- Systems engineering, reliability, availability, maintainability and safety (RAMS) analysis: hazard analysis (HA), failure modes (and) effects (and criticality analysis) (FME(C)A), fault tree analysis (FTA), mean time between failure (MTBF), mean time to repair (MTTR) and mean down time (MDT) calculations

- Security engineering: system evaluation and assurance

- Human factors: human error, cognitive workload, ironies of automation, (shared) situation/mode awareness, trust/complacency, human centred design: parallel-iterative approach

- Safety integrity levels (SIL) and development processes in different application domains (avionics, medical, railway, automotive, ...) MIL STD 882, IEC 61508/ISO 26262, DO-178B/C, software engineering for embedded systems

- Programming techniques: defensive programming, e.g. MISRA-rule sets

- Safety critical systems development and maturity models (SPICE, CMMI)

- Quality assurance: model based verification,human/model in the loop, audits/assessments

- Operating systems for safety critical and realtime systems