CRANE OPERATOR COMPETENCIES

Hydraulic Lattice Crane

K: Indicates that it is a theory competency (knowledge of the crane operator)
W: Indicates that it is a workplace competency (an activity an operator performs)

1. Safety (CS)
   1.1 Demonstrate knowledge of safe working practices for crane operators (K)
   1.2 Demonstrate knowledge of Workplace Hazardous Materials Information System (WHMIS) (K)
   1.3 Manage first aid in emergency situations (K)
   1.4 Demonstrate knowledge of power line hazards and high voltage equipment (K)
   1.5 Comply with WorkSafe BC and OH&S regulations (W)
   1.6 Respond to fire emergencies (W)

2. Communications (CCOM)
   2.1 Demonstrate knowledge of personnel involved in crane operations (K)
   2.2 Demonstrate knowledge of hand signals (K)
   2.3 Demonstrate knowledge of radio communications (K)
   2.4 Demonstrate knowledge of workplace communications (K)
   2.5 Use hand signals in the workplace (W)
   2.6 Use radio communications in the workplace (W)
   2.7 Communicate information clearly and check for understanding in the workplace (W)

3. Cranes (CC)
   3.1 Demonstrate knowledge of types of cranes and classifications (K)
   3.2 Demonstrate knowledge of crane components and attachments (K)
   3.3 Demonstrate knowledge of terminology related to craning and craning concepts (K)
   3.4 Demonstrate knowledge of engines and ancillary systems (K)
   3.5 Demonstrate knowledge of power transfer for cranes (K)
   3.6 Demonstrate knowledge of hoisting terminology, functions and systems (K)
   3.7 Demonstrate knowledge of regulatory requirements pertaining to cranes (K)
4. **Rigging (CR)**
   - 4.1 Demonstrate knowledge of lifting theory and forces (K)
   - 4.2 Demonstrate knowledge of rigging hardware, materials, tools and manuals (K)
   - 4.3 Demonstrate knowledge of types and function of wire rope and chains (K)
   - 4.4 Demonstrate knowledge of installation, inspection and storage of wire rope (K)
   - 4.5 Demonstrate knowledge of rigging techniques (K)
   - 4.6 Use rigging hardware and tools in the workplace (W)

5. **Load Charts (CLC)**
   - 5.1 Demonstrate knowledge of determining weight loads using fundamental math functions and calculations (K)
   - 5.2 Demonstrate knowledge of loading and lifting (K)
   - 5.3 Interpret load charts and load study drawings to configure crane for workplace operation (W)

6. **Transportation & Delivery (ATD)**
   - 6.1 Demonstrate knowledge of BC Ministry of Transportation - Commercial Transport rules and regulations as they pertain to transportation of cranes (K)
   - 6.2 Demonstrate knowledge to prepare and to transport a mobile crane (K)
   - 6.3 Demonstrate knowledge of to assemble and disassemble a crane at a worksite (K)
   - 6.4 Prepare and transport a mobile crane to a worksite following all highway and traffic rules and regulations (W)
   - 6.5 Assemble and disassemble a crane at a worksite (W)

7. **Site Planning & Crane Positioning (ASPCP)**
   - 7.1 Demonstrate knowledge of accurate site assessment tools (K)
   - 7.2 Demonstrate knowledge to locate and safely position crane (K)
   - 7.3 Conduct an accurate site assessment and safely position a crane in the workplace (W)
8. **Crane Operations (CO)**

8.1 Demonstrate knowledge of pre-operational requirements in crane operations (K)

8.2 Demonstrate knowledge of crane operations (K)

8.3 Demonstrate knowledge to leave a crane unattended (K)

8.4 Demonstrate crane set-up per manufacturer’s instructions (including Task 4) (W)

8.5 Use a mobile crane to safely pick and carry loads in a workplace (W)

8.6 Leave a crane unattended (W)

9. **Maintenance & Service (CMS)**

9.1 Demonstrate knowledge of inspecting engines, monitoring devices and hydraulic systems (K)

9.2 Demonstrate knowledge of servicing and maintenance procedures on mobile cranes (K)

9.3 Complete maintenance checklists (engine on / engine off) and maintain engines to manufacturer’s specifications (W)

9.4 Perform routine inspections and maintenance of hydraulic systems (W)

9.5 Inspect monitoring devices and control mechanisms (W)

9.6 Perform service on engine cooling systems on mobile cranes (W)

9.7 Maintain an equipment logbook to retain a permanent written record of maintenance and repairs (W)

11. **Lattice Boom Crane (ALBC)**

11.1 Demonstrate knowledge of lattice boom crane structure and assembly (K)

11.2 Demonstrate knowledge of lattice boom crane load charts and load calculations (K)

11.3 Demonstrate knowledge of lifting plans and rigging for lattice boom cranes (K)

11.4 Operate a lattice boom crane safely according to manufacturer’s specifications and regulations (W)