Electronic Engineering

What I do every day:

• Design and develop new products

• Prepare technical specifications of electrical systems, including custom integrated circuits and sensors to ensure that installation and operations conform to standards and customer requirements

• Operate computer-assisted engineering and design software and equipment to perform engineering tasks

• Direct and coordinate manufacturing, construction, installation, maintenance, support, documentation and testing activities to ensure compliance with specifications, codes and customer requirements

• Design, implement and maintain electrical instruments, equipment, facilities, components, products and systems for commercial, industrial and domestic purposes

• Perform detailed calculations to compute and establish manufacturing, construction and installation standards or specifications

• Plan or implement research methodology or procedures to apply principles of electrical theory to engineering projects

About my job:

As an electronic engineer, I design, develop, test and supervise the R&D, manufacturing and implementation of electronic and firmware systems, such as control equipment, networks, photonics, sensors, custom integrated circuits, electric motors, radar and navigation systems and power generation equipment.

More about my job:

Electrical engineers also develop electronic equipment such as fiber optic systems, virtual systems, robotic and remote systems, sensors and instrumentation systems.

What makes my job great?

Job growth:
The projected growth for electronic engineers in the state of Ohio is 5.2 percent.

Short-term training:
Many of the employers hiring in this field prefer that applicants have earned an associate degree.

Good pay:
The average median salary is $78,827. (That means that 50 percent electronic engineers earn less and the other 50 percent earn more.)

Benefits:
Most electrical engineers work full time, with benefits that may include:

• Health care
• Dental
• Paid vacation
How can you become an electronic engineer?

**Academic/training credentials:**
Most employers require a bachelor’s degree in electronic engineering or electronic engineering technologies. Employers prefer degrees that have been obtained through an ABET accredited program.

**Work experience/internships:**
Internships/apprenticeships are very valuable for students to have on their resume when applying for jobs.

**Skills and requirements:**
- Strong computer skills
- Excellent problem solving and creative thinking skills
- Strong verbal and written communications skills
- Most electronic engineers work full time and overtime is common
- May work evenings, and weekends
- Many travel for meetings, and some for international companies

**Potential job titles:**
- Electrical engineer
- Electrical design engineer
- Project engineer
- Embedded firmware/software engineer
- Electrical controls engineer
- Test engineer
- Hardware design engineer
- Broadcast engineer
- Circuits engineer
- Electrical and instrument maintenance supervisor
- Electrical project engineer

**Where you can find jobs:**
- Online job boards
- Local career fairs
- Networking
- Department of Career Services at colleges

**Potential local employers:**
- Parker Hannefin
- Cleveland Business Consultants
- The Lincoln Electric Company
- Karpinski Engineering,
- Pressco Technology
- Amtec
- General Electric
- Swagelok
Local educational opportunities

### Technical prep:
- A-Tech: electricity program
- Auburn Career Center: electrical engineering prep program
- Excel TECC: CADD engineering technology program
- Lake Shore Compact: CAD engineering program

### Two-year institutions:
- Lakeland Community College: Associate of Applied Science in electronics engineering technology
  - Electronic Systems Fundamentals Certificate
  - Advanced Electronic Technology Certificate

### Four-year institutions:
- Kent State University: Bachelor of Science in Engineering Technology Electrical/Electronics Concentration
- University of Akron: Bachelor of Science in Electronic Engineering Technology
How can I grow my career?

Where could I focus or specialize in my career?
- Electronic component manufacturing
- Maintenance and testing
- Research and development

The career ladder

Technical Courses
- Electronic Installer/Repairer
- $55,920 annual salary

Associates Degree
- Electronics Technician
- $62,190 annual salary

Bachelor Degree
- Electronics Engineer
- $96,270 annual salary

Sources/References:
O*Net Online-Summary Report, Ohio Labor Market and Finance 2013 Information