Computer Hardware Engineers

SOC: 17-2061 • Career Profile Report

■ Key Facts

$155,020	**76,800**	**+7.0%**
Median Salary	Employment	Growth Rate

■ Requirements & Salary Range

Education: Bachelor's degree

■ Automation Risk Assessment

Low Risk - 16.0% probability of being automated in the next 10-20 years.

This job is relatively safe from automation due to its creative, social, or complex problem-solving requirements.

■■ Work-Life Balance

7.2/10 - Good work-life balance

■ Personality Fit (RIASEC)

Higher scores indicate better personality fit for this career type.

Realistic	8.2/10	Investigative	8.8/10
Artistic	6.4/10	Social	5.2/10
Enterprising	5.8/10	Conventional	6.6/10

■ Top Skills Required

Analytical skills, Critical-thinking skills, Problem-solving skills, Communication skills

✓ Strengths

- High Demand
- Flexible Work
- Continuous Learning

■ Challenges

- Burnout Risk
- Rapid Technological Change

■ What They Do

Computer Hardware Engineers typically perform the following tasks: • Update knowledge and skills to keep up with rapid advancements in computer technology. • Design and develop computer hardware and support peripherals, including central processing units (CPUs), support logic, microprocessors, custom integrated circuits, and printers and disk drives. • Confer with engineering staff and consult specifications to evaluate interface between hardware and software and operational and performance requirements of overall system. • Build, test, and modify product prototypes, using working models or theoretical models constructed with computer simulation. • Write detailed functional specifications that document the hardware development process and support hardware introduction. • Test and verify hardware and support peripherals to ensure that they meet specifications and requirements, by recording and analyzing test data. • Direct technicians, engineering designers or other technical support personnel as needed. • Provide technical support to designers, marketing and sales departments, suppliers, engineers and other team members throughout the product development and implementation process. • Select hardware and material, assuring compliance with specifications and product requirements. • Store, retrieve, and manipulate data for analysis of system capabilities and requirements. • Analyze user needs and recommend appropriate hardware. • Evaluate factors such as reporting formats required, cost constraints, and need for security restrictions to determine hardware configuration. • Provide training and support to system designers and users. • Monitor functioning of equipment and make necessary modifications to ensure system operates in conformance with specifications. • Specify power supply requirements and configuration, drawing on system performance expectations and design specifications. • Assemble and modify existing pieces of equipment to meet special needs. • Analyze information to determine, recommend, and plan layout, including type of computers and peripheral equipment modifications. • Recommend purchase of equipment to control dust, temperature, and humidity in area of system installation.