Introduction

The relationships among training, job skills and occupations might seem simple, but have proven difficult to explain in any simple terms. Two different yet complementary attempts to do just that have been incorporated into this report. This report presents the Occupational Supply and Demand System's Units of Analysis (UA) in conjunction with the National Crosswalk Service's SOC-CIP crosswalk matching of occupations and instructional programs.

UNITS OF ANALYSIS

The foundation of this section of the report is the Occupational Supply and Demand System's Units of Analysis, referred to here as UAs. In the UA model, training programs are grouped with related occupations to form a single UA. The training programs used are those from the Classification of Instructional Programs, or CIPs. CIPs generally provide structured training at a detailed level, and normally require 300 or more hours of classroom training. There are more than 1,200 designated CIPs. Occupations are identified using the Standard Occupational Classifications (SOC) codes created by the Office of Management and Budget and widely used by both federal and state statistical agencies. There are more than 800 SOC codes used to define occupations within the U.S.

UAs are normally, though not always, comprised of multiple CIPs and multiple SOCs. The CIPs and SOCs have been grouped into 232 UAs* with each SOC and each CIP belonging to only one Unit of Analysis. Because a single training program can prepare a person for more than one occupation, and one can prepare themselves for an occupation through various training programs, the groupings of CIPs and SOCs within a single UA was an attempt to provide some structure to the training / skills / occupation relationship.

In this report, the UAs will be presented with CIPs in each row, and the associated SOCs in each column. Here is the example for the ELECTRICAL UA:

Unit of Analysis →

ELECTRICAL (064A-02)

← **SOCs in UA**

CIPs in UA →

CIP \ SOC	Educational Training Provider in Alaska	Electric Motor, Power Tool, and Related Repairers (49-2092)	Electrical and Electronics Installers and Repairers, Transportation Equipment (49-2093)	Electrical and Electronics Repairers, Powerhouse, Substation, and Relay (49-2095)	Electrical Power-Line Installers and Repairers (49-9051)	Electricians (47-2111)	Electronic Equipment Installers and Repairers, Motor Vehicles (49-2096)	Helpers--Electricians (47-3013)
Electrical and Power Transmission Installation/Installer, General (46.0301)	✓							
Electrical and Power Transmission Installers, Other (46.0399)	✓							
Electrician (46.0302)	✓							
Lineworker (46.0303)	✓							

For this UA, the four programs of study are considered relevant to the skills and training needed to meet the demands of the seven related occupations.

*There are currently 19 UAs which contain either only CIPs or only SOCs, and are not included in this report. Also, teachers and "all other" occupations have been eliminated from this report. Therefore, UAs which contain only these SOCs are not included.

Introduction

SOC-CIP Crosswalk
The Units of Analysis is not the only tool available to match training requirements to occupations. In an attempt to more closely match CIPs with appropriate SOCs, a matrix was created by the U.S. Departments of Labor and Education: the SOC-CIP crosswalk. The SOC-CIP crosswalk identifies over 2,800 SOC-CIP relationships. And, unlike the UA structure, there was no attempt made to cluster either SOCs or CIPs together under a larger framework or structure.

When we combine the information in the SOC-CIP crosswalk with that of the UA, we can begin to refine how training and occupations are related. For example, within the ELECTRICAL UA, the SOC-CIP crosswalk links the Electrician CIP 46.0302 as being most applicable to the training requirements for an Electrician (SOC 47-2111) and Helpers – Electricians (SOC 47-3013). In this report, we identify the relationships identified in the SOC-CIP Crosswalk with a ✓.

ELECTRICAL (064A-02)

SOC / CIP	Educational Training Program Provider in Alaska	Electric Motor, Power Tool, and Related Repairers (49-2092)	Electrical and Electronics Installers and Repairers, Transportation Equipment (49-2093)	Electrical and Electronics Repairers, Powerhouse, Substation, and Relay (49-2095)	Electrical Power-Line Installers and Repairers (49-9051)	Electricians (47-2111)	Electronic Equipment Installers and Repairers, Motor Vehicles (49-2096)	Helpers--Electricians (47-3013)
Electrical and Power Transmission Installation/Installer, General (46.0301)	✓				✓			
Electrical and Power Transmission Installers, Other (46.0399)	✓				✓			
Electrician (46.0302)	✓					✓		✓
Lineworker (46.0303)	✓				✓			

Check mark indicates that a relationship exists between the SOC and CIP according to the NCSC

However, the SOC-CIP crosswalk also identifies SOCs outside of this UA as being closely linked to CIPs within the UA. For example, the Electrician CIP is also associated with the occupations of First-Line Supervisors/Managers of Construction Trades and Extraction Workers, Security and Fire Alarm System Installers, and Signal and Track Switch Repairers. A similar scenario can occur when SOCs within a UA are associated with CIPs that fall outside of that particular UA. For example, in the SOC-CIP crosswalk, the Electric Motor, Power Tool and Related Repairers SOC is most closely related to the Electrical/ Electronic Equipment Installation and Repair, General CIP.

When we add these SOCs and CIPs which fall outside of the UA, we have the following:

ELECTRICAL (064A-02)

Associated SOCs →

Associated CIPs →

CIP \ SOC	Educational Training Program Provider in Alaska	Electric Motor, Power Tool, and Related Repairers (49-2092)	Electrical and Electronics Installers and Repairers, Transportation Equipment (49-2093)	Electrical and Electronics Repairers, Powerhouse, Substation, and Relay (49-2095)	Electrical Power-Line Installers and Repairers (49-9051)	Electricians (47-2111)	Electronic Equipment Installers and Repairers, Motor Vehicles (49-2096)	Helpers--Electricians (47-3013)	First-Line Supervisors/Managers of Construction Trades and Extraction Workers (47-1011)	Security and Fire Alarm Systems Installers (49-2098)	Signal and Track Switch Repairers (49-9097)
Electrical and Power Transmission Installation/Installer, General (46.0301)	✓				✓				✓		
Electrical and Power Transmission Installers, Other (46.0399)	✓				✓				✓		
Electrician (46.0302)	✓					✓		✓	✓	✓	✓
Lineworker (46.0303)	✓				✓				✓		
Automobile/Automotive Mechanics Technology/Technician (47.0604)			✓				✓				
Electrical/Electronics Equipment Installation and Repair, General (47.0101)		✓									

Educational Training Program Providers

Finally, notice the column marked "Educational Training Program Provider in Alaska." A check mark in this column indicates that there is at least one training provider for this instructional program in Alaska.