# Embedded Systems Engineering

## 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
1. **Update Knowledge and Skills** to keep up with rapid advancements in computer technology.
2. **Build, Test, and Modify** prototypes using working models or theoretical models constructed with computer simulation.
3. **Write** detailed functional specifications that document the hardware development process and support hardware introduction.
4. **Specify** power supply requirements and configuration, drawing on system performance expectations and design specifications.
5. **Confer with engineering staff and consult specifications to evaluate** interface between hardware and software and operational and performance requirements of overall system.

## Key Traits
- Integrity
- Getting Information
- Oral Comprehension
- Attention to Detail
- Active Learning
- Persistence
- Critical Thinking
- Innovation
- Dependability
- Interacting with Computers
- Analytical Thinking
- Creativity
- Independent Decision-making

## Approach Hardware Problems in Unique Ways

## Educational Level by Type
- Master’s, 27%
- Doctoral, 4%
- Bachelor’s, 67%

## Top Skill Sets

<table>
<thead>
<tr>
<th>Engineering and Technology</th>
<th>Computers and Electronics</th>
<th>Design</th>
<th>Mathematics</th>
<th>Physics</th>
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</thead>
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## Employment Overview

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</thead>
<tbody>
<tr>
<td>Ocny 2014</td>
<td>$113,135</td>
<td>$104,164</td>
<td>$91,196</td>
<td>$93,962</td>
<td>$112,857</td>
<td>$107,555</td>
</tr>
<tr>
<td>Projected 19-24</td>
<td>13.8%</td>
<td>15.4%</td>
<td>15.3%</td>
<td>19.6%</td>
<td>26.7%</td>
<td>19.9%</td>
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<tr>
<td>California</td>
<td>$117,109</td>
<td>$106,164</td>
<td>$95,953</td>
<td>$113,494</td>
<td>$110,076</td>
<td>$113,884</td>
</tr>
<tr>
<td>Projected 19-24</td>
<td>18.9%</td>
<td>18.8%</td>
<td>17.8%</td>
<td>27.7%</td>
<td>31.9%</td>
<td>24.7%</td>
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<tr>
<td>United States</td>
<td>$106,910</td>
<td>$102,517</td>
<td>$98,310</td>
<td>$104,360</td>
<td>$104,480</td>
<td>$102,700</td>
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<tr>
<td>Projected 19-24</td>
<td>7.4%</td>
<td>15.3%</td>
<td>24.5%</td>
<td>22.8%</td>
<td>20.4%</td>
<td>14.6%</td>
</tr>
</tbody>
</table>

* Notes: *Data on job openings is expected to grow rapidly over the next decades. Source: Bureau of Labor Statistics, U.S. Department of Labor.

## Related Coursework
- Mobile Application Development Certificate Program
- Java Programming Certificate Program
- C Programming for Embedded Systems

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**CAREER INSIGHT**

**EMBEDDED SYSTEMS ENGINEERING**

**EDUCATIONAL LEVEL BY TYPE**

**TOP SKILL SETS**

**EMPLOYMENT OVERVIEW**

**RELATED COURSEWORK**

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