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## WHAT CAN I DO WITH A MAJOR IN ... ELECTRICAL ENGINEERING

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### OCCUPATIONAL OVERVIEW

The [Bureau of Labor Statistics \(BLS\) \(2012\)](#) explains that electrical engineers, “design, develop, test, and supervise the manufacturing of electrical equipment such as electric motors, radar and navigation systems, communications systems, or power generation equipment. Electrical engineers also design the electrical systems of automobiles and aircraft.” BLS goes on to explain that electrical engineers can design new or improved products and ways of using electrical power.

### EMPLOYMENT REQUIREMENTS

The [Bureau of Labor Statistics \(2012\)](#) explains that a bachelor's degree in electrical engineering is the minimum formal education required to work as an electrical engineer. BLS further explains that many employers value practical experience, making it important for electrical engineering students to participate in internships and Co-ops while completing their degree. BLS highlights that a Professional Engineering (PE) Licensure is encouraged even though PE Licensure is not as common for electrical engineers as it is for other engineering fields. BLS also notes that a graduate degree (M.S., M.E., and/or Ph.D.) is required to hold positions in management, research, or academia. Consult [O\\*Net](#) for more information on the specific KSAs (Knowledge, Skill, Ability) that are required for this career.

### THE UNIVERSITY OF NEW MEXICO

The UNM [Electrical and Computer Engineering \(ECE\)](#) department offers a Bachelor of Science in Electrical Engineering (B.S.E.E.), Master of Science in Electrical Engineering (M.S.), and a Doctor of Philosophy in Engineering with a concentration in Electrical Engineering (Ph.D.). Consult the [department website](#) for more information on degree programs and research areas. The College of Engineering also offers various other degree tracks such as the Master of Engineering and the 2 + 3 B.S. & Master of Business Administration program. More information on these programs can be found in the [University Catalog](#) by selecting “Colleges” on the right and selecting “School of Engineering”.

### INDUSTRIES & TARGET EMPLOYERS

A variety of employers specifically recruit UNM students and alumni. Consult UNM's [Lobo Career Connection](#) for a complete list of employers and current job postings. Speak with a Career Development Facilitator at the [UNM Office of Career Services](#) for help with identifying employers or additional resources for your occupation of choice.

#### Business/Industry

Security, modeling, consulting, research, artificial intelligence, telecommunications, energy and electric power, semiconductors, aerospace, bioengineering, manufacturing, transportation and automotive, signal processing, electronics, microelectronics, instrumentation, computers

#### Government

Federal, national and local government agencies, Department of Defense, Department of Energy, NASA, research, [national laboratories](#)

#### Education

University/college instruction or administration, researcher

### SUGGESTED STRATEGIES

- Gain related electrical engineering professional experience through involvement in [internships](#), student employment, [Co-ops](#), research, and/or volunteer opportunities.
- Shadow professionals in the field to gain a better understanding of the occupation and to build relationships with professional mentors.
- Build your network and get involved on campus through student organizations and campus events. The [School of Engineering website](#) outlines student organizations that are affiliated with the School of Engineering as well as the Electrical and Computer Engineering department. You can find more organizations and events at the [Student Activities Center website](#).
- Attend [career-related campus events](#) such as career fairs, company information sessions, or career workshops.

- Students who are interested in graduate school should maintain a high undergraduate GPA, develop relationships with faculty, and participate in undergraduate research. UNM's Research Opportunity Database at <http://research-match.unm.edu/>. Some research opportunities include
  - [Ronald E. McNair Scholars Program](#)
  - [Research Opportunity Program \(ROP\)](#)
  - [Minority Access to Research Careers Program \(MARC\)](#)
  - [Initiative for Maximizing Student Development \(IMSD\)](#)
  - [Undergraduate Pipeline Network](#)
  - [UNM Engineering Research Centers](#)
  - [Research at the University of New Mexico](#)
- Speak with [mentors](#) and faculty about career opportunities.
- Job leads can be found on your department's website, list-serv, newsletters, and social media sites.
- Familiarize yourself with the [federal job](#) application process.

## STATE & NATIONAL WAGES

[Adapted from CareerOneStop \(2013\)](#)

### ELECTRICAL ENGINEER

Location	2012				
	10%	25%	Median	75%	90%
United States	\$56,500	\$69,700	\$87,900	\$110,800	\$136,700
New Mexico	\$60,500	\$69,900	\$84,900	\$104,600	\$130,500

## INFORMATIONAL WEBSITES

Institute of Electrical and Electronics Engineers  
American Society for Engineering Education  
National Society of Professional Engineers  
Journal of Electrical Engineering  
EE Times

<http://www.ieee.org/>  
[www.asee.org](http://www.asee.org)  
[www.nspe.org](http://www.nspe.org)  
<http://www.jee.ro/>  
<http://www.eetimes.com/>



<http://onetonline.org>



[www.bls.gov](http://www.bls.gov)

## REFERENCES

Bureau of Labor Statistics, U.S. Department of Labor, (2012, April 10). *Occupational Outlook Handbook, Electrical Engineers*. Retrieved from <http://www.bls.gov/ooh/architecture-and-engineering/electrical-and-electronics-engineers.htm>

State of Minnesota, U. S. Department of Labor, Employment and Training Administration (2013). *CareerOneStop, Occupation Profile, Electrical Engineer*. Retrieved from [www.careerinfonet.org](http://www.careerinfonet.org)

University of New Mexico, Department of Electrical and Computer Engineering (2013). *Department of Electrical and Computer Engineering*. Retrieved from <http://www.ece.unm.edu/>