, potentially a shared maker space. These investments in infrastructure, along with new state-of-the-art tools, equipment and supplies will position the college to develop additional in-demand programs such as drone technology and logistics and warehousing.

Labor Market Projections – East Bay Area (Contra Costa and Alameda Counties)

Source: Economic Modeling Specialists Intl. (EMSI)

As of April 21, 2020

Description	2020 Jobs	2025 Jobs	Percent Change	Annual Openings	Avg. Hourly Earnings
Construction Laborers	13,351	14,221	7%	1,699	\$23.93
Carpenters	12,676	13,211	4%	1,440	\$29.17
Electricians	6,926	7,672	11%	1,003	\$39.74
Plumbers, Pipefitters, and Steamfitters	5,531	6,203	12%	783	\$33.76
First-Line Supervisors of Construction Workers	5,412	5,737	6%	650	\$40.22
Painters, Construction and Maintenance	5,476	5,856	7%	647	\$26.83
Operating Engineers	2,852	2,949	3%	353	\$38.23
Drywall and Ceiling Tile Installers	2,839	3,081	9%	341	\$37.10
Roofers	2,386	2,529	6%	281	\$24.61
Cement Masons and Concrete Finishers	2,101	2,184	4%	242	\$29.11
Hazardous Materials Removal Workers	1,257	1,280	2%	165	\$23.47

Sheet Metal Workers	1,092	1,199	10%	145	\$29.21
Construction and Building Inspectors	969	1,017	5%	133	\$46.60
Plasterers and Stucco Masons	861	926	8%	94	\$26.88
Structural Iron and Steel Workers	663	695	5%	87	\$33.42
Tile and Marble Setters	668	729	9%	82	\$26.42
Elevator Installers and Repairers	577	622	8%	77	\$48.51
Floor Layers, Except Carpet, Wood	603	668	11%	75	\$30.84
Solar Photovoltaic Installers	370	471	27%	71	\$21.45
Glaziers	527	547	4%	66	\$30.96
Brickmasons and Blockmasons	483	535	11%	61	\$30.03
Helpers--Electricians	351	401	14%	61	\$18.05
Tapers	417	452	8%	51	\$34.77
Carpet Installers	487	488	0%	50	\$24.94
Pipelayers	340	355	4%	42	\$25.36
Highway Maintenance Workers	324	345	6%	41	\$30.40
Helpers--Brickmasons, Blockmasons, Stonemasons	245	275	12%	41	\$20.50
Helpers--Carpenters	239	264	10%	39	\$18.85
Insulation Workers, Floor, Ceiling, and Wall	217	257	18%	35	\$33.98
Fence Erectors	273	284	4%	35	\$20.86
Miscellaneous Construction and Related Workers	240	261	9%	34	\$22.78
Helpers, Construction Trades, All Other	199	215	8%	31	\$15.61
Stonemasons	221	238	8%	26	\$26.59
Helpers--Pipelayers, Plumbers, Pipefitters	101	142	41%	25	\$15.83
Reinforcing Iron and Rebar Workers	114	121	6%	15	\$24.27
Insulation Workers, Mechanical	67	84	25%	12	\$55.20
Helpers--Painters, Paperhangers, Plasterers	63	73	16%	11	\$17.26
Rail-Track Laying and Equipment Operators	45	49	9%	6	\$23.07
Boilermakers	32	36	13%	4	\$43.44
Terrazzo Workers and Finishers	25	27	8%	3	\$29.52
Floor Sanders and Finishers	27	27	0%	3	\$21.66
	71,659	76,740	7%	9,062	\$30.74