ELECTRICAL & ELECTRONICS ENGINEER

NCS Code: 2151.0302, CCode: E11

The concepts of electrical and electronics both deal with electricity. Electrical devices produce voltage and current and electronic devices control the voltage and current. Hence, electrical engineers are primarily concerned with the generation, transmission and distribution of electrical power. Whereas electronic engineers design, develop and test components, devices, systems or equipment that use electricity as part of their source of power.

PERSONAL COMPETENCIES

- You enjoy figuring out how things work
- You like Science
- You like to analyze things (problems/situations)
- You like solving problems

SCHOLARSHIPS

• **Merit-cum-Means based Scholarship** - About 20,000 such engineering scholarships are awarded by the Ministry of Minority Affairs every year. The full course fees of awardees is directly paid to their institutions under this scheme. *

• **Indian Oil Educational Scholarship**- The IOC Ltd offers 300 scholarships every year to eligible students. Students need to be enrolled in an undergraduate course. The scholarship particularly focuses on students with physical disabilities, women and students from North East and J&K.*

• "Ishan Uday" Special Scholarship Scheme - For promoting higher education and for encouraging children belonging to economically weaker section of the NE region, the UGC has launched "Ishan Uday" Special Scholarship Scheme for North Eastern Region students.
• Visit www.scholarships.gov.in the National Scholarship Portal. Under this portal there are other central government schemes offered by different departments, UGC/AICTE Schemes and State Schemes.*

• Visit ***www.buddy4study.com*** a gateway to scholarships starting from Class XI.*
• Scholarships are also available in institutes based on merit*
*(Availability of these scholarships vary from time to time)

LOANS

• VidyaLakshmi, *www.vidyalakshmi.co.in*, is a portal for students seeking education loan. This portal has been developed under the guidance of the Department of Financial Services, (Ministry of Finance), Department of Higher Education (Ministry of Human Resource Development) and Indian Banks Association (IBA). Students can view, apply and track the education loan applications on the website.
• Some states have student credit cards with low interest rates, for instance, West Bengal, Odisha, Bihar, etc.
• All banks give education loans.

FEES

The approx. course fee ranges between **INR 2,800 to 18,62,600*** for one year.
*(The above mentioned figures are approximate numbers. This will vary from Institute to Institute)

ENTRY PATHWAY

1. Complete 10+2 in Science stream (Physics, Chemistry and Mathematics)
2. Complete Bachelor's degree (B.Tech/B.E) in Electrical/Communication Engineering

OR

Complete diploma in Electrical or Communication Engineering

OR

Complete Bachelor's degree in Electrical/Communication Engineering, followed by a Master's degree in the same field

For admissions, you must qualify JEE Main. JEE Advanced is needed for admissions to IITs. Other entrance exams can be taken such as GATE/BITSAT and so on.

Please check the duration of the course during enrolment

EXPECTED INCOME

*The figures are indicative & subject to change

The approx. salary of an Electrical and Electronics engineer in India ranges between **INR 14,500 - 83,333*** per month

Source:https://www.payscale.com/research/IN/Job=Electronics_Engineer/Salary

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WHERE WILL YOU WORK

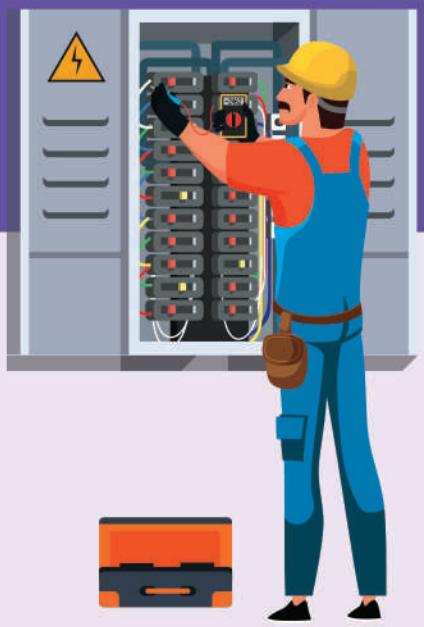
Places of Work: Power manufacturing companies, Power transmission companies, Electronics goods manufacturing sector, Telecommunication, Computing, Construction, Energy, Transport and Utilities companies and Armed Forces.

Work Environment: The job might entail travel and you may have to lead a team. You are expected to work minimum 8 hours per day for 5 to 6 days a week or more when needed.

Opportunities for differently abled exist in this field

EXPECTED GROWTH PATH

Helper → Technician → Operator → Engineer – Power Distribution Supervisor → Project Manager



WHERE WILL YOU STUDY?

The course is offered by the Department of Electrical and Electronics
This list of institutes is indicative only

GOVERNMENT INSTITUTES
1. IIT Guwahati
2. IIT Delhi
3. IIT Bombay
4. IIT Kharagpur
5. IIT Kanpur
6. NIT Shillong
7. Assam Science and Technology University, Guwahati
8. NERIST Itanagar

PRIVATE INSTITUTES
(Please check if institute is affiliated and accredited with UGC and AICTE before applying)
1. Regional Institute of Science & Technology (RIST), Guwahati
2. Birla Institute of Technology and Science, Pilani
4. Don Bosco College of Engineering and Technology, Guwahati
5. Vellore Institute of Technology, Vellore
6. Birla Institute of Technology, Mesra
7. Manipal University, Jaipur
8. Presidency University, Bangalore

Information on institute rankings is available at -
www.nirfindia.org/2022/Ranking.html

ONLINE COURSES
• NPTEL*Swayam - https://nptel.ac.in/courses/108108076

**NPTEL - National Programme in Technology Enhanced Learning. It is by the Government of India and offers a variety of courses in an audio - video form.*

Search keywords...

electrical engineer, electrical and electronics engineer, electrical/electronics maintenance

EXAMPLE FROM THE FIELD

Gagandeep Singh Matharoo is an Electrical and Electronics engineer. He obtained his Bachelor's degree in Electronics and Communication Engineering from VIT University and Master's in Communications Engineering from the Technical University of Munich. Gagandeep is a Marie Curie Early Stage Researcher (ESR2) in the InnovEOX project at the Electrical Engineering department of the University of Liverpool, United Kingdom.*
Source:
https://innoveox.eu/esr2-gagandeep-singh-matharoo/

*The above information is for training purposes only and will not be used for any commercial gains.