(i) There is a phone call from Hamilton to Kingston.
(ii) There is an email from Hamilton to Montreal.
(iii) There is an email from Kingston to Montreal.

Let us trace the paths of these phone call / emails.

**Hamilton**

- A/D
- Analog → Digital
- MODULATOR
- MODULATION
- LASER
- OPTICAL TRANSMITTER (TX)
- ELECTRICAL INPUT
- OPTICAL Tx
- OPTICAL OUTPUT

This is known as Electrical-to-Optical (E/O) conversion.

**Toronto**

- A/D
- OPTICAL TX
- CH-1

**Kingston**

- COMBINED
- OPTICAL AMPLIFIER
- CH-2

MUX = MULTIPLEXER

- 50 km

DEMUX = DEMULTIPLEXER

- 250 km

O/E

**Opt. Fiber**

- FSO
OLE = OPTICAL TO ELECTRICAL CONVERSION

PHOTO-DETECTOR INPUT → OPTICAL SIGNAL

OUTPUT → PHOTOCURRENT → ELECT. SIGNAL

IN THIS COURSE, MODULATORS, LASERS, OPTICAL FIBERS, AMPLIFIERS, OPTICAL PHOTO-DETECTORS WILL BE COVERED.

A FIBER OPTIC SYSTEM CONSISTING OF PHOTONIC (FIBERS & AMP.) & OPTO-ELECTRONICS (MODULATORS & PHOTO-DETECTORS) WILL BE DISCUSSED.