

### SKILL COMPLEMENTARITIES IN THE US

We describe in the table below complementary and anti-complementary O\*NET variables for US sub-major occupation groups.

Take Production Occupations, for example, which we have predicted will see a fall in workforce share. According to the O\*NET data, Production and Processing, Near Vision and Problem Sensitivity are the three most important or emblematic features for this occupation group. Our model predicts that increasing Customer and Personal Service, Technology Design and Installation in the presence of these features will have the greatest positive impact on future demand, while increasing Rate Control, Operation and Control and Quality Control Analysis) will have the greatest negative impact. Looking across all occupation groups, Customer and Personal Service and Technology Design (along with Science) appear to be the O\*NET features most likely to appear as positive complementary variables.

Of course, any reconfiguration of skills, abilities, and knowledge requirements entails an evolution of the occupation. Or, put differently, occupations may need to be redesigned in order to make effective use of skills and knowledge complements. It is our hope that the results presented below will be a useful guide in this exercise in the US.

**For US major occupation groups, ranked lists (the highest ranked, top, and lowest ranked, bottom) of O\*NET features that are: currently high-valued, complementary and anti-complementary**

SOC	TITLE	CURRENT FEATURES	COMPLEMENTARY FEATURES	ANTI-COMPLEMENTARY FEATURES
11-0000	Management Occupations	Administration and Management Oral Expression Oral Comprehension	Science Philosophy and Theology Sociology and Anthropology	Economics and Accounting Medicine and Dentistry Mathematics – Knowledge
13-0000	Business and Financial Operations Occupations	Oral Comprehension Written Comprehension English Language	Science Philosophy and Theology Technology Design	Medicine and Dentistry Economics and Accounting Mathematics – Knowledge
15-0000	Computer and Mathematical Occupations	Computers and Electronics Critical Thinking Problem Sensitivity	Science Technology Design Design	Economics and Accounting Design Rate Control Medicine and Dentistry
17-0000	Architecture and Engineering Occupations	Engineering and Technology Mathematics – Knowledge Design	Science Technology Design Operations Analysis	Operation and Control Rate Control Medicine and Dentistry
19-0000	Life, Physical and Social Science Occupations	Written Comprehension Oral Comprehension Reading Comprehension	Science Technology Design Operations Analysis	Medicine and Dentistry Rate Control Operation and Control
21-0000	Community and Social Service Occupations	Psychology Therapy and Counseling Active Listening	Operations Analysis Science Philosophy and Theology	Medicine and Dentistry Reaction Time Therapy and Counseling
23-0000	Legal Occupations	Oral Expression Law and Government English Language	Science Sociology and Anthropology Philosophy and Theology	Economics and Accounting Medicine and Dentistry Mathematics – Knowledge
25-0000	Education, Training and Library Occupations	Education and Training Oral Expression Operations English Language	Science Analysis Technology Design	Mathematics – Knowledge Medicine and Dentistry Economics and Accounting
27-0000	Arts, Design, Entertainment, Sports, And Media Occupations	English Language Oral Expression Oral Comprehension	Science Philosophy and Theology Education and Training	Economics and Accounting Rate Control Mathematics – Knowledge
29-0000	Healthcare Practitioners and Technical Occupations	Medicine and Dentistry Customer and Personal Service Oral Comprehension	Technology Design Science Operations Analysis	Medicine and Dentistry Rate Control Operation and Control
31-0000	Healthcare Support Occupations	Customer and Personal Service Oral Comprehension English Language	Customer and Personal Service Technology Design Science	Rate Control Mathematics – Knowledge Computers and Electronics
33-0000	Protective Service Occupations	Public Safety and Security Problem Sensitivity English Language	Customer and Personal Service Technology Design Science Quality	Rate Control Operation and Control Control Analysis

SOC	TITLE	CURRENT FEATURES	COMPLEMENTARY FEATURES	ANTI-COMPLEMENTARY FEATURES
35-0000	Food Preparation and Serving Related Occupations	Customer and Personal Service Oral Comprehension Oral Expression	Customer and Personal Service Static Strength Service Orientation	Rate Control Computers and Electronics Operation and Control
37-0000	Building and Grounds	Customer and Personal Service Trunk Strength English Language	Customer and Personal Service Static Strength Service Orientation	Rate Control Wrist-Finger Speed Operation and Control
39-0000	Personal Care and Service Occupations	Customer and Personal Service Oral Expression Oral Comprehension	Customer and Personal Service Static Strength Technology Design	Rate Control Mathematics - Knowledge Operation and Control
41-0000	Sales and Related Occupations	Customer and Personal Service Oral Expression Oral Comprehension	Customer and Personal Service Science Technology Design	Economics and Accounting Mathematics – Knowledge Rate Control
43-0000	Office and Administrative Support Occupations	Customer and Personal Service Oral Comprehension Oral Expression	Service Orientation Customer and Personal Service Technology Design	Mathematics – Knowledge Economics and Accounting Rate Control
45-0000	Farming, Fishing and Forestry Occupations	Static Strength Arm-Hand Steadiness Multilimb Coordination	Customer and Personal Service Static Strength Service Orientation	Rate Control Wrist-Finger Speed Operation and Control
49-0000	Installation, Maintenance and Repair Occupations	Mechanical Near Vision Repairing	Installation Customer and Personal Service Technology Design	Operation and Control Rate Control Quality Control Analysis
51-0000	Production Occupations	Production and Processing Near Vision Problem Sensitivity	Customer and Personal Service Technology Design Installation	Rate Control Operation and Control Quality Control Analysis
53-0000	Transportation and Material Moving Occupations	Multilimb Coordination Near Vision Control Precision	Customer and Personal Service Static Strength Installation	Quality Control Analysis Wrist-Finger Speed Rate Control