

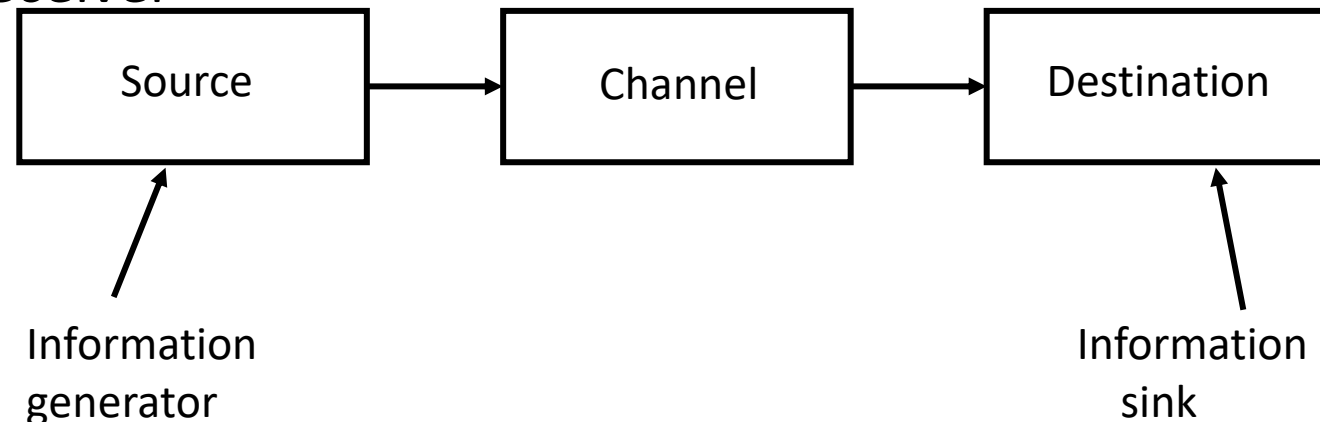
# Communication Systems

## EE-351

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Lecture 1

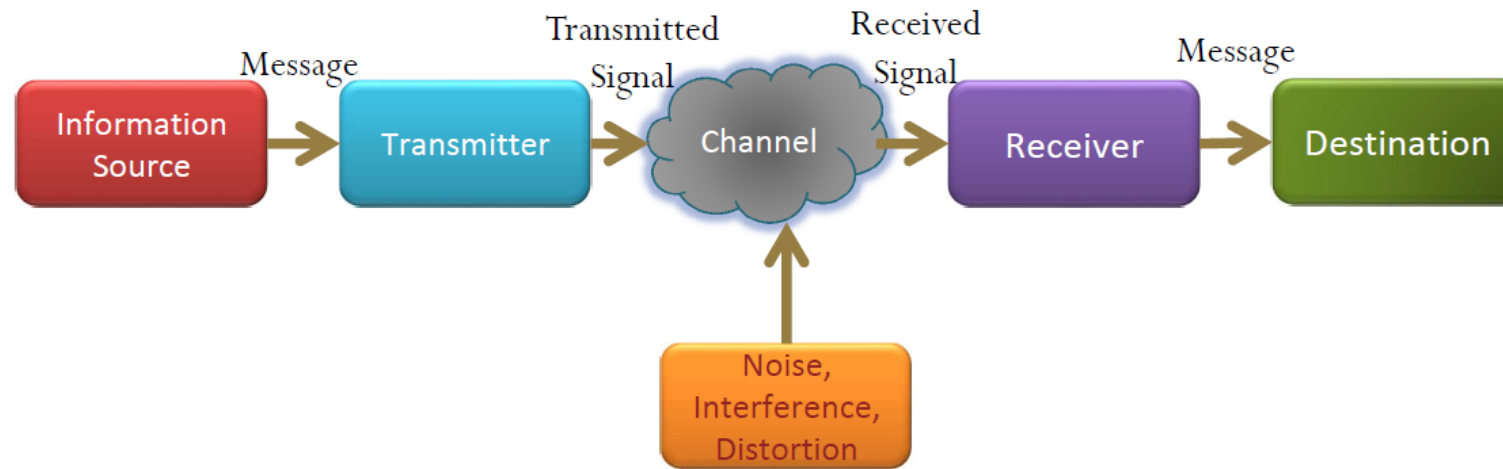
# Communication system

- What is communication?
  - Transfer information from one point to another
- Components of communication system:
  - Source/Transmitter
  - Channel
  - Destination/Receiver



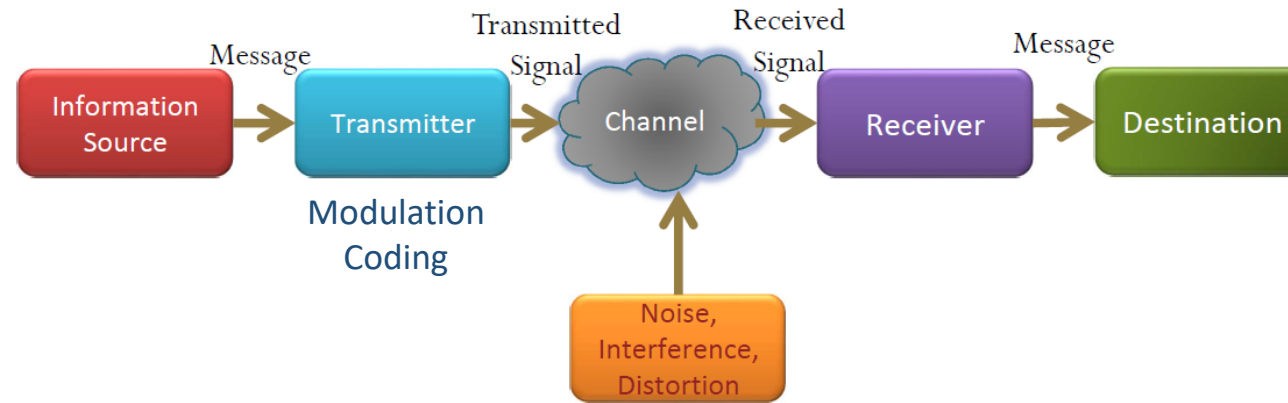
# Components of Communication System

- **Source:** generates a message (digital or analog)
  - human voice, images, data
  - If data is non-electrical, it must be converted by a transducer into an electrical waveform referred to as the baseband signal or message signal



# Components of Communication System

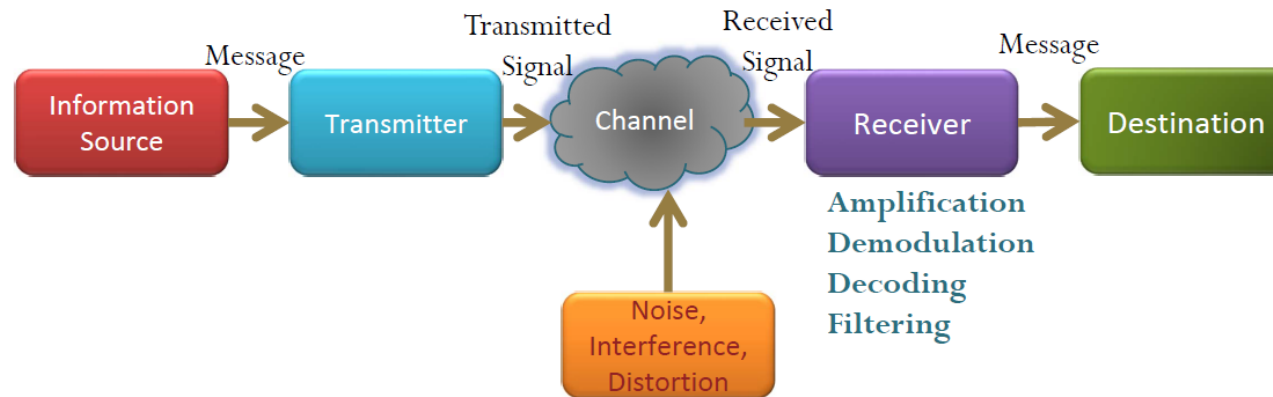
- **Transmitter:** operates on the message to create a signal (in an appropriate form) which can be sent through a channel



- **Channel** is a medium such as wire, coaxial cable, optical fibre, or a radio link, through which transmitter output is sent
  - **Channel impairments:** unwanted undesirable effects which corrupt the message

# Components of Communication System

- **Receiver:** transform the received signal back into the message



- **Destination:** a person or a machine, for whom or which a message is intended