

16. juni 2026

CUU og DUU møde

CUU og DUU møde den 16. juni 2026

DAGSORDEN

- Velkommen og siden sidst
- Digitale kompetencer
- DTU's strategi 2026-2031
- Eventuelt og næste møde
- Meddelelser



CUU og DUU møde den 16. juni 2026

Digitale kompetencer

Fremtidens digitale og AI kompetencer

CUU- og DUU møde 16. juni 2026

Bjarke Bak Christensen, universitets- og institutdirektør samt forperson for DTU's Digitaliserings Akademi



DTU's strategi 2021-2026

Pejlemærke 3

Vi går forrest i
realiseringen af
digitaliseringens
muligheder

DTU's strategi 2026-2031



Strategisk indsatsområde 3 Uddannelse af

Europas mest
kompetente ingeniører

- Vi vil være pionerer i fremtidens læring
- -ved at designe uddannelser, hvor digitale værktøjer frigør tid til dybdelæring

Opgaver

- 1) **At integrere digitalisering og data science i alle uddannelser** fra bachelor til kandidatniveau og i diplomingeniøruddannelsen
- 2) **At styrke læring ved brug af digitale teknologier** i alle uddannelser
Forbedret didaktik og større fleksibilitet i undervisning
– for undervisere så vel som for studerende
- 3) **At understøtte DTU's 'outreach'**
Extended learning

DTU's Digitaliseringakademi

Etableret: 1/1 2025 af Lars D. Christoffersen

Forperson: Bjarke Bak Christensen

Medlemmer

- Alberto Lluch Fuente, DTU Compute
- Bjarke Bak Christensen, DTU Bioeng., Chair
- David Bue Pedersen, DTU Construct
- Jane Hvolbæk Nielsen, DTU Physics
- Janus Juul Eriksen, DTU Chemistry
- Jakob Kjøbsted Huusom, DTU Chemical Eng.
- Jette Kolby Laub Kristiansen, AUS
- Mads Henrik Bang, DTU AIT
- Nina Gringer, DTU Food
- Ole Schultz, DTU Engineering
- Per Bækgaard, DTU Compute og AI group
- Peter Stanley Jørgensen, DTU Energy
- Timothy Jenkins, DTU Bioengineering
- Mathias Frøjk, Studenterrepræsentant, PF



Digitaliseringsakademiet

Operationaliserer rammeværk for implementering af digitaliseringskompetencer

Vi bygger på noget

Oprindelige 9

DTU Digitalisation Learning Objectives

1. Explain the concepts of digital literacy and computational thinking
2. Evaluate and discuss data, data sharing and its security, and understand its ethical basis
3. Demonstrate computational thinking and formulate an algorithmic perspective on creative problem solving
4. Create and exchange FAIR data and work with data analytics (visualization, data mining, statistical methods, uncertainty quantification, etc.)
5. Construct mathematical models of engineering problems
6. Develop computer programs to solve engineering problems using version control and repositories
7. Use and evaluate artificial intelligence, and understand its relation to human intelligence
8. Understand the uses and limitations of digital hardware and infrastructure
9. Critically evaluate digital outputs and put them in their social and physical context

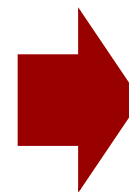


EU's 5

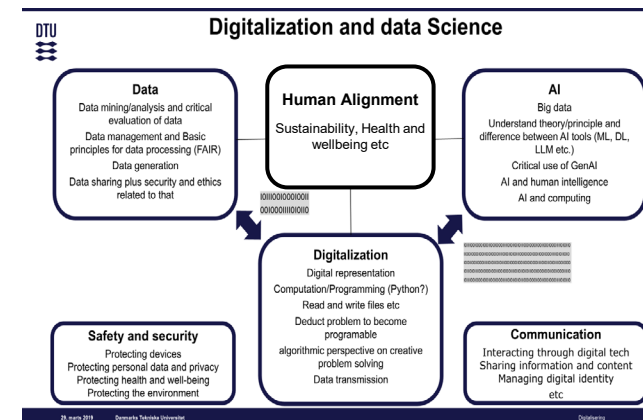


AI-gruppens 6

- **Basic understanding of Data Mining and Machine Learning (incl. LLMs)**
- **Prompt "Engineering" techniques (how best to use LLMs and other generative tools)**
- **Domain specific insights (theories, methods and tools)**
- **Critical Thinking and Evaluation of Gen AI output**
- **Ethics and generally relevant human aspects/alignment (and XAI, fairness)**
- **Safety and Security**



DA's 6
overordnede
temaer



DA's rammeværk

6 overordnede temaer

Specifikke læringsmål

- Data
- ML / AI
- Human alignment
- Safety and security
- Problem solving / Digitalization
- Communication and collaboration

=> 51 specifikke læringsmål

==> Kortlægning på BSc-uddannelserne

===> Fastlæggelse af endelige kompetencer

Digitalization & AI Learning Objectives — Short-Form

Prepared by Bjarke Christensen, Lene Bisgaard and Per Bækgaard, assisted by LLM tools.

1 — Data

Digital representation: How data is encoded, structured, and stored for computation. *Knowledge* — Bits/bytes, encodings, data structures (arrays, lists, trees, graphs), file systems, metadata. *Skills* — Map problems to appropriate representations; convert between number systems; use structures efficiently. *Competence* — Design representations that are accurate, efficient, and interoperable across tools and platforms.

Scaling data and computation: Principles for handling larger workloads and datasets effectively. *Knowledge* — Vertical vs. horizontal scaling, parallel/distributed computing, cluster and cloud scaling models, high-performance computing (HPC), complexity (Big-O). *Skills* — Select scaling strategies; profile performance; use distributed frameworks and queues. *Competence* — Architect systems that scale predictably while balancing cost, performance, and reliability.

Big data mining: Extracting patterns and insights from high-volume, high-variety data. *Knowledge* — 5Vs (volume, velocity, variety, veracity, value), adaptation and limits of classical statistics at scale. *Skills* — Apply streaming/online learning, sampling, and approximate algorithms. *Competence* — Choose appropriate approaches for complex datasets and justify accuracy–cost trade-offs.

Big data analysis and statistics: Analytical methods for clustering, classification, dimensionality reduction, anomaly detection, and forecasting. *Knowledge* — Statistical/ML foundations (regularization, bias–variance), gradient descent, interpretability. *Skills* — Run large-scale analyses and interpret outputs with uncertainty measures. *Competence* — Build robust analytical pipelines and communicate uncertainty clearly to stakeholders.

Big data management: Lifecycle processes for collecting, cleaning, transforming, and integrating large datasets. *Knowledge* — Integration of structured/unstructured sources (text, images, sensors), versioning, Extract-Transform-Load/Extract-Transform-Load. *Skills* — Design pipelines; handle diverse data types; document lineage and schemas. *Competence* — Govern operations for reliability, traceability, and readiness for analysis.

Data generation and quality: Planning, sourcing, and creating data to meet defined quality specifications. *Knowledge* — Real-world collection, synthetic/simulated data, labeling, model-generated content, governance, lifecycle management. *Skills* — Implement validation (schema checks, deduplication), privacy safeguards, scalable ingestion/storage. *Competence* — Ensure representative, compliant datasets and mitigate bias through proactive controls.

Critical evaluation of data: Assessing the quality and fitness of collected data for a given purpose. *Knowledge* — Quality dimensions (accuracy, completeness, consistency, timeliness, validity, uniqueness, reliability). *Skills* — Diagnose errors, bias, and drift; analyze provenance and lineage; review encodings and features. *Competence* — Recommend remediation strategies and communicate decision-ready findings.

Critical evaluation of analysis and outcomes: Assessing computational results and their assumptions and uncertainties. *Knowledge* — Bias–variance trade-off, confidence intervals, p-values, effect sizes, predictive uncertainty, error propagation. *Skills* — Interpret in context; apply explainability; detect over/underfitting and spurious patterns. *Competence* — Communicate limitations and support evidence-informed decision-making.

FAIR principles for data processing: Making data Findable, Accessible, Interoperable, and Reusable. *Knowledge* — Persistent identifiers, rich metadata, shared formats/schemas/ontologies, licensing, versioning, access controls. *Skills* — Implement repository practices; document provenance; ensure interoperability. *Competence* — Steward data with governance, compliance, sustainability, and long-term preservation.

Eksempel på svar

18 modtagne ud af 21

Spørgeskema om digitale kompetencer

Vælg under "Importance" til højre for området en af følgende fra drop-down listen:

Mandatory = helt relevant (dvs. obligatorisk på BSc)

Program Specific = i nogen grad relevant (dvs. retningsspecifikt på BSc)

Electives = ikke umiddelbart relevant (dvs. valgfrit)

On MSc = skal overvejes som MSc-kursus, eller MSc-kurselement, i stedet

Tilføj gerne emner efter behov nederst i skemaet efter behov

Udfyld venligst kun de gule felter i arket (det gør det nemmere at efterbehandle).

Iavn på uddannelse	Anvendt Matematik BSc											
	Data	Importance	ML / AI	Importance	Human alignment	Importance	Safety and security	Importance	Problem Solving	Importance	Communication and collaboration	Importance
General Digitalization and AI (Emner som potentielt er af interesse for flere BSc)	Digital data structures and representation(s)	Mandatory	Principles of AI incl. Machine Learning and Generative AI (Regression, Classification, ... Deep Learning, ...)	Program Specific	Principles of Human-Centered Design (users, goals, context / ISO9241-210) designing digital products	Electives	Basic digital security mechanisms (authentication, authorization, identity, ...)	Program Specific	Basic understanding of digital methods and tools	Mandatory	Digital communication and collaboration tools	Program Specific
	Scaling data and computation (HPC)	Mandatory	Principles of Generative AI (including Large Language Models, ...)	Program Specific	Evaluation criteria	Electives	Digital anonymity and pseudonymity, including risks of (biometric/profile) identification	Electives	Energy and resource allocation/consumption	Electives	Visualisation of data and processes	Mandatory
	Principles for data processing (FAIR)	Program Specific	AI and human intelligence	On MSc	Universal design principles for digital products	On MSc	Digital encryption and integrity	Program Specific	Digital modelling	Mandatory	Version control and management	Program Specific
	(Big) Data mining	Electives	Apply ML and AI	Program Specific	Sustainability in digital products	On MSc	Protecting personal data and privacy	Program Specific	Programming (structure, architecture, filesystem, calls, ...)	Program Specific	Sharing information and content digitally	Electives
	(Big) Data analysis and Statistics	Mandatory	Apply GenAI incl. prompting of LLM ("Prompt Engineering")	Program Specific	Protecting health and well-being	On MSc	Protecting the environment	On MSc	Digital representation	Mandatory	Interacting through digital tech	Electives
	(Big) Data management	Electives	Evaluation of Gen AI output (hallucination, checking facts, ...)	Mandatory	Design human-aligned digital systems	On MSc	Protecting (digital and hybrid) devices	On MSc	Data transmission	Electives	Managing digital identity	Electives
	Data generation and quality	Mandatory	Use of GenAI in engineering contexts, including how to report and document	Program Specific	Critically evaluate human impact and alignment (incl. ethics, fairness, bias, ...) of digital products	Electives	Critically evaluate safety and security and risks of digital and hybrid products	Program Specific	Critical Thinking	Mandatory	Critical evaluation of digital information/comms	Electives
	Critical evaluation of data (quality, representations)	Mandatory	Critical use of GenAI	Mandatory					Computational Thinking / Deduct problem to become programmable / Algorithmic perspective on creative problem solving	Mandatory	Communicate and mediate research-based knowledge using digital tools	Mandatory
	Critical evaluation of analysis/outcomes	Mandatory							Understand interaction between digital and physical components	Electives	Collaborate in a multidisciplinary and digital environment	Electives
									Automatisation	Electives		
									Formulate and evaluate problems	Mandatory		

- Relativt stor diversitet
- Konvergens om essentielle læringsmål, som skal være obligatoriske
- Varians i vurdering af behov for AI / ML
- Safety and security + human alignment vurderes at høre til senere i uddannelsen

- Foreløbig mapping viser, at PG-kurserne dækker en stor del
- Retningsspecifikke BSc-kurser kan dække en del
- BSc-projektet kan dække en del
- Noget udskydes til MSc-uddannelsen

- Introduktion og mindset
- Gentagelse
- Progression
- Anvendelse

I PG-kurser, retningsspecifikke kurser, cases og BSc-projekt

[illegible]

P1: Digital Foundations and Computational Thinking

Establishes the mental models and basic literacy every engineering student needs before anything else.

Included area	Corresponding topics	PG	Prac course	BSc Thesis	Study Line	Repeat in studyline courses	MSc
Programming (structure, architecture, filesystem, calls, ...)	Introductory programming in Python: variables, control flow, functions, file I/O, calling libraries; Navigating a filesystem and the command line; understanding program execution and process structure						
Critical digital thinking	Critical thinking about problem framing in the digital space: what assumptions are built in, what's being measured and what's being ignored, what is particularly important to consider in the digital space.						
Basic understanding of digital methods and tools	How computers represent information: bits, bytes, encodings (ASCII/UTF-8), numeric representations, images and sound as data						
Digital modelling	Modelling as simplification: what a model captures, what it omits, when it breaks						
Computational Thinking / Deduct problem to become programmable / Algorithmic perspective on creative problem solving	Decomposing problems into algorithmic steps; pseudocode and flowcharts						
Understand interaction between digital and physical components	Intro to working with cyber-physical systems in a team setting: integrating hardware and software workstreams 1)						
Formulate and evaluate data problems	Mapping processes, gathering information, and defining clear problem statements shaped by data and technology						
Digital data structures and representation(s)	Abstracting real-world situations into structured digital forms suitable for computation; Intro to basic data structures: lists, dictionaries, tables, trees, graphs 2)						
(Big) Data analysis and Statistics	Introduction to spreadsheets and databases 2)						
Automatisation	Introduction to automating repeated work through programming						
Version control and management	Intro to version management and collaboration through Git						

Eksempel på læringspakke

1) This may alternatively only be part of P7: Engineering Practice in Digital Environments
2) This is also included in P2: Data Literacy and Analysis

Implementering

6 overordnede temaer

- Data
- ML / AI
- Human alignment
- Safety and security
- Problem solving / Digitalization
- Communication and collaboration

=>

51 læringsmål

Hvor kan/skal de opnås?

På hvilket niveau?

Viden, færdigheder, kompetencer

Specifikke læringsmål

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- Hvordan dækker vi bedst den del af de digitale læringsmål og kompetencer, der ikke dækkes af Polyteknisk Grundlag?
 - Retningsspecifikke kurser
 - Valgfrie kurser
 - Projekter
- Hvor sikrer vi, at de studerende ikke blot får den nødvendige af digitalisering og data science (herunder ML, AI og Gen) men i lige så høj grad får et mindset, som ruster dem til at bruge teknologi klogt og ansvarligt?
- Hvor mange af kompetencerne skal omsættes i egentlige læringsmål der skal testes, og hvor meget kan være en del af ingeniørens mindset?

DTU's Strategi 2026-2031

- Uddannelse af Europas mest kompetente ingeniører
 - Vores dimittender skal stå på et solidt **polyteknisk fundament** og være rustet til fremtidens udfordringer.
 - De skal mestre **digitale teknologier** med en kritisk og ansvarlig tilgang.

Spørgsmål

- Hvordan dækker vi de digitale læringsmål og kompetencer, der *ikke* dækkes af Polyteknisk Grundlag?
 - Retningsspecifikke kurser
 - Valgfrie kurser
 - Projekter
- **Hvor sikrer vi, at de studerende får det rigtige mindset?**
 - til at kunne bruge nye teknologier kritisk og ansvarligt?
 - og ikke blot får den nødvendige faglige forståelse
- **Hvor mange af kompetencerne skal være læringsmål, der testes, og hvor meget kan være en del af ingeniørens mindset?**



DTU's strategi 2026-2031

- Uddannelse af Europas mest kompetente ingeniører

- *Vores dimittender skal stå på et solidt polyteknisk fundament og være rustet til fremtidens udfordringer*
- *De skal mestre digitale teknologier med en kritisk og ansvarlig tilgang*

Extra slides

Digital Competencies “Teaching Packages”

... by Bjarke Bak Christensen og Per Bækgaard

- “Mandatory” for most BSc
- Needed by most BSc
- Specialization

Digital Competences

Data

- Critical evaluation of analysis/outcomes
- Critical evaluation of data (quality, representations)
- Digital data structures and representation(s)
- Data generation and quality
- Principles for data processing (FAIR)
- (Big) Data analysis and Statistics
- Scaling data and computation (HPC)
- (Big) Data mining
- (Big) Data management

ML/AI

- Critical use of GenAI
- Use of GenAI in engineering contexts, including how to report and document
- Evaluation of Gen AI output (hallucination, checking facts, ...)
- Apply GenAI incl. prompting of LLM (“Prompt Engineering”)
- Principles of AI incl. Machine Learning and Generative AI (Regression, Classification, ... Deep Learning, ...)
- Principles of Generative AI (including Large Language Models, ...)
- Apply ML and AI
- AI and human intelligence

Human alignment

- Principles of Human-Centered Design (users, goals, context) designing digital products
- Evaluation criteria
- Universal design principles for digital products
- Critically evaluate human impact and alignment (incl. ethics, fairness, bias, ...) of digital products
- Sustainability in digital products
- Protecting health and well-being
- Design human-aligned digital systems

Safety and security

- Basic digital security mechanisms (authentication, authorization, identity, ...)
- Protecting personal data and privacy
- Digital encryption and integrity
- Protecting the environment
- Critically evaluate safety and security and risks of digital and hybrid products
- Digital anonymity and pseudonymity, including risks of (biometric/profile) identification
- Protecting (digital and hybrid) devices

Problem solving

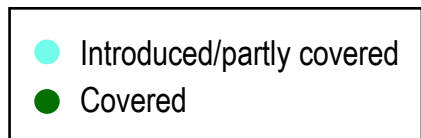
- Programming (structure, architecture, filesystem, calls, ...)
- Critical Thinking
- Basic understanding of digital methods and tools
- Digital modelling
- Computational Thinking / Deduct problem to become programable / Algorithmic perspective on creative problem solving
- Understand interaction between digital and physical components
- Formulate and evaluate problems
- Digital representation
- Data transmission
- Automatisisation
- Energy and resource allocation/consumption

Comms and collab

- Visualisation of data and processes
- Digital communication and collaboration tools
- Sharing information and content digitally
- Version control and management
- Critical evaluation of digital information/comms
- Collaborate in a multidisciplinary and digital environment
- Interacting through digital tech
- Managing digital identity
- Communicate and mediate research-based knowledge using digital tools

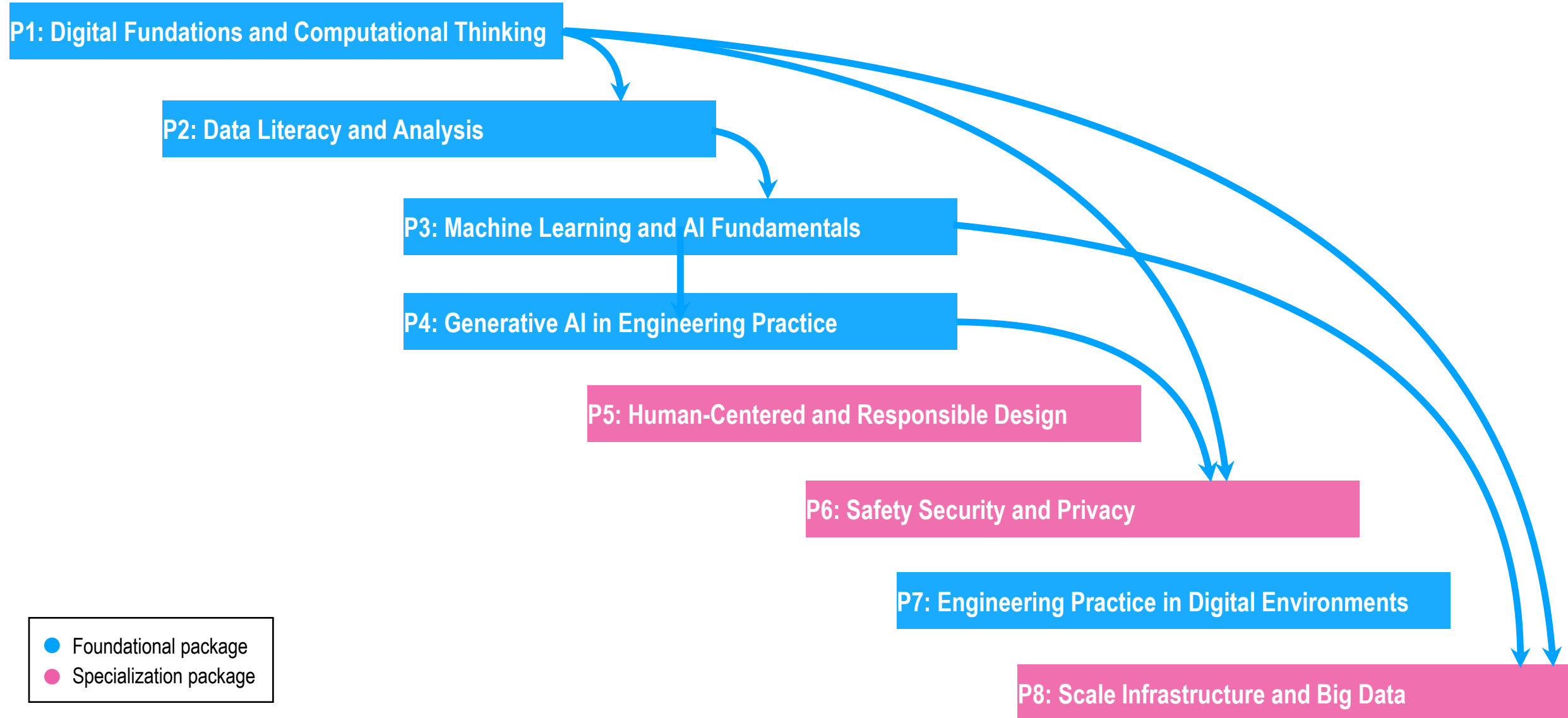
From Competencies

to Packages



NOTE: Needs updates; consider this only approximate!

Packages



P1: Digital Foundations and Computational Thinking

Establishes the mental models and basic literacy every engineering student needs before anything else.

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Programming (structure, architecture, filesystem, calls, ...)	Introductory programming in Python: variables, control flow, functions, file I/O, calling libraries; Navigating a filesystem and the command line; understanding program execution and process structure						
Critical digital thinking	Critical thinking about problem framing in the digital space: what assumptions are built in, what's being measured and what's being ignored, what is particularly important to consider in the digital space.						
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Digital modelling	Modelling as simplification: what a model captures, what it omits, when it breaks						
Computational Thinking / Deduct problem to become programmable / Algorithmic perspective on creative problem solving	Decomposing problems into algorithmic steps; pseudocode and flowcharts						
Understand interaction between digital and physical components	Intro to working with cyber-physical systems in a team setting: integrating hardware and software workstreams 1)						
Formulate and evaluate data problems	Mapping processes, gathering information, and defining clear problem statements shaped by data and technology						
Digital data structures and representation(s)	Abstracting real-world situations into structured digital forms suitable for computation; Intro to basic data structures: lists, dictionaries, tables, trees, graphs 2)						
(Big) Data analysis and Statistics	Introduction to spreadsheets and databases 2)						
Automatisation	Introduction to automating repeated work through programming						
Version control and management	Intro to version management and collaboration through Git						

1) This may alternatively only be part of P7: Engineering Practice in Digital Environments
2) This is also included in P2: Data Literacy and Analysis

P2: Data Literacy and Analysis

Focuses on working with data responsibly and using descriptive statistics before moving into ML.

Included area	Corresponding topics	PG	Prac course	BSc Thesis	Study Line	Repeat in studyline courses	MSc
Critical evaluation of analysis, outcomes	Critical reading of statistical claims in engineering, science and media						
Critical evaluation of data (quality, representations)	Assessing the quality and fitness of collected data for a given purpose; Quality dimensions: completeness, accuracy, consistency, timeliness; missing data and outliers						
Digital data structures and representation(s)	Data structures: lists, dictionaries, tables, trees, graphs — and when each is appropriate *)						
Data generation and quality	How data comes into existence: measurement, sampling, surveys, sensors, scraping — and the biases each introduces						
Principles for data processing (FAIR)	Introduction to the FAIR principles for data (Findable, Accessible, Interoperable, Reusable); metadata						
Data security and safety	Basic introduction to safe and secure handling of data, passwords, personal data protection incl GDPR, etc...						
(Big) data analysis and statistics	Spreadsheets and databases; Descriptive statistics, distributions, correlation vs. causation, basic inferential statistics; Tabular data manipulation (pandas/polar or equivalent); tidy data principles						
Visualisation of data and processes	Intro to data visualizations						
Principles of Human-Centered Design (users, goals, context) designing digital products	Understanding the needs of the intended users						

*) This is also partly included with P1: Digital Foundations and Computational Thinking

P3: Machine Learning and AI Fundamentals

Introduces ML/AI as an extension of data analysis.

Included area	Corresponding topics	PG	Prac course	BSc Thesis	Study Line	Repeat in studyline courses	MSc
Principles of AI incl. Machine Learning and Generative AI	Supervised learning: regression and classification; training/validation/test splits; overfitting and underfitting; Unsupervised learning: clustering and dimensionality reduction; Neural networks and deep learning at a conceptual level; what backpropagation does						
Apply ML and AI	Hands-on application using libraries like scikit-learn and a deep learning framework like PyTorch etc						
Critical evaluation of data, analysis, outcomes	Evaluation of Machine Learning metrics: Accuracy, precision/recall, F1, ROC; why metric choice matters						
AI and human intelligence	Intro to historical and philosophical angle: how ML compares to human cognition, what intelligence means in this context, where the analogy breaks down						

P4: Generative AI in Engineering Practice

Focused specifically on the practical and critical use of GenAI tools, which BSc students will encounter throughout their studies and careers.

Included area	Corresponding topics	PG	Prac course	BSc Thesis	Study Line	Repeat in studyline courses	MSc
Apply GenAI incl. prompting of LLM	Prompt engineering: task framing, context provision, few-shot examples, iterative refinement, structured output; Using GenAI as a coding assistant, a writing assistant and a tutor — and the distinct risks of each case						
Principles of Generative AI	How transformers and LLMs work at a high level: tokens, embeddings, attention, next-token prediction						
Critical use of GenAI	When GenAI is the wrong tool: deterministic needs, safety-critical reasoning, domain-specific accuracy						
Use of GenAI in engineering contexts	Responsible documentation: how to disclose GenAI use in engineering reports, code and scientific writing; institutional and publisher policies; copyright attribution and data provenance questions						
Evaluation of GenAI output	Failure modes of LLMs: hallucination, confabulation, outdated knowledge, sycophancy, prompt injection; fact-checking workflows and source verification when using GenAI output						
Critically evaluate safety and security and risks of digital and hybrid products	Intro to Cloud vs EDGE computing						
Automatisation	When and how to apply agentic frameworks						

P5: Human-Centered and Responsible Design

Elective or specialization-track.
Addresses the human and societal dimensions of engineering digital products.

Included area	Corresponding topics	PG	Prac course	BSc Thesis	Study Line	Repeat in studyline courses	MSc
Principles of human-centered design	Understanding the needs of the intended users/readers; The human-centered design process: understanding context of use, specifying requirements, producing solutions, evaluating against requirements						
Principles of human-centered design	User research methods: Interviews, observation, personas, journey mapping						
Evaluation criteria	Usability evaluation: heuristic evaluation, think-aloud, testing metrics						
Universal design principles	Universal design and accessibility (Web Content Accessibility Guidelines basics); designing for disability and diversity						
Critically evaluate human impact and alignment	Ethics in digital product design: fairness, bias, algorithmic accountability; representative case studies						
Sustainability in digital products	Environmental footprint of digital systems: energy use of training and inference, data center impact, e-waste						
Protecting health and well-being	Dark patterns and attention-exploiting design; protecting user well-being						

P6: Safety Security and Privacy

Elective or specialization-track.
Builds on P1 and P2.

Included area	Corresponding topics	PG	Prac course	BSc Thesis	Study Line	Repeat in studyline courses	MSc
Basic digital security mechanisms	Authentication (passwords, multi-factor, passkeys); authorization and identity management						
Protecting personal data and privacy	Privacy, GDPR essentials, data minimization, purpose limitation						
Digital encryption and integrity	Symmetric and asymmetric cryptography at a conceptual level; hashing and digital signatures; TLS						
Critically evaluate safety and security and risks of digital and hybrid products	Threat modeling: identifying assets, threats, vulnerabilities, mitigations; risk assessment for digital products including safety-critical considerations						
Digital anonymity and pseudonymity	Anonymization vs. pseudonymization; re-identification attacks; risks of biometric and behavioral profiling						
Protecting devices	Securing hybrid (IoT cyber-physical) systems: additional attack surfaces when digital meets physical						
Data transmission	Data transmission basics: networking layers, protocols, where data can be intercepted						

P7: Engineering Practice in Digital Environments

A companion to or part of project work
Perhaps as preparation for thesis work and professional practice or related to “Fagpakke”?

Included area	Corresponding topics	PG	Prac course	BSc Thesis	Study Line	Repeat in studyline courses	MSc
Visualization of data and processes	Intro to data visualizations; choosing the right chart; avoiding misleading graphics; visual encoding principles; storytelling with data, dashboards, reports, scientific posters						
Digital communication and collaborative tools	Introduction to collaborative tools (shared docs, chat, issue trackers, planning tools) as part of engineering work						
Sharing information digitally	Open science and open source: licensing basics, contributing to shared projects						
Version control and management	Version management and collaboration through Git; branching, merging, pull requests, code review						
Collaborate in a multidisciplinary and digital environment	Interacting across disciplines: translating between domain experts, engineers, designers, and stakeholders						
Managing digital identity	Managing one's own professional digital identity and footprint						
Communicate and mediate research-based knowledge using digital tools	Technical writing and scientific communication with digital tools (LaTeX/Markdown, reference managers)						
Principles for data processing (FAIR)	Reproducibility: environment management, containers, workflow automation, documentation-as-code						
Automatisation	Scripting and automation: turning repeated manual work into reliable pipelines						
Understand interaction between digital and physical components	Working with cyber-physical systems in a team setting: integrating hardware and software workstreams						

P8: Scale Infrastructure and Big Data

Elective or specialization-track package for students going deeper into data-intensive engineering.
Requires P2 and P3.

Included area	Corresponding topics	PG	Prac course	BSc Thesis	Study Line	Repeat in studyline courses	MSc
Scaling data and computation (HPC)	High-performance computing: parallelism (data, task, pipeline), GPUs, job schedulers; from laptop to cluster: when and why problems need more than a single machine						
Big data mining	Data mining patterns: association rules, anomaly detection						
Big data mining	Distributed storage and processing: Data lakes, columnar formats, map-reduce patterns						
Big data management	Data pipelines and orchestration; data governance at scale: lineage, cataloguing, access control						
Energy and resource consumption	Energy and cost of large-scale computation; green computing considerations						

CUU og DUU møde den 16. juni 2026

DTU strategi 2026 - 2031

CUU og DUU møde den 16. juni 2026

Eventuelt

CUU og DUU møde den 16. juni 2026

Meddelelser

Arbejdsdeling mellem uddannelsesdekan og prodekan per 1. august 2026

Uddannelsesdekanen har det fulde ansvar for uddannelser og studiemiljø på DTU

Uddannelsesdekan

- Diplomingeniøruddannelsen
- Civilbacheloruddannelsen
- ... samt øvrige opgaver og ansvarsområder

Prodekan

- Kandidatuddannelsen
- Efter- og videreuddannelse
- ... samt øvrige opgaver

Det nye: Ledelsesopgaven for hver hoveduddannelse samles

Begge vil fortsat deltage i møderne i de kollegiale fora

Formålet med arbejdsdelingen er tydelig og sammenhængende ledelsesstruktur for hver hoveduddannelse. Konkret deling er begrundet i ønske om at

- opnå synergi mellem de tværgående opgaver på diplomingeniør- og civilbacheloruddannelsen, herunder studiemiljø og studiestart
- fastholde et blik på tværs af diplom- og civilingeniøruddannelserne



Cold Climate Engineering (MSc)

- Tidl. samarbejdsuddannelse med NTNU
- N5T alliance
- DTU søger om en selvstændig uddannelse
- Frist: 15. sep. 2026
- 1 sem.: Lyngby
- 2 sem.: Sisimiut
- 3. sem.: Lyngby / udveksling
- 4. sem.: Sisimiut / Lyngby



Biomanufacturing (MSc)

- Tidligere: specialisering under Chemical and Biochemical Engineering
- Kalundborg campus
- 4 årig Erhvervskandidatuddannelse
- DTU søger om at oprette som en selvstændig uddannelse



Wind Energy (MSc)

- DTU søger om flytning af kandidatuddannelsen Wind Energy fra Lyngby til Risø Campus
- Gennemgang af den nuværende uddannelse og udvikling af nye kurser bl.a. med fokus på:
 - Systemforståelse og energisystemer
 - Cybersecurity og sikkerhed i infrastruktur
 - Bæredygtighed (materialer, produktion mm.)
 - Samfundsrelationer, policy og regulering
- Større studiemiljøindsats på Risø Campus
- Forventet studiestart september 2027