



## Industrial engineers

Design, develop, test, and evaluate integrated systems for managing industrial production processes, including human work factors, quality control, inventory control, logistics and material flow, cost analysis, and production coordination.

## Cognitive and mental requirements

The qualifications that workers need to use judgment, make decisions, interact with others, and adapt to changes in jobs.

In 2023, more than basic people skills were required for 99.1 percent of industrial engineers, and basic people skills were required for 0.9 percent.

**Table 1. Percentage of industrial engineers with cognitive and mental requirements, 2023**

Requirement	Yes	No
<b>Pace: Pause control</b>	>85	<15
<b>Interaction with general public</b>	59.3	40.7
<b>Working around crowds</b>	<0.5	>99.5
<b>Telework</b>	11.9	88.1
<b>Work review: Supervising others</b>	12.0	88.0
<b>Work review: Presence of supervisor</b>	67.9	32.1

Source: U.S. Bureau of Labor Statistics, Occupational Requirements Survey

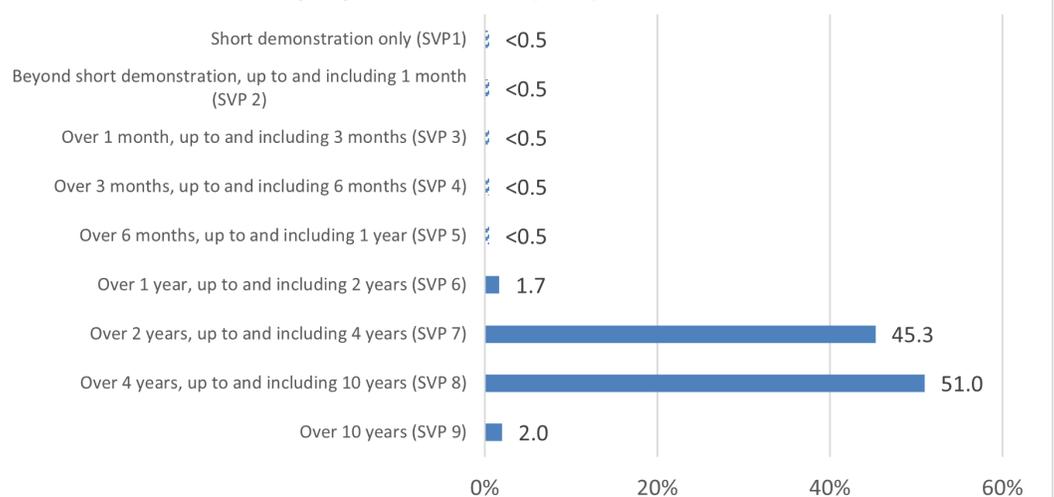
## Education, training, and experience requirements

The minimum level of formal education required, credentials necessary, on-the-job training, and prior work experience necessary for average performance in jobs.

In 2023, credentials were required for 10.1 percent of industrial engineers. Prior work experience was required for 66.3 percent and on-the-job training was required for 77.4 percent.

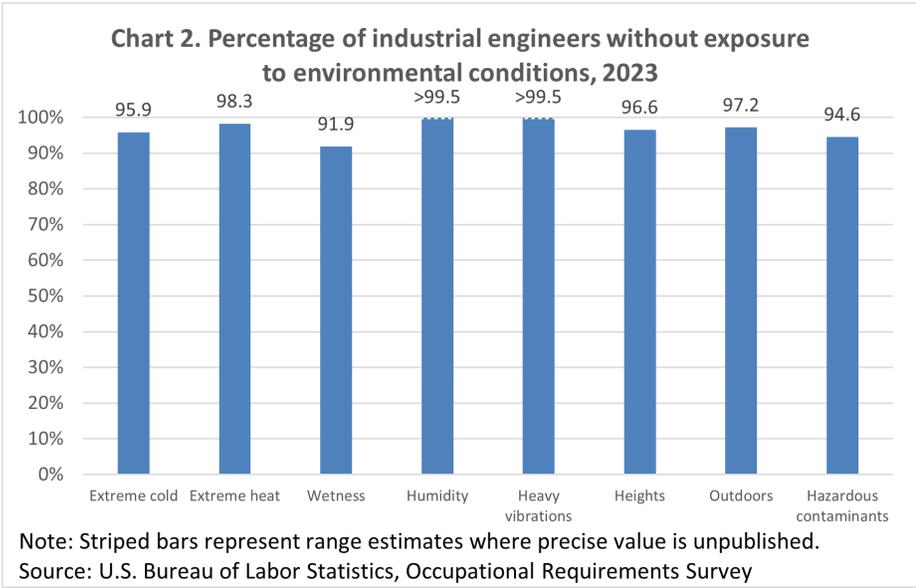
A bachelor's degree was required for 94.9 percent of industrial engineers.

**Chart 1. Percentage of industrial engineers by specific preparation time (SVP) level, 2023**



Note: Striped bars represent range estimates where precise value is unpublished.

Source: U.S. Bureau of Labor Statistics, Occupational Requirements Survey



**Environmental conditions**

The various tangible or concrete hazards or difficulties that are in the vicinity of where jobs’ critical tasks are performed.

In 2023, 95.9 percent of industrial engineers were not exposed to extreme cold, and 98.3 percent were not exposed to extreme heat. Wetness was not present for 91.9 percent, greater than 99.5 percent were not exposed to heavy vibrations, and 97.2 percent were not exposed to the outdoors.

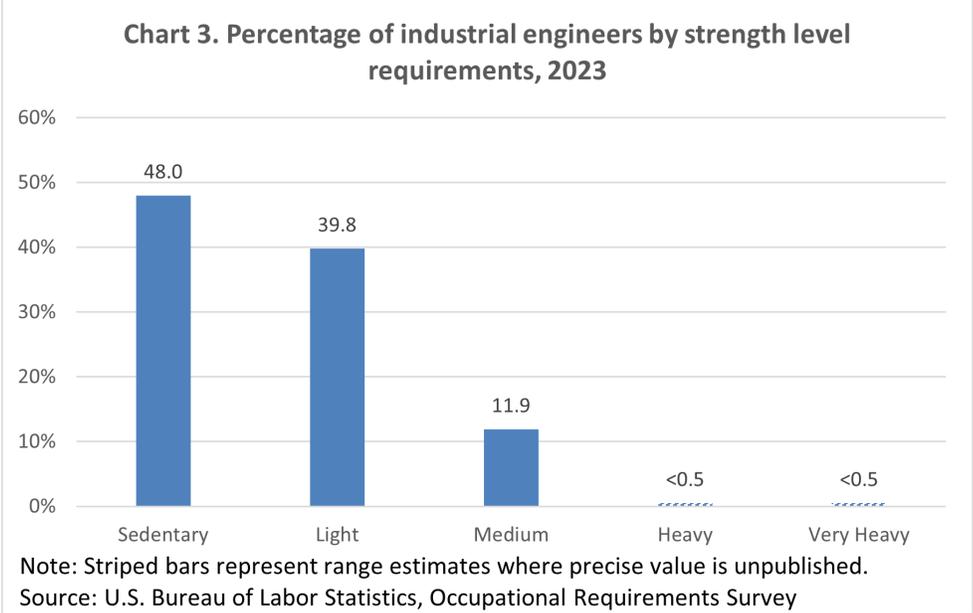
**Physical demands**

Refer to the physical activities required to perform tasks in jobs. The presence and, in some cases, duration of these activities are published.

In 2023, keyboarding was required for greater than 99.5 percent of industrial engineers and was not required for less than 0.5 percent. For less than 0.5 percent of workers, keyboarding was seldom performed, for 32.3 percent keyboarding occurred occasionally, 63.7 percent frequently, and for 3.8 percent keyboarding occurred constantly.

Performing work in low postures was required for 32.5 percent of industrial engineers and was not required for 67.5 percent.

The choice to sit or stand when performing critical tasks was available to 84.0 percent of industrial engineers. On average, workers spent 68.5 percent of the workday sitting and 31.5 percent of the workday standing.



**Table 2. Percentage of industrial engineers with physical demands, 2023**

Requirement	Yes	No
Choice of sitting or standing	84.0	16.0
Driving	7.2	92.8
Climbing structure-related ramps or stairs	19.9	80.1

Source: U.S. Bureau of Labor Statistics, Occupational Requirements Survey