

CAREER INSIGHT

EMBEDDED
SYSTEMS
ENGINEERING

Hardware and software engineers in this specialty design and integrate processors, motherboards, and memory devices in computing technology. Today, many computer hardware engineers are designing systems for non-computer devices such as automobiles and medical equipment, implementing sophisticated technology and internet connectivity into a wide variety of products.

KEY FINDINGS

Unlike some IT-related job areas, embedded systems engineers are universally expected to attain a Bachelor's degree, meaning providing education opportunities is essential to job growth.

Hardware-software integration is becoming increasingly relevant in the high-tech job market.

Orange County is a very competitive region in terms of job availability and growth for Embedded Systems Engineering, and the locally-thriving component manufacturing industry is a clear pathway for graduates to find career success.

MOST IMPORTANT TASKS AND DUTIES

1Update knowledge and skills to keep up with rapid advancements in computer technology.

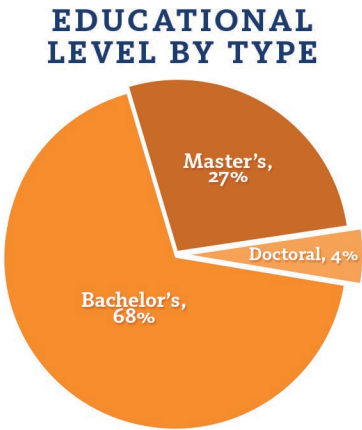
2Build, test, and modify product prototypes using working models or theoretical models constructed with computer simulation.

3Write detailed functional specifications that document the hardware development process and support hardware introduction.

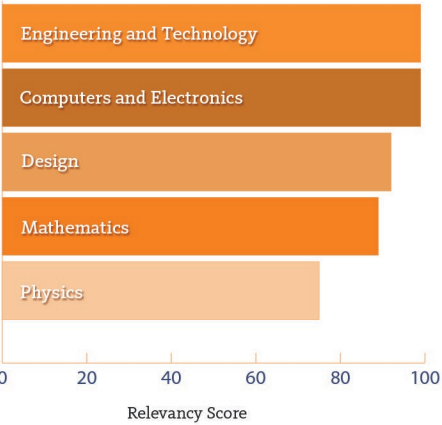
4Specify power supply requirements and configuration, drawing on system performance expectations and design specifications.

5Confer with engineering staff and consult specifications to evaluate interface between hardware and software and operational and performance requirements of overall system.

IntegrityGetting InformationActive ListeningProblem SolvingOral ComprehensionAnalytical ThinkingCreativityAttention to DetailKEY TRAITSActive LearningPersistenceCritical ThinkingInnovationDependabilityInteracting with ComputersProcessing InformationIndependent Decision-makingApproach Hardware Problems in Unique Ways



TOP SKILL SETS



EMPLOYMENT OVERVIEW

CALIFORNIA EDD, OES 2014		COMPUTER HARDWARE ENGINEERS	COMPUTER AND INFO. SYSTEMS MANAGERS	COMPUTER SYSTEMS ANALYSTS*	SOFTWARE DEVELOPERS, APPLICATIONS*	SOFTWARE DEVELOPERS, SYSTEMS SOFTWARE*	COMPUTER NETWORK ARCHITECTS
ORANGE COUNTY	ANNUAL SALARY	\$110,135	\$146,164	\$91,196	\$102,962	\$112,857	\$107,555
	PROJECTED EMP. GROWTH 2010-2020	13.8%	15.4%	18.5%	19.6%	26.7%	19.9%
CALIFORNIA	ANNUAL SALARY	\$117,329	\$156,189	\$93,503	\$113,494	\$120,576	\$113,889
	PROJECTED EMP. GROWTH 2010-2020	18.9%	18.8%	17.8%	27.7%	31.9%	24.7%
UNITED STATES	ANNUAL SALARY	\$106,930	\$132,570	\$85,320	\$96,260	\$104,480	\$97,700
	PROJECTED EMP. GROWTH 2010-2020	7.4%	15.3%	24.5%	22.8%	20.4%	14.6%

* "Bright Outlook" -occupations are expected to grow rapidly in the next decade, will have large numbers of job openings, or are new/emerging occupations according to the U.S. Department of Labor.

RELATED COURSEWORK

Mobile Application Development Certificate ProgramJava Programming Certificate Program

Device Software Engineering Specialized Studies Program

C Programming for Embedded Systems