

# Human Error & Human Behaviour



Unit Code: CPE 6260

Behavioural safety is fast becoming the number 1 priority for industry today. The majority of industrial incidents are caused by human error. This course concentrates on how human error and behaviour affect the design and running of industrial processes.

The theoretical background and practical skills are given for assessing and reducing human error.

This includes human factors and psychological mechanisms. Human reliability in industry and its impact on major hazard systems and quality assurance is studied. Human-machine interfaces are examined.

Approaches are given for improving human reliability and error reduction.

## Course Content

- **Human factors** — how this concept is becoming much more important to bodies such as the Health & Safety Executive (HSE)
- **Human and system-induced error** — slips, mistakes and violations
- **Rules, procedures and violations** — common reasons for procedural violations and reasons why procedures are not used
- **Learning lessons from accidents** — includes root cause analysis, causal tree analysis and near-miss reporting
- **Addressing systematic causes** — how to predict, identify and fix systematic causes of accidents
- **Communication and shift hand-over** — the most effective methods to use when communicating information during a shift hand-over
- **CARMAN** — Consensus-based Approach to Risk Management
- **Task Error Assessment Methods** — criticality Analysis, HTA (Hierarchical Task Analysis), PHEA (Predictive Human Error Analysis), event trees
- **Human error quantification** — expert judgement-based methods, database techniques, model-based techniques

