Not to be confused with Electronic engineering.  
  
Electrical engineering is an engineering discipline concerned with the study, design,  
and application of equipment, devices, and systems which use electricity, electronics,  
and electromagnetiem. It emerged as an identifiable occupation In the latter half of the  
418th century after the commercialtzation of the electric telegraph, the tslephone, and  
  
electrical power generation, distribution, and use.  
  
Electrical engineering is divided Into a wide range of different flekis, Including computer  
engineering, systems engineering, power engineering, telecommunications, radio-  
frequency engineering, signal processing, instrumentation, photovoltaic cells,  
electronics, and optics and photonics. Many of these disciplines overlap with other  
engineering branches, spanning a huge number of specializations Including hardware  
engineering, power electronics, electromagnetics and waves, microwave engineering,  
Nanotechnology, electrochemistry, renewable energies, mechatronica/control, and  
electrical materials science.!\*]  
  
Electrical engineers typically hold a degree in electrical engineering, electronic or  
electrical and electronic engineering. Practicing engineers may have professional  
certification and be members of a professional body or an international standards  
organization. These Include the international Electrotechnical Commission (IEC), the  
Institute of Electrical and Electronics Engineers (IEEE) and the Institution of  
Engineering and Technology (IET, formerty the IEE).