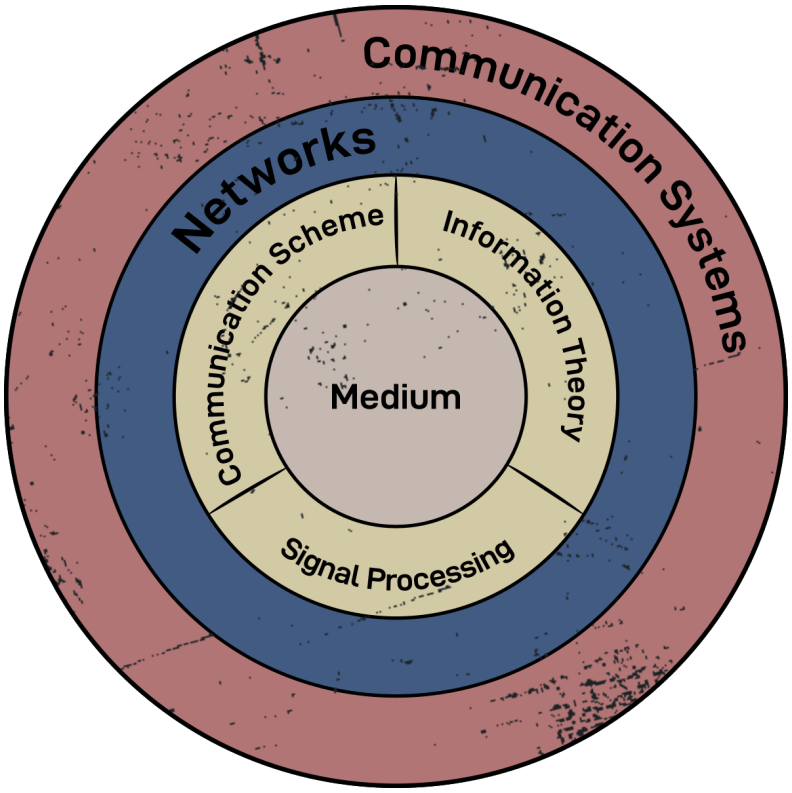
Telecommunication Science

Apart from the seven layers of the OSI standard, Telecommunication topics are much wide and various which make a necessity at certain time to wrap up a map or an illustration of what belongs to where. This is what I tried to show in the very simple categorization of sciences related or necessary for the Telecommunication science. The OSI model in my point of view became a convention or coherent to Internet protocols and doesn't classify the theory behind this science. The importance then of having a bird view of these sciences that it gives clear understanding of individual topics and becomes useful for anyone starting to study it.

As initial draft, the following figure gives overview of the main sections of this science. Below is a short description of each section.



Communication Systems: Current systems and specifications: Telephone - Radio - Mobile Communication - Internet System - I2C - SPI, etc.

Networks: This layer to include theory of Architecture and Protocols of the communication system like Stations Design, Broadcasting, Serial or Parallel, etc.

Communication Scheme: Techniques used for the communication like: AM, FM, PM modulations, PSK, TDM, FDM, Spread Spectrum, etc.

Information Theory: Coding, compression, encryption and security of the transmitted information.

Signal Processing: Topics about special electrical handling for the received or transmitted signal like filtering, transformation, amplifying, etc.

Medium: Transmission media: wireless, coaxial, Waveguides, Optical Fibers, etc.