



CALIFORNIA APPRENTICESHIP COUNCIL  
SURVEYOR INDUSTRY  
ADVISORY COMMITTEE

**SURVEYORS**

INDUSTRY TRAINING CRITERIA

OCCUPATION CODES:

O\*NET 17.3031.01

CHIEF OF PARTY

O\*NET 17.3031.01A

CHAINMAN/RODMAN

CALIFORNIA APPRENTICESHIP COUNCIL  
SURVEYOR INDUSTRY  
Occupation Codes:

O*NET 17-3031.01	Chief of Party
O*NET 17-3031.01A	Chainman/Rodman

Minimum Requirements

1. LENGTH OF TRAINING

Program sponsors shall establish a minimum of 2 – 2-year provisional programs, of not less than 8,000 hours of on-the-job training.

2. RELATED AND SUPPLEMENTAL INSTRUCTION

The required prescribed courses of related and supplemental instruction shall be no less than 144 hours per year. This instruction must include, at a minimum, the related and supplementary training processes listed in Exhibit "A".

3. ON-THE-JOB TRAINING

(Skills to be learned) See Exhibit "B".

4. COMPETENCY TESTING

All applicants for apprenticeship must pass a minimum entrance exam to be administered by an appropriate proctor.

5. PROGRESS ADVANCEMENT

A. All apprentices must pass a competency test prior to advancement to their next level of training. The test shall be based on Related and Supplemental Instruction and manipulative skills tests for the Chainman/Rodman levels.

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- B. All apprentices must pass a competency test prior to advancement to their next level of training. The test shall be based on Related and Supplemental Instruction and satisfactory on-the-job performances for the Chief of Party level.
- C. Each level of advancement is based on satisfactory completion of a minimum of 500 hours to a maximum of 1,000 hours of on-the-job related training hours in conjunction with completion of the appropriate approved classroom curriculum and supplemental requirements of Standard First Aid, Sexual Harassment Training, and any additional State of California DAS requirements.
- D. There will be four (4) class term units of related curriculum instruction to graduate to Chainman/Rodman level.
- E. There will be an additional four (4) class term units of related curriculum instruction to graduate to Chief of Party level.

6. COMPLETION PERCENTAGES

The program sponsors who are not able to demonstrate a completion rate of 35% of apprentices indentured into their program after the stated probationary period will be subject to review by the Division of Apprenticeship Standards.

7. REVISIONS

The schedule for revisions to the Field Surveyor Industry training criteria shall be in accordance with Section 212.01 Exhibit "C".

EXHIBIT "A"

PROPOSED RELATED AND SUPPLEMENTAL  
INSTRUCTION TOPICS  
FOR FIELD SURVEYOR INDUSTRY

RELATED AND SUPPLEMENTAL INSTRUCTION

1. Calculating using math, algebra, geometry, trigonometry and coordinate geometry
2. \* Safety – Standard First Aid, CPR, tool, roadway and jobsite safety procedures
3. \* Note keeping and sketching
4. Use and care of basic tools & equipment
5. \* Methods of Subdivision, Property and Heavy Construction Work Processes
6. \* Use of calculators and computers
7. Use and care of survey instruments and survey equipment, including field checks and adjustments
8. \* Maps and Plan Reading for Topographic, Subdivision, Heavy Construction and Hydrographic Surveys
9. \* Advanced calculations, conversions, reductions, quantities and use of surveying software
10. Public relations, survey law, ethics, and leadership as a Party Chief
11. \* Geodesy and Global Navigation Satellite Systems unit
12. Public Land Survey System, retracement, property surveys, reading and writing legal descriptions
13. \* All survey related work on Solar Photovoltaic Installation jobsites for the Field and Construction Survey processes, may also include, but is not limited to, work on jobsites pertaining to Wind, Water, Electrical and Solar Energy.  
  
\* These topics include "green curriculum".

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EXHIBIT "B"

WORK PROCESSES: The major work processes on which Registered Apprentices will be trained, although not necessarily in the order listed, and the approximate hours, not necessarily continuous to be spent on each, are as follows:

<b>CHAINMAN/RODMAN APPRENTICE</b>	<b>HOURS</b>
Use and care for hand tools (other than survey equipment)	340
Use and care for survey hand tools	500
Use and care for rods, chains and related equipment	1000
Hand signals, land surveying terms and definitions	100
Hubs, reference points and monuments	400
Marker Stakes	350
Bench marks and turning points	1000
First Aid	8
Safety Measures	152
Use of Calculators	150
	Total 4000

<b>CHIEF OF PARTY APPRENTICE</b>	
<b>Completion of Chainman/Rodman work processes and</b>	<b>4000</b>
Use and care of survey instruments	1000
Use and care of levels	500
Use and care of survey instruments and other special equipment	200
Notes and sketches	200
Calculations	250
Reductions	200
Conversions	200
Maps	250
Plans	250
Record keeping	250
Job analysis for efficient field procedures	440
First Aid	8
Safety measures	120
Public relations and client diplomacy; professional status and ethics	132
	Total 8000

\*Party Chief Requirement 1000  
 1000 of the 8000 hours must be worked at Party Chief classification.

## EXHIBIT "C"

### **§212.01 Industry Training Criteria**

a) The California Apprenticeship Council ("Council") may adopt state-wide minimum industry training criteria adopted by particular industry training committee established pursuant to the provisions of this section, unless the particular committee cannot establish such criteria by its deadline as provided under this section, in which case the CAC may otherwise determine state-wide minimum industry training criteria to be utilized in accordance with the provisions of this section.

b) The following procedures shall be followed when initially establishing the minimum industry training criteria:

(1) A committee shall be established by the Chair of the Council for each apprenticeable construction-industry craft or trade, and may be established by the Chair of the Council for any apprenticeable non-construction industry craft or trade. The Chair shall appoint a minimum of eight (8) members in the following categories: two signatory employer representatives, two non signatory employer representatives, two signatory employee representatives, and two non signatory employee representatives. The term of each member shall be three years. The Chair may appoint additional members in the same proportion. The Chair shall appoint members from among candidates supplied by the sponsors of those apprenticeship programs approved or proposed for approval under the Shelley-Maloney Apprentice Labor Standards Act of 1939, Chapter 4 (commencing with Section 3070) of Division 3 of the Labor Code ("Shelley-Maloney Act") in the particular craft or trade. The Chair shall notify all programs approved or proposed for approval under the Shelley-Maloney Act in the particular craft or trade of the Chair's intent to form such appointments, and must provide such programs with a period of at least 30 days within which to submit candidates to the Chair. Where programs do not supply sufficient candidates in the categories required to the Chair within the period provided or where there are no programs to supply candidates, the Chair may select individuals working in the particular craft or trade to complete the committee. The Chair shall endeavor to appoint members from all segments of the industry.

(2) Committee action shall require a two-thirds majority vote of the members in attendance at a duly constituted meeting. For the purpose of this section, a duly constituted meeting shall mean that a quorum consisting of a majority of the entire committee is in attendance.

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(3) The committee shall meet as often as necessary at the call of its Chair. The Chair of the committee shall be appointed annually by the Chair of the Council. The Chair of the committee shall rotate between signatory and non signatory representatives.

(4) The committee shall establish the State-wide minimum industry training criteria for the trade or craft for which it was established, the content of which shall encompass all the requirements of Section 212 of these regulations and the following topics in addition thereto: length of training, related classroom instruction, types of work processes and the skills to be learned, on-the-job training, competency testing, apprenticeship program completion percentages. The criteria for the barbering, cosmetology, skin care and nail care trades shall be consistent with the standards for licensure in these trades required by the State Board of Barbering and Cosmetology.

(5) The committee shall formulate the state-wide minimum industry training criteria for the applicable trade or craft no later than twelve months from the date of its first meeting, unless extended by the Council. The Council shall endeavor to complete its review of the criteria by the second regularly scheduled meeting of the Council following the submission. If the Council does not approve the criteria, the submission shall be promptly returned to the committee with the Council's written reasons and a new deadline for resubmission to the Council.

(c) Every three years following the adoption of a particular set of state-wide minimum industry training criteria, the particular committee shall meet to review the criteria, and revise it, if necessary, subject to approval by the Council.

(d) Every apprenticeship program approved or proposed for approval under the Shelley-Maloney Act in a particular craft or trade for which state-wide minimum industry training criteria has been adopted shall conform to such criteria in its operations no later than one (1) year after adoption of such criteria by the Council.

**§212.1 Reciprocal Approval of Apprenticeship Programs**

Apprenticeship programs and standards of employers and unions in other than the building and construction industry, which jointly form a sponsoring entity on a multi state basis and are registered pursuant to all requirements of Title 29 Code of Federal Regulations, Part 29, as adopted February 15, 1977, by any recognized State Apprenticeship Agency/Council or by the Bureau of Apprenticeship and Training, U.S. Department of Labor, shall be accorded approval reciprocity by the Chief DAS, if such reciprocity is requested by the sponsoring entity.

The foregoing apprenticeship standards, being in conformity with the rules and regulations of the California Apprenticeship Council, the California Code of Regulations, and applicable Federal Regulations are hereby approved by

\_\_\_\_\_  
Glen Forman, Acting Chief  
Division of Apprenticeship Standards

\_\_\_\_\_  
Date

The foregoing standards are hereby agreed to and adopted on this \_\_\_\_\_ day  
of \_\_\_\_\_, 2010.

Anthony McCants  
Co-Chairman  
Northern California

Duane E. Friel  
Co-Chairman  
Southern California

Signature: \_\_\_\_\_

Signature: \_\_\_\_\_



**CALIFORNIA APPRENTICESHIP COUNCIL  
SURVEYOR INDUSTRY TRAINING CRITERIA**

Representing Counties of Northern California

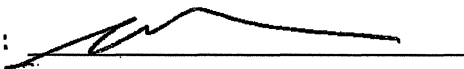
**SIGNATORY EMPLOYER REPRESENTATIVES**

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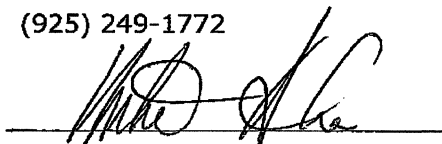


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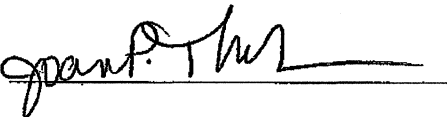
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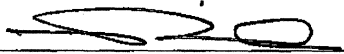
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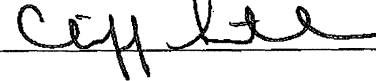
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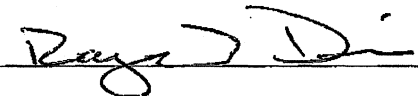
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