

DAY 2

15 November, 2017



08:30 Registration & Breakfast

09:00 Session 5

• Heavy Lifting

- Why do we use cranes (mechanical advantage)
 - Why can a crane lift so much, the principle of pulley
 - Why can a crane reach so far, the principle of lever
 - Counterweight vs. load weight
 - How to determine crane size without a load chart
 - Crane stability
 - Crane booms (lattice vs hydraulic) and how they behave
 - Dual crane lifts
 - How to avoid crane overload in dual crane lifts
 - Tailing loads with a cranes
 - How the tail lug location determines the tail load
 - Performing lifts with more than 2 cranes
 - Lift beam and spreader bar design (correct and incorrect)
 - Rigging forces in slings and spreaders
- various case studies with sample calculations (class room effort)**



11:00 Coffee Break

11:15 Session 6

• Skidding / Jacking

- Coefficient of friction for different applications
- Skidding on stainless steel, PTFE (teflon), wood and grease
- Skid beam and skid shoe design
- The compensated skid shoe, the latest development
- Applications of the compensated skid shoe
- Using strandjacks, horizontally, vertically and even up-side-down
- Potential problems with strandjacks
- Jacking towers (Mammoet vs. ALE vs. Barnhart vs. Sarens)

various case studies (class room effort)

Load-Outs

- Barges (hopper, submersible, jack-up, supply, flattop)
- How to assess water depth and quay height
- Making the best use of deck strength, bulk heads, ballast tanks
- Why does a barge not turn over (and when does it)
- Barge stability
- Displacement, center of floatation and center of buoyancy
- The Metacenter
- The influence of the moon on tides
- Ro-Ro ramps or steel plates
- How do you ballast a barge

various case studies with sample calculations (class room effort)



13:00 Lunch

13:45 Session 7

• Accident Analysis & Safety Standards

- Crane, transporter, gantry
- Common mistakes and accident analysis
- Crew Resource Management
- Safety culture and awareness



15:30 Coffee Break

15:00 Session 8

• Maintenance & Inspection

- How to maintain and inspect
- Preventive maintenance vs. repair
- Checklists
- Preventive maintenance (what, when, how and where)

16:00 **Test & Evaluation**

17:00 **Wrap Up**

End of Day 2