# Tutorial 4
# Combinational Logic

## CO 2206 Computer Organization

# CLN Functional Block ICs

- **Task 1:** Determine (research for) the part numbers and descriptions for decoder, encoder, multiplexer, demultiplexer and full adder IC (TTL)
  - there will be different versions for each type of IC, e.g. different sizes of decoder
  - state up to three part number for each type (if available), which you feel will be useful (or make sense to you from what you learnt in the lectures)

# Using the Functional Blocks

- **Task 2:** Implement the following functions using an appropriate decoder:
  - $F(x,y,z) = \sum m(0,1,2,4,6)$
  - $F(w,x,y,z) = \sum m(1,4,6,7,8,9,10,11,15)$
- **Task 3:** Implement the above functions using an appropriate Multiplexer.
- **Task 4:** Design a circuit that multiplies a 4-bit multiplicand by the constant 1010