



**CALIFORNIA APPRENTICESHIP COUNCIL
SURVEYOR INDUSTRY
ADVISORY COMMITTEE**

SURVEYORS

INDUSTRY TRAINING CRITERIA

OCCUPATION CODES:

D.O.T.	018-167-010	CHIEF OF PARTY
D.O.T.	018-167-034	INSTRUMENT MAN
D.O.T.	869-567-010	CHAINMAN/RODMAN

CALIFORNIA APPRENTICESHIP COUNCIL
SURVEYOR INDUSTRY

Occupation Codes:

D.O.T. 018.167.010	Chief of Party
D.O.T. 018.167.034	Instrument Man
D.O.T. 869.567.010	Chainman/Rodman

Minimum Requirements

1. **LENGTH OF TRAINING**

Program sponsors shall establish a minimum four (4) year program 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.
- 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 performance for the Instrument Man/Chief of Party levels.

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- C. Each level of advancement is based on satisfactory completion of a minimum of 500 hours to a maximum of 1000 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 Rodman/Chainman level.
- E. There will be an additional four (4) class term units of related curriculum instruction to graduate to Instrument Man/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.

CALIFORNIA APPRENTICESHIP COUNCIL
SURVEYOR INDUSTRY
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 job-site safety procedures.
3. Note keeping and sketching.
4. Use and care of basic tools & equipment.
5. Methods of Sub-Division, Property and Heavy Construction work processes.
6. Use of calculators and computers.
7. Use of 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.

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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:

CHAINMAN/RODMAN APPRENTICE

	<i>Hours:</i>
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	40
Safety Measures	120
Use of Calculators	150
Total	4000 hours

INSTRUMENTMAN APPRENTICE

Completion of Chainman/Rodman work processes and	4000
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
Safety measures	100
Total	6000 hours

CHIEF OF PARTY APPRENTICE

Completion of Chainman Rodman work processes and	4000
Completion of Instrument Man work processes and	2000
Calculations	250
Reductions	200
Conversions	200
Maps	250
Plans	250
Record keeping	250
Job analysis for efficient field procedures	440
First Aid	40
Safety measures	120
Total	8000 hours

*Party Chief Requirement 1000 hours

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

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EXHIBIT "C"

212.01 Industry Training Criteria.

a) The California Apprenticeship Council shall adopt uniform training criteria adopted by particular industry training committee established pursuant to the provisions of this section, or shall otherwise determine the uniform training criteria to be utilized in accordance with the provisions of this section.

1. (b) The following procedures shall be followed when initially establishing the uniform industry/trade or craft training criteria:

(1) A representative committee for each major apprenticeable craft/trade shall be established by the Chair of the California Apprenticeship Council who shall appoint a minimum of twelve (12) members, three signatory employer representatives, three non signatory employer representatives, three signatory employee representatives and three 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 in the particular industry or trade including those programs proposed but not approved. Where there are no programs to supply candidates in a category, the Chair shall select individuals working in the particular industry. The Chair shall endeavor to appoint members from all segments of the industry within Northern, Central and Southern California. The committee action shall require a two thirds majority.

(2) The committee shall meet as often as necessary at the call of its Chair, who shall be appointed annually by the Chair of the California Apprenticeship Council. The Chair of the committee shall rotate between union and non-union.

(3) The committee shall establish the industry/trade or craft training criteria, 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, and procedures for the review and revision of the training criteria. 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.

(4) The committee shall formulate the training criteria for the applicable industry trade/craft no later than twelve months from the date of its first meeting. The Council shall complete its review of the criteria by the second regularly scheduled meeting of the Council following the submission. If the Council approves the criteria, the Council shall then promulgate the criteria as regulations pursuant to the Administrative Procedure Act. If the Council does not approve the criteria, the submission shall be promptly returned to the committee with the Council's written reasons.

(c) Each three years following the adoption of a particular set of industry trade/craft training criteria, the particular committee shall meet to review, and revise, if necessary, the industry training criteria, subject to approval by the California Apprenticeship Council.

(d) All apprenticeship programs existing, whether approved or unapproved, at the time of the adoption of the appropriate minimum industry trade/craft training criteria, shall conform to such minimum criteria in their operations within one (1) year of the date of the adoption of such criteria by the California Apprenticeship Council.

CALIFORNIA APPRENTICESHIP COUNCIL SURVEYOR INDUSTRY

§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 multistate 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.



**CALIFORNIA APPRENTICESHIP COUNCIL
SURVEYOR INDUSTRY
ADVISORY COMMITTEE**

April 11, 2006

Council Members
California Apprenticeship Council
P.O. Box 420603
San Francisco, CA 94142

Dear Council Members:

All Northern and Southern California Representatives have reviewed the final draft of the Minimum Training Standards for the California Surveyors Industry. The approval and agreement of all participants is verified by the enclosed copies of their signature sheets. Also enclosed is a copy of the Training Standards approved by the Representatives of Northern and Southern California.

Sincerely,

Dan Mays
Chairman - Surveyors
Minimum Industry Training Standards Committee

DM:ko
Enc. (2)



CALIFORNIA APPRENTICESHIP COUNCIL

Surveyor Industry Advisory Committee

Employee Representative:

Dean Dye, Director Tech. Eng.
Operating Engineers Local #3
1620 South Loop Road
Alameda CA 94502
510/ 748-7400

Jarrad Truman
The Keith Companies
22690 Cactus Ave. #300
Moreno Valley CA 92553
951/ 697-8300

Ed Bruley
IUOE Local 12 Survey Representative
3311 West Ball Road
Anaheim CA 92804
714/ 827-4591

Dan Mays
IUOE Local 12 Survey Representative
1647 West Lugonia Ave.
Redlands CA 92374
909/ 307-8700

Signatory Employer Representative:

Mike Aha
Meridian Technical Services
2142 Rheem Drive
Pleasanton CA 94588
925/ 249-1772

Anthony McCants
Kier & Wright
1233 Quarry Lane #145
Pleasanton CA 94566
925/ 249-6555

Employer Representative:

Charles A. Camarillo
Caltrans
464 W. Fourth St. 6th Floor
San Bernardino CA 92401
909/ 383-6402

John Dawson
Dawson Surveying
1332 Villa Street
Riverside CA 92507
951/ 682-3286

Shereef Surur
L.A. Dept. of Water & Power
111 N. Hope St. Rm. 1307
Los Angeles CA 90061
213/ 367-0125

Non-Signatory Employer Representative:

Tom Morrow
Morrow Surveying
1450 Harbor Blvd. #D
Sacramento CA 95691
916/ 372-8124

Mike Flynn
Blair, Church & Flynn
451 Clovis Ave. #200
Fresno CA 93612
559/ 326-1400

Kailash Chaudhary
Chaudhary & Associates
851 Napa Valley Corporate, Ste. G
Napa CA 94558
707/ 255-2729

Advisor:

Paul Schissler, Administrator
No. Cal. Surveyor JAC
1620 South Loop Road
Alameda CA 94502
510/ 748-7413

Darrell Lewis, Administrator
So. Cal Surveyor JAC
709 Brea Canyon Road #2
Walnut CA 91789
909/ 598-2652

**CALIFORNIA APPRENTICESHIP COUNCIL
SURVEYOR INDUSTRY**

The following is a proposed list of representatives from the signatory and non-signatory sector of the forty-six (46) counties of Northern California who have agreed to represent the Surveyor Industry.

Signatory Employer Representative:

Name: Mr. Mike Aha
Meridian Technical Services
Address: 2142 Rheem Drive
City: Pleasanton, CA
Zip Code: 94588
Phone Number: (925) 249-1772

Signature

Signatory Employer Representative:

Name: Mr. Anthony McCants
Kier & Wright
Address: 1233 Quarry Lane, #145
City: Pleasanton, CA
Zip Code: 94566
Phone Number: (925) 249-6555

Signature

Employee Representative:

Name: Mr. Dean Dye, Director Tech Engs.
Operating Engineers Local #3
Address: 1620 South Loop Road
City: Alameda, CA
Zip Code: 94502
Phone Number: (510) 748-7400

Signature

Advisor:

Name: Mr. Paul Schissler, Administrator
No. Cal. Surveyors JAC
Address: 1620 South Loop Road
City: Alameda, CA
Zip Code: 94502
Phone Number: (510) 748-7413

Signature

Non-Signatory Employer Representative:

Name: Mr. Tom Morrow
Morrow Surveying
Address: 1450 Harbor Blvd., #D
City: Sacramento, CA
Zip Code: 95691
Phone Number: (916) 372-8124

Signature

Non-Signatory Employer Representative:

Name: Mr. Mike Flynn
Blair, Church & Flynn
Address: 451 Clovis Ave., #200
City: Fresno, CA
Zip Code: 93612
Phone Number: (559) 326-1400

Signature

Non-Signatory Employer Representative:

Name: Mr. Kailash Chaudhary
Chaudhary & Assoc.
Address: 851 Napa Valley Corporate, Suite G
City: Napa, CA
Zip Code: 94558
Phone Number: (707) 255-2729

Signature

DAS Consultant:

Name: Mr. Bryan Goyette
DAS Consultant
Address: 455 Golden Gate Ave.
City: San Francisco, CA
Zip Code: 94102
Phone Number: (415) 703-4920
FAX: (415) 703-5477

Signature

**CALIFORNIA APPRENTICESHIP COUNCIL
SURVEYOR INDUSTRY**

The following is a list of representatives from the signatory and non-signatory sector of the twelve (12) counties of Southern California who have agreed to represent the Surveyor Industry.

Employee Representatives:

Name: Mr. Jarrad Truman
The Keith Companies
Address: 22690 Cactus Ave., #300
City: Moreno Valley, CA
Zip Code: 92553
Phone Number: (951) 697-8300

Signature

Name: Mr. Ed Bruley
IUOE Local 12 Survey Representative
Address: 3311 West Ball Road
City: Anaheim, CA
Zip Code: 92804
Phone Number: (714) 827-4591

Signature

Name: Mr. Dan Mays
IUOE Local 12 Survey Representative
Address: 1647 West Lugonia Ave.
City: Redlands, CA
Zip Code: 92374
Phone Number: (909) 307-8700

Signature

Advisor

Name: Mr. Darrell Lewis, Administrator
So. Cal. Surveyors JAC
Address: 709 Brea Canyon Road, #2
City: Walnut, CA
Zip Code: 91789
Phone Number: (909) 598-2652

Signature

Employer Representatives:

Name: Mr. Charles A. Camarillo
CalTrans
Address: 464 W. Fourth Street, 6th Floor
City: San Bernardino, CA
Zip Code: 92401-1400
Phone Number: (909) 383-6402

Signature

Name: Mr. John Dawson
Address: 1332 Villa Street
City: Riverside, CA 92507
Zip Code: 92507
Phone Number: (951) 682-3286

Signature

Name: Mr. Shereef Surur
L.A. Depart. Of Water and Power
Address: 111 N. Hope Street, Rm. 1307
City: Los Angeles, CA
Zip Code: 90061
Phone Number: (213) 367-0125

Signature

DAS Consultant

Name: Mr. Bryan Goyette
Consultant
Address: 455 Golden Gate Ave.
City: San Francisco, CA
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Signature