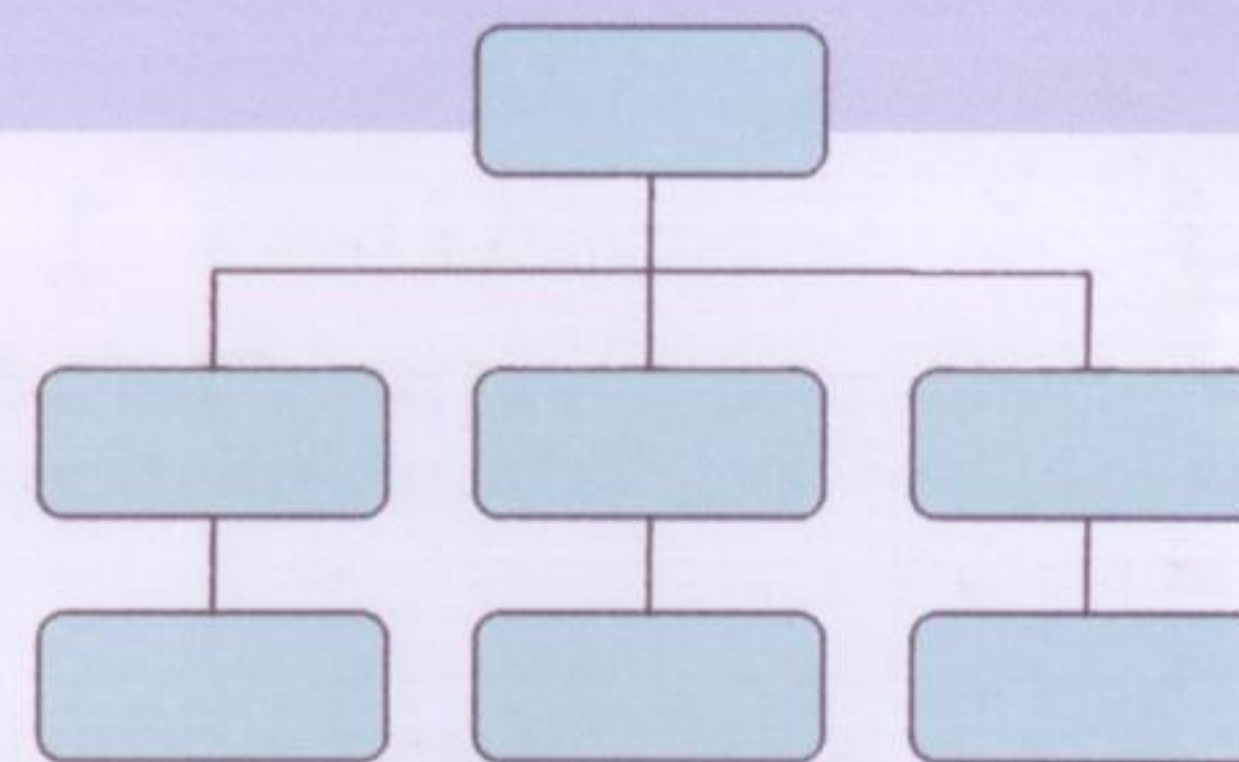


► **Activity 1:** Now that you have read the text, fill in the boxes in the tree diagram on the right with the subfields of electrical engineering and the topics that each subdiscipline consists of. You can add more branches if necessary.

► **Activity 2:** What do they deal with?

The following sub-disciplines are all related to electrical engineering. Some of them are mentioned in the text you have just read and some are not. Can you match them with the areas they cover?



Sub-disciplines	Areas
1. Power engineering	a) generation, control, and detection of light waves and photons; exploration of wavelengths
2. Control engineering	b) design of devices used to measure and record quantities such as temperature, pressure, flow, angle, distance, etc.
3. Microelectronics	c) analysis and manipulation of analog and digital signals (e.g., sound, images, etc.)
4. Photonics	d) design and use of engines, machines, and structures at a microscopic scale
5. Nanoengineering	e) generation, transmission, and use of electric power
6. Signal processing engineering	f) design and creation of very small electronic components
7. Instrumentation engineering	g) design and manufacture of products that have both mechanical and electronic components
8. Mechatronics	h) design and optimization of complex systems that manage or regulate the behavior of other devices / systems in order to achieve a desired result

► **Activity 3:** a) Which of the following words refer to areas of study, e.g., to subjects studied at universities? Cross out the irrelevant ones:

discipline / element / pursuit / specialty / extent / branch / profession / domain / occupation / field / territory / frontier / specialization

b) Which of the words listed above can take the prefix **sub-**? (e.g., *subdiscipline*)



Glossary

discipline: a scientific field, a branch of science (adj. **disciplinary**; also: **interdisciplinary**, **multidisciplinary**; n. **disciplinarity**)

subdiscipline: a field of study within a broader discipline; a subfield

subfield: a subdivision of a field, an area of study within a discipline; a subdiscipline

specialty: a subject we know a lot about; a type of work we do best; a particular area of knowledge; specialization

innovative: introducing sth new or different; characterized by **innovations**

within: in, into, or inside (an area or period of time), not further than, not beyond

namely: to be specific, specifically, that is to say

overlap: (of two or more things) to cover sth partly; to extend over and cover part of the same space. If two or more scientific fields or subjects overlap, they have some parts that are the same. (n. **overlap**)

diverse: made up of a wide variety of people or things; of various kinds, varied, diversified

scope: the range or extent of a subject covered by a book, discussion, or activity

a host of: a large number of



a cute chameleon sitting on a tree **branch**