EIT:5298 Mechanical Component Durability and Integrity Analysis 3 s.h.
System and component design, stress analysis, static failure, fatigue, fracture mechanics, vibration, materials science, and product life cycle.

EIT:5351 Cybersecurity 3 s.h.
Taxonomy of security threats and attacks; chain-of-trust principle; authentication, access control, and security domains; perimeter security and defense in depth; cryptographic protocols; key management and distribution; security assessment, internet of things (IoT) security and privacy issues.

EIT:5352 Modern Database Systems 3 s.h.
Introduction to contemporary database architectures: relational, key-value, document store, and graph-based; relative strengths and weaknesses of database architectures; enterprise scalability issues; data aggregation and visualization; project work involving use of modern database systems (e.g., MySQL, Redis, MongoDB, Neo4j).

EIT:5353 Big Data and Machine Learning 3 s.h.
Storage, management, and analysis of very large data sets; distributed file systems and object stores; MapReduce framework for processing large data sets; machine learning techniques; classification and clustering; pattern recognition; projects involving big data and machine learning frameworks (e.g., Apache Hadoop).

EIT:5380 Software Engineering Methods, Tools, and Frameworks 3 s.h.
Modern agile software development practices for cloud and web-based applications using state-of-the-art software engineering languages, tools, and technologies; software as a service (SaaS) architecture; software testing; introduction to enterprise application development frameworks; team-based project.

EIT:5381 Enterprise Software Engineering 3 s.h.
Modern DevOps practices and toolchains for enterprise information systems; scalable architecture; cloud services (e.g., SaaS, PaaS, LaaS); load balancing/autoscaling; identity management and security; performance monitoring and tuning; continuous integration and hot deployment.

EIT:5382 Human-Computer Interaction Design and User Experience 3 s.h.
Principles and guidelines for design and evaluation of human-computer interactions (HCI); design methodologies (e.g., participatory design, low- and high-fidelity prototyping); user interface technologies (e.g., input and output devices, interaction styles); quantitative and qualitative evaluation of user interfaces (e.g., expert reviews, usability testing).