

Mechanical engineers

Perform engineering duties in planning and designing tools, engines, machines, and other mechanically functioning equipment. Oversee installation, operation, maintenance, and repair of equipment such as centralized heat, gas, water, and steam systems.

Cognitive and mental requirements

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

In 2022, work was controlled by people for 21.5 percent of mechanical engineers, and work was self-paced for 73.9 percent.

Table 1. Percentage of mechanical engineers with cognitive and mental requirements, 2022

Requirement	Yes	No
Interaction with general public	64.0	36.0
Working around crowds	-	100.0
Telework	18.5	81.5
Work review: Supervising others	8.9	91.1
Work review: Presence of supervisor	78.3	21.7

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

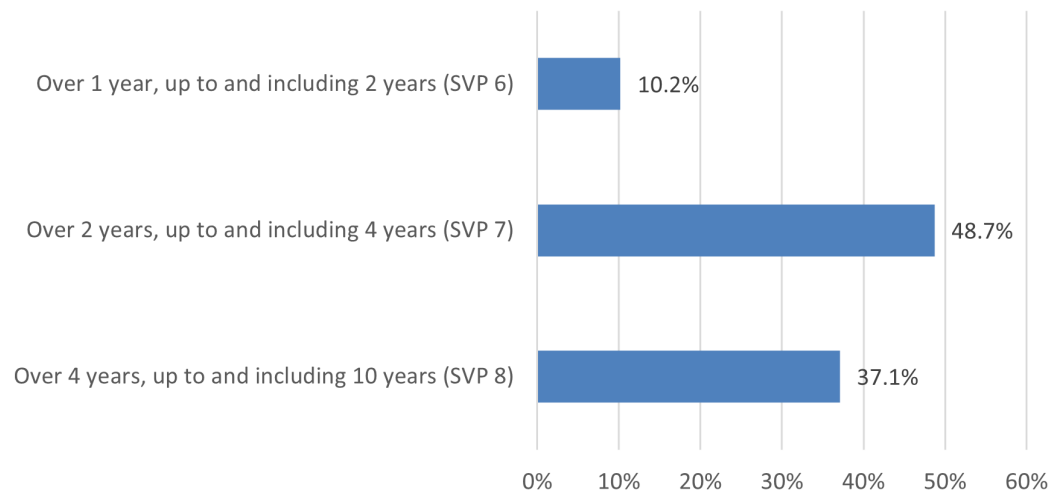
Education, training, and experience requirements

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

In 2022, credentials were required for 22.5 percent of mechanical engineers. Prior work experience was required for 49.5 percent and on-the-job training was required for 76.5 percent.

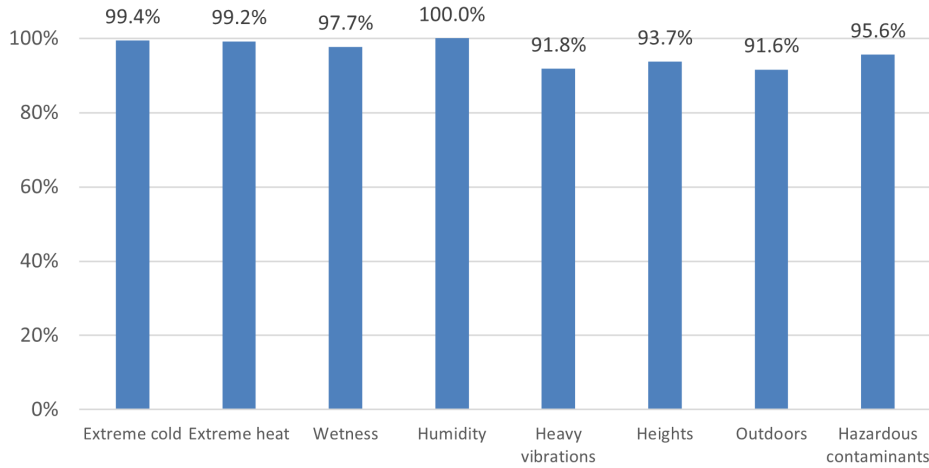
A bachelor's degree was required for 96.7 percent of mechanical engineers.

Chart 1. Percentage of mechanical engineers by specific preparation time (SVP) level, 2022



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

Chart 2. Percentage of mechanical engineers without exposure to environmental conditions, 2022



Environmental conditions

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

In 2022, a quiet noise exposure was present for 18.7 percent of mechanical engineers, and 80.5 percent were exposed to moderate noise. Personal protective equipment (PPE) was used by 8.0 percent of workers to mitigate noise exposure, and was not used by 92.0 percent.

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

Physical demands

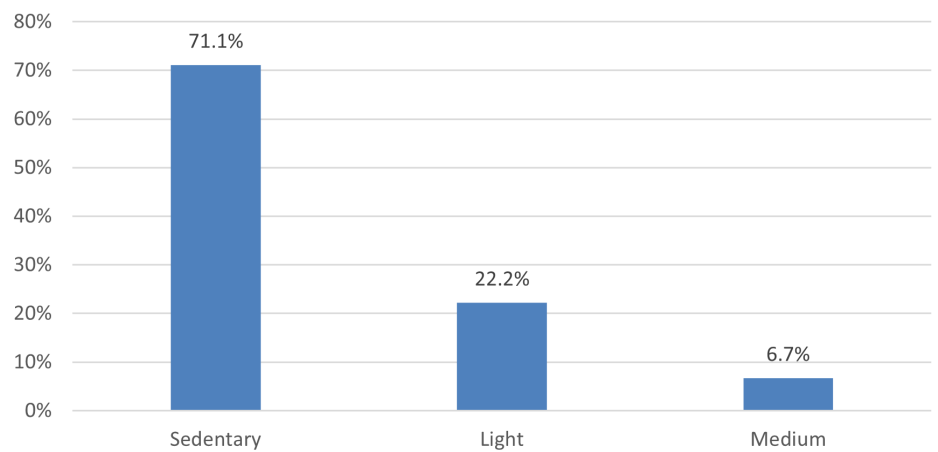
Refer to the physical activities required to perform tasks in jobs. The presence and, in some cases, duration of these activities are published.

In 2022, reaching at or below the shoulder was required for 39.9 percent of mechanical engineers and was not required for 60.1 percent.

Performing work in low postures was required for 15.9 percent of mechanical engineers and was not required for 84.1 percent.

The choice to sit or stand when performing critical tasks was available to 96.9 percent of mechanical engineers. On average, workers spent 78.8 percent of the workday sitting and 21.2 percent of the workday standing.

Chart 3. Percentage of mechanical engineers by strength level requirements, 2022



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

Table 2. Percentage of mechanical engineers with physical demands, 2022

Requirement	Yes	No
Choice of sitting or standing	96.9	3.1
Driving	21.9	78.1
Climbing structure-related ramps or stairs	37.5	62.5

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