

CS/COE0447

Computer Organization & Assembly Language

Chapter 2 Part 1

Topics to cover in Chapter 2

- MIPS operations and operands
- MIPS registers
- Memory view
- Instruction encoding

- Arithmetic operations
- Logic operations
- Memory transfer operations

MIPS Operations/Operands

- “Operation” (instruction)
- “Operand”

- MIPS operations
 - Arithmetic operations (integer/floating-point) (add, sub, ...)
 - Logical operations (and, or, ...)
 - Shift operations (shift a certain number of bits to the left or right)
 - Compare operations (do something if one operand is less than another, ...)
 - Load/stores to transfer data from/to memory
 - Branch/jump operations
 - System control operations/coprocessor operations

- MIPS operands
 - General-purpose registers
 - Fixed registers, e.g., HI/LO registers
 - Memory location
 - Immediate value