



## EM – Electrician’s Mate

**Electrician’s Mate** are responsible for the operation of a ship's electrical power generation systems, lighting systems, electrical equipment and electrical appliances. The duties include installation, operation, adjustment, routine maintenance, inspection, test and repair of electrical equipment. EM’s also perform maintenance and repair of related electronic equipment.

### What They Do

- installing power and lighting circuits;
- repairing distribution circuits;
- running wiring for lights and other equipment;
- maintaining operating efficiency of distribution panels, switches, switchboards, controllers, voltage regulators, current transformers and voltage transformers;
- maintaining operating efficiency of electric motors;
- repairing electrical equipment and appliances;
- installing and maintaining storage batteries;
- inspecting, maintaining, testing and repairing electric power equipment;
- maintenance and repair of shipboard elevator systems;
- interpreting electrical sketches, diagrams and blueprints;
- maintenance and repair of various propulsion and auxiliary control consoles;
- connecting electric power machinery and electric power equipment.

### Working Environment

Most work in the EM rating is performed indoors, under varied conditions at sea and ashore. Work may be done in a shop-like environment. EM’s do mostly physical work of a technical nature and usually work closely with other ratings. EM’s are stationed primarily aboard USN ships.

### Opportunities

The Navy has a continuing need for qualified Electrician’s. Approximately 4,300 men and women perform duties in the EM rating aboard ships and at shore stations. Opportunities for placement are excellent for qualified candidates.

### Qualifications and Interests

The most important qualifications for the EM rating are manual dexterity; competence with tools, equipment and machines; ability to do detailed work; a logical mind; resourcefulness; and a willingness to learn about electricity, electrical systems and test equipment.

**Normal color perception is required for this rating.**

### **Career Path After Recruit Training**

Enlistees are taught the fundamentals of this rating through on-the-job training or formal Navy schooling. Advanced technical and operational training is available in this rating during later stages of career development.

School	Present Location	Approximate Training Time	Subjects	Training Methods
Basic Engineering Common Core	Great Lakes, IL	10 Weeks	Introduction to technical documentation and basic mechanical theory.	Group instruction, classroom and shop
Engineering Electrical Core	Great Lakes, IL	4 Weeks	CPR, electrical math, basic schematics, AC/DC circuits, solid state characteristics, logic systems	Group instruction, classroom and shop
EM Strand Technical School	Great Lakes, IL	4 Weeks	Basic technical knowledge and skills of electricity and electronics required for rating.	Group instruction, classroom and shop

After "A" school, some EM’s are assigned to specialized training on particular equipment. After training, EM’s may be assigned to ships of all types, naval shipyards, repair bases and other facilities ashore in the United States or overseas. During a 20-year period in the Navy, EM’s spend about 65 percent of their time assigned to fleet units and 35 percent to shore stations.



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### Earn College Credit



The American Council on Education recommends that semester hour credits be awarded in the vocational certificate and lower-division bachelor's/associate's degree categories for courses taken in this rating on office machines and general clerical procedures. To see the college credits available via a **Joint Service Transcript** for this rating:

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[https://www.cool.navy.mil/usn/jst/em\\_jst.pdf](https://www.cool.navy.mil/usn/jst/em_jst.pdf)

### Earn Department of Labor (DOL) Nationally Recognized Apprenticeships



USMAP

The United Services Military Apprenticeship Program (USMAP) is a formal military training program that provides active duty and Full Time Support (FTS) Service members the opportunity to improve their job skills and to complete their civilian apprenticeship requirements while they are on active duty. The U.S. Department of Labor (DOL) provides the nationally recognized "Certificate of Completion" upon program completion. Visit United Services Military Apprenticeship Program (USMAP) for LS apprenticeships.

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<https://usmap.netc.navy.mil/usmapss/static/navyRates.htm>

### Earn Industry Recognized Credentials



Navy Credentialing Opportunities On-Line (Navy COOL)

Navy COOL catalogs and defines comprehensive information on occupational credentials - including certifications, licenses, and apprenticeships - correlating with every Navy rating and some collateral duties. It provides "how to" instructions for pursuing these credentials, links to credentialing organizations, and cross-references to programs that help Sailors pay for credentialing fees. Shortly following the initial rating technical training (Class "A" technical school), Sailors may be able to take advantage of earning civilian/industry certifications & licenses (credentials), funded through Navy COOL. Visit the Navy COOL website to view these opportunities. See the link below.

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<https://www.cool.navy.mil/usn/enlisted/em.htm>

Download the Navy COOL App:

Navy COOL App (iOS):

<https://itunes.apple.com/us/app/navy-cool/id1053982994?ls=1&mt=8>

Navy COOL App (Android):

<https://play.google.com/store/apps/details?id=com.tracen.navycool>

### Manage a Navy Career with Navy LaDR (Learning and Development Roadmap)



To see the Navy LaDR (Learning and Development Roadmap) for this rating:

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[https://www.cool.navy.mil/usn/LaDR/em\\_e1\\_e9.pdf](https://www.cool.navy.mil/usn/LaDR/em_e1_e9.pdf)



## EM – Electrician’s Mate

### Earn Skill Sets Towards Civilian Related Occupations



The skill sets for this rating crosswalk to civilian related occupations listed by the U.S. Department of Labor. To see Related Civilian, Federal, and Military Sealift Command Occupations for this rating, see the link below.

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<https://www.cool.navy.mil/usn/enlisted/em.htm>

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