WE MAKE KNOWLEDGE MATTER

AALBORG UNIVERSITY

Quality in Education

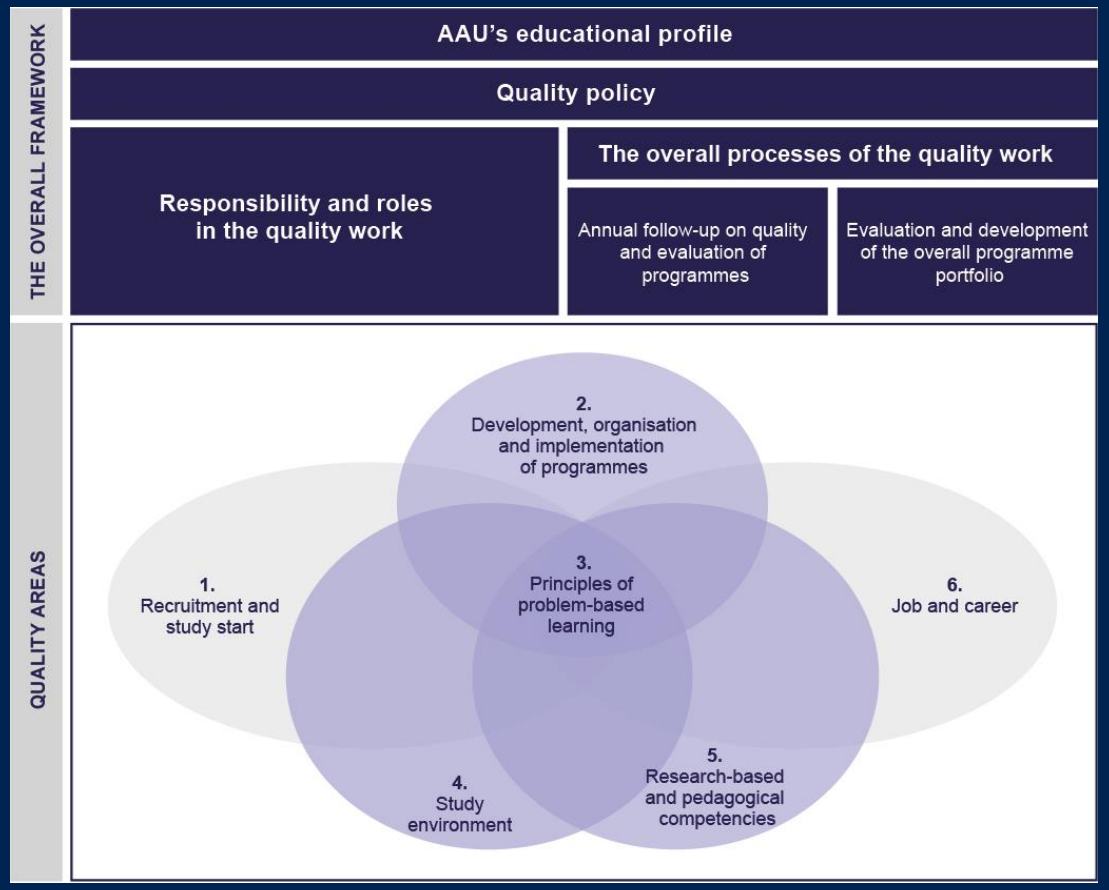
Department of Computer Science

Agenda

- Overview of educations
- Quality system
  - Teaching portfolios
  - Quality indicators
  - Drop-out rates
  - Employment

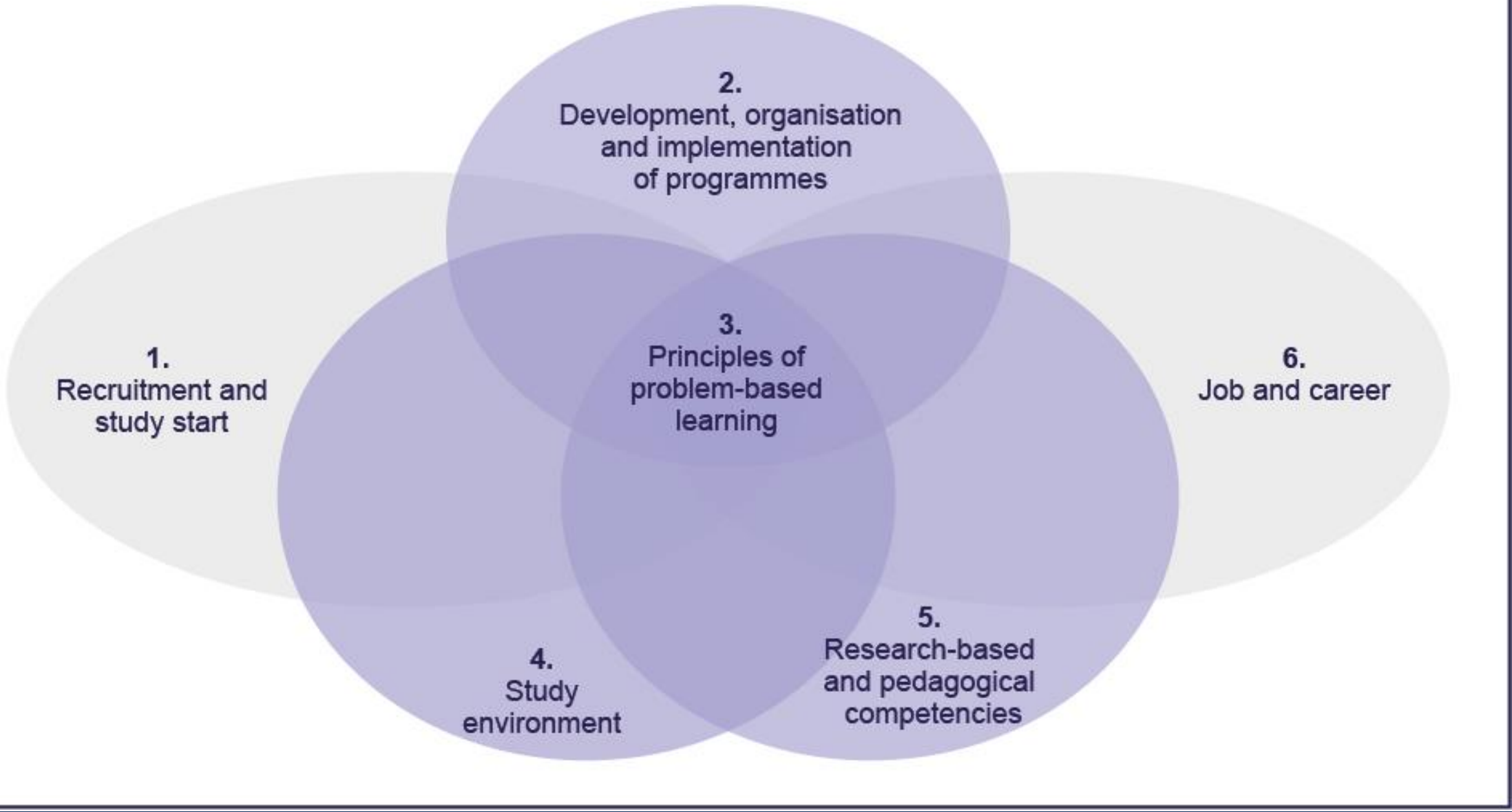
- How do we achieve quality?

Quality system https://www.kvalitet.aau.dk/quality-system/



- Ensure the quality of the educations at AAU
- Reports and reviews
- Currently producing quality reports

QUALITY AREAS



Teaching portfolio

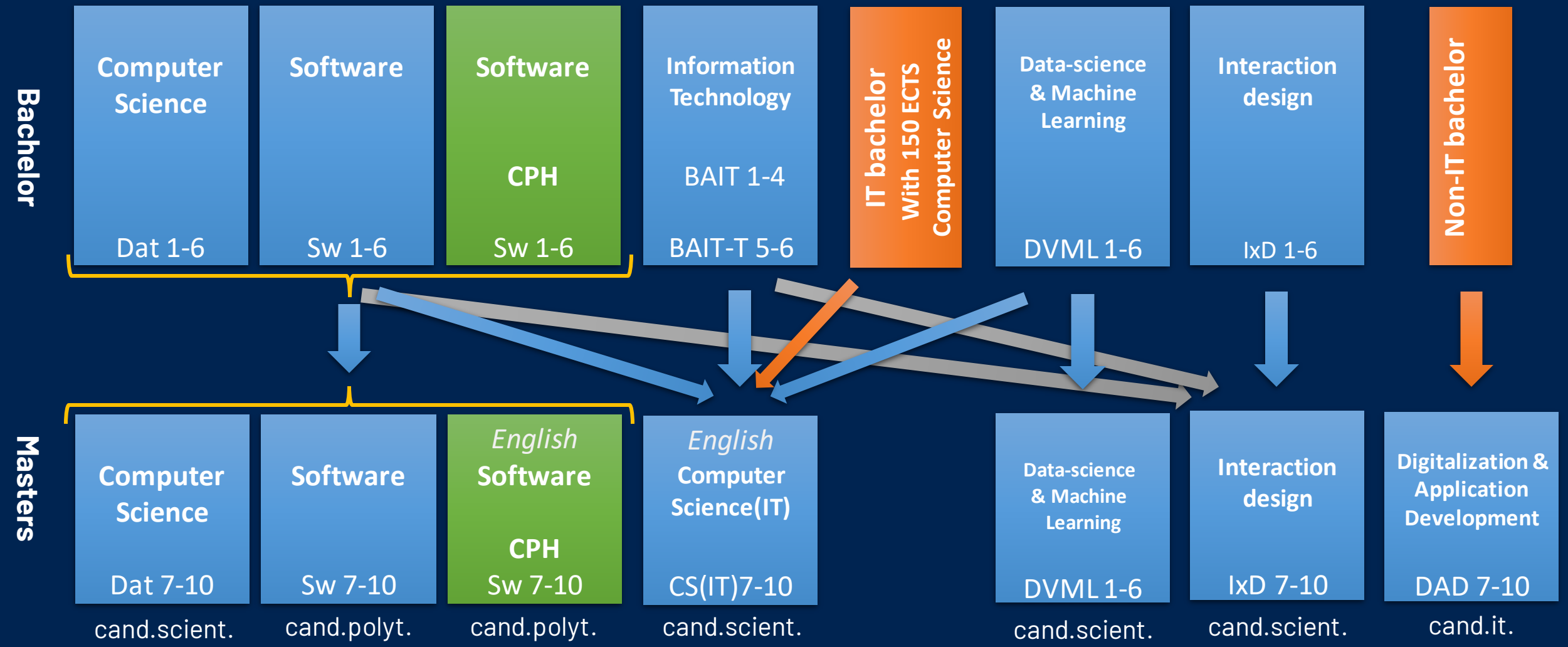
Create or update your portfolio

Part of documenting the quality of the educators

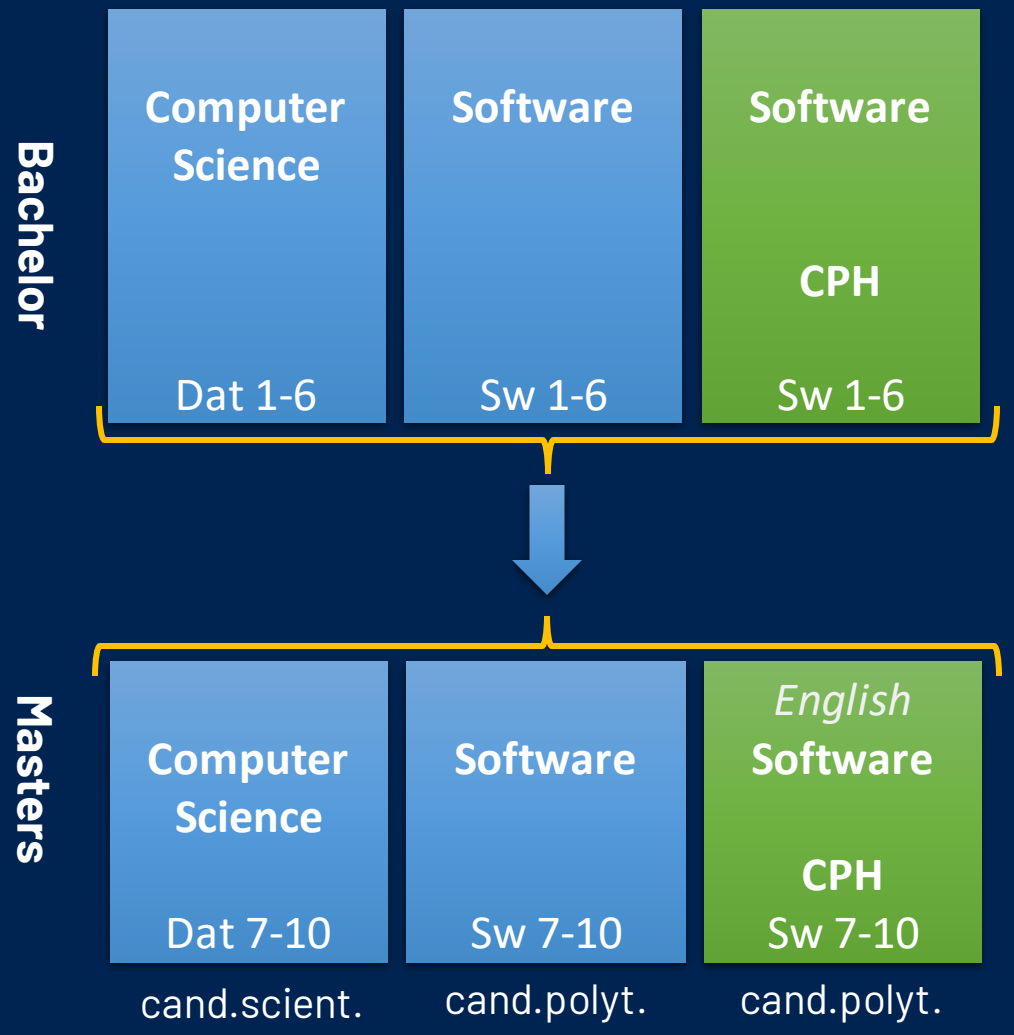
Keep it simple, but use it for reflection on your development

53 people have updated or created their portfolio since September

Educations @ Department of Computer Science



Educations @ Department of Computer Science



Computer Science
- Computational thinking
- Modeling
- Abstractions
- Algorithms
- Programming

Software
- Working software
- Technology
- Programming
- Team-work

1st to 4th semester are almost identical

Bachelor of Information Technology

Combination education
- Communication
- Business development
- Technology

Tracks on 5-6 semester

Information Technology

BAIT 1-4

BAIT-T 5-6

IT bachelor With 150 ECTS Computer Science

English **Computer Science(IT)**

CS(IT)7-10

cand.scient.

Computer Science (International Track)

Two tracks
- One track follows Computer Science
- One has a different 2. semester

Data-science and Machine Learning (DVML)

Combination education
- Mathematics
- Computer Science

Focus areas
- Artificial Intelligence
- Big Data
- Statistics
- Data visualization

cand.scient.

Interaction Design (IxD)

Focus areas

- Interactive products and systems
- User centered design
- Programming

Interaction design

IxD 1-6

Interaction design

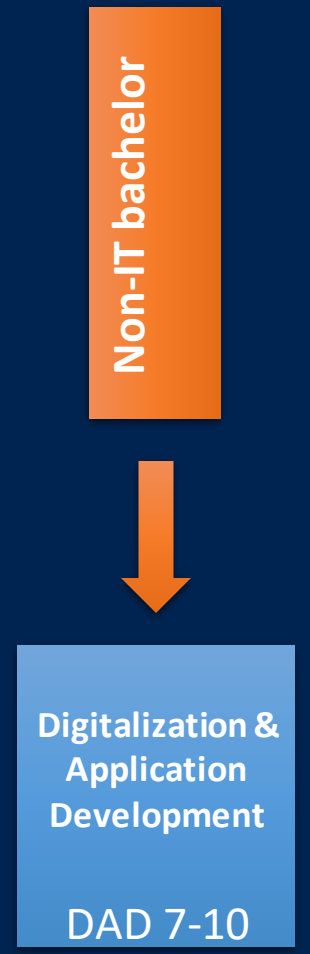
IxD 7-10

cand.scient.

Digitalization and Application Development (DAD)

IT on top
- Add IT on top of non-it bachelor

Focus areas
- Programming
- Systems thinking
- Human-machine interaction



cand.it.

Continued education (EVU)

IT-Vest - Master of IT - Software construction

Target: Software practitioners without formal education

Modules given by CS@AAU
- Data Science and Big Data
- Secure software development
- Database design, development and optimization
- Business intelligence: Analysis of large databases
- Master project in software construction

Master in informatics teaching

Target: Highschool teachers

Purpose: qualify to teach in informatics

60 ECTS or single modules

One module is given by CS@AAU:
- Databases and conceptual modelling

Quality indicators

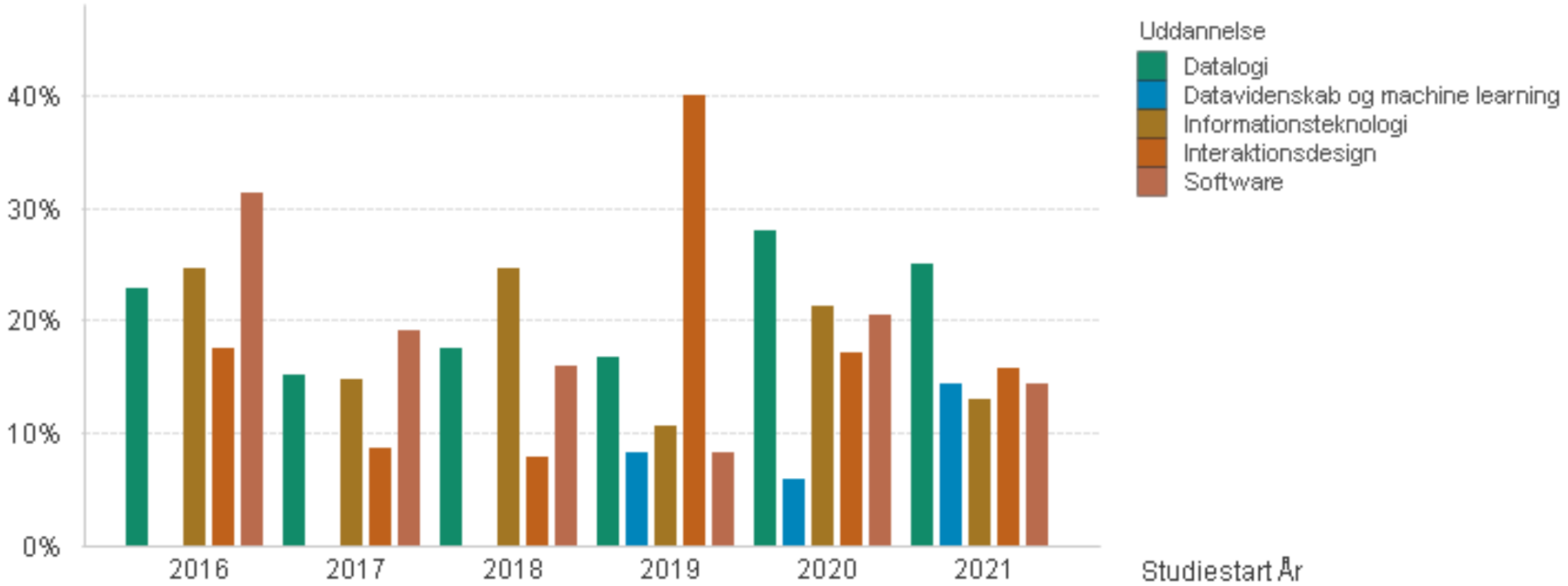
Drop-out rates on first semester

Finishing within normal time + 1 year

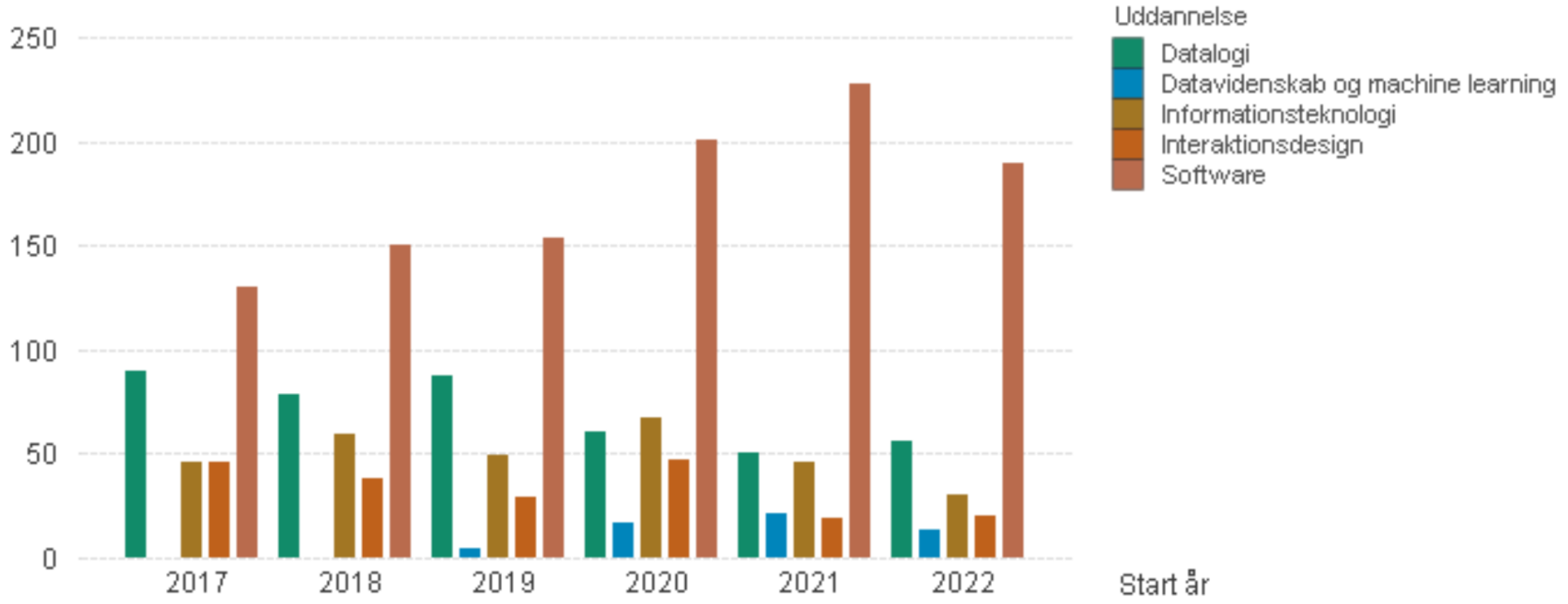
Unemployment

Type	Uddannelse	Campus	Frafald 1. studieår		Frafald norm tid +1år		Overskridelse studietid		Planlagte undervis. timer		Planlagte vejled. timer		VIP/ DVIP		Stud/ VIP		Ledighed 4.–7. kvt.	
BA	Datalogi	AAL	25,0%	▼	40,7%	▼	0,7	▼	211,0	▲	128,0	▲	3,4	▼	1,3	▼	-	-
	Datavidenskab og machine learning	AAL	14,3%	▲	-		-0,2		209,8	▲	124,0	▲	7,1	▼	1,5	▲	-	-
	Informationsteknologi	AAL	13,0%	▼	38,5%	▲	3,4	▲	153,8	▲	152,0	▲	9,9	▼	2,4	▼	-	-
	Interaktionsdesign	AAL	15,8%	▼	36,8%	▼	5,7	▲	144,4	▼	160,0	▲	5,2	▼	1,3	▼	-	-
	Software	AAL	14,0%	▼	37,1%	▲	0,9	▼	222,4	▲	128,0	▲	3,0	▼	4,2	▼	-	-
	Software	KBH	15,4%	▲	-		-		211,8	▲	130,0	▲	13,3	▼	2,6	▲	-	-
KA	Datalogi	AAL	15,2%	▲	3,1%	▼	-0,7	▼	179,0	▲	133,3	▲	13,5	▼	0,8	▼	12,9%	▲
	Datalogi (it)	AAL	17,2%	▲	33,3%	▲	0,6	▼	180,3	▲	133,3	▲	11,0	▼	0,8	▼	3,2%	▼
	Digitalisering og applikationsudvikling	AAL	0,0%	▼	15,0%	▼	0,4	▼	201,3	▲	124,3	▲	21,0	▼	1,5	▲	9,3%	▼
	Informatik	AAL	-		*20,0%*	▲	-		-		-		-	-	0,0	▼	-	-
	Interaktionsdesign	AAL	12,5%	▲	14,8%	▲	-0,2	▲	176,7	▲	133,3	▲	26,6	▼	0,7	▼	22,4%	▼
	Software	AAL	19,3%	▲	8,8%	▼	-0,1	▼	176,7	▲	133,3	▲	22,0	▼	2,1	▼	1,9%	▼

Drop-out rate first study year

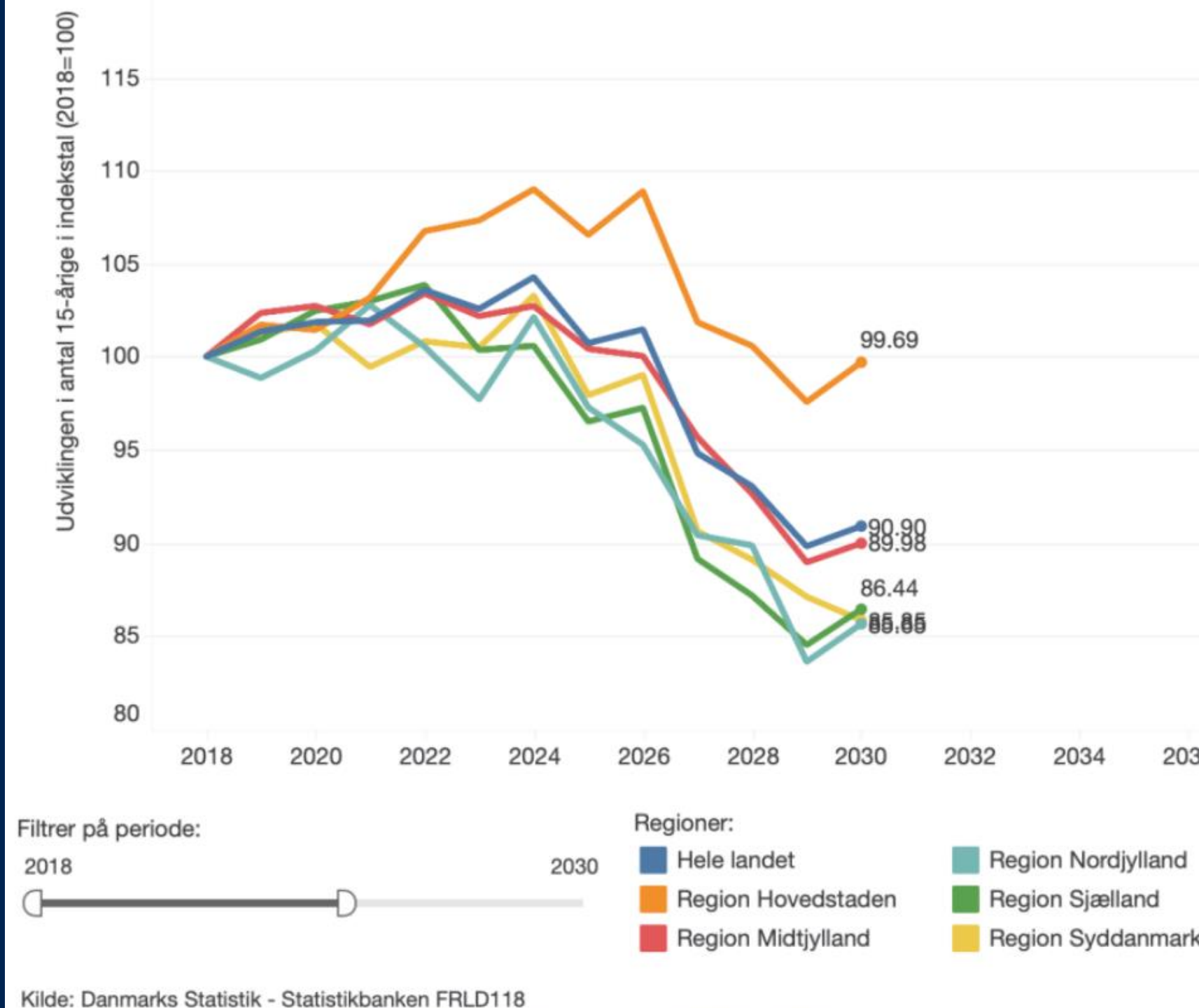


Intake on bachelor degrees



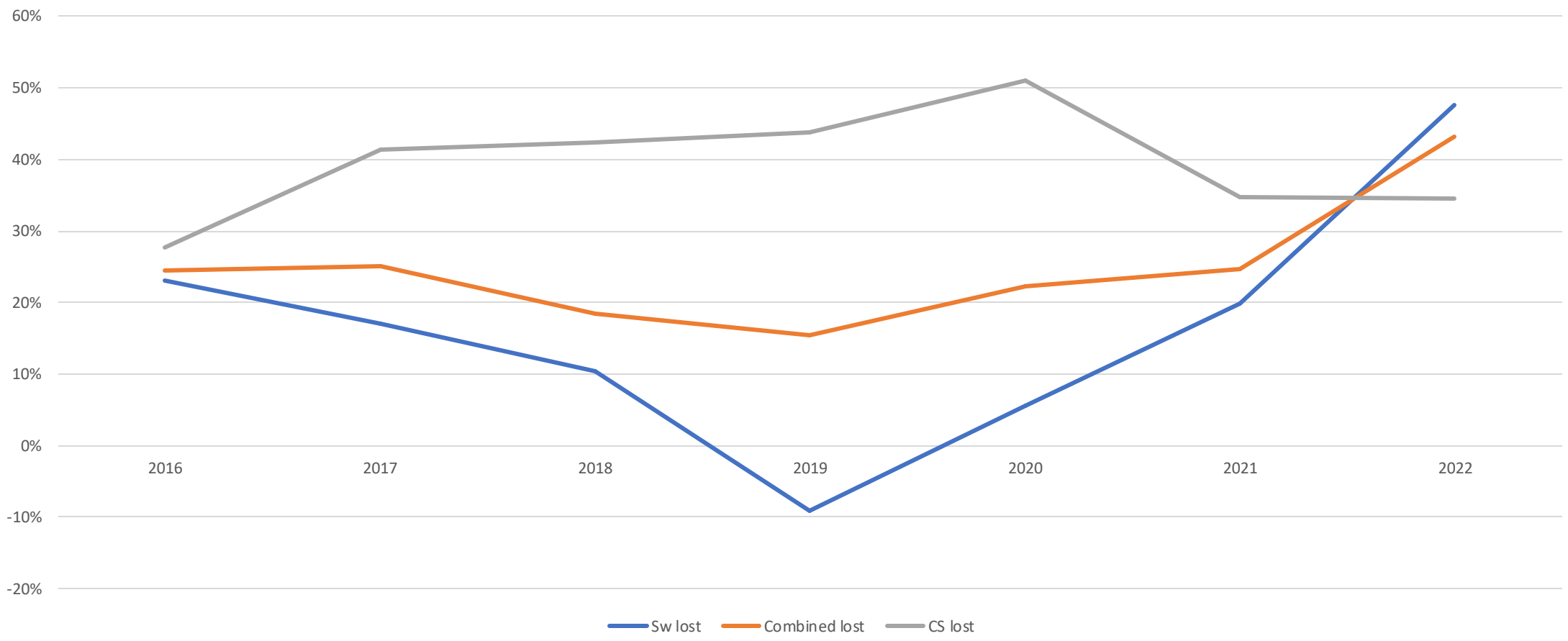
Population of 15 year olds by region

- Copenhagen is the only region with growth

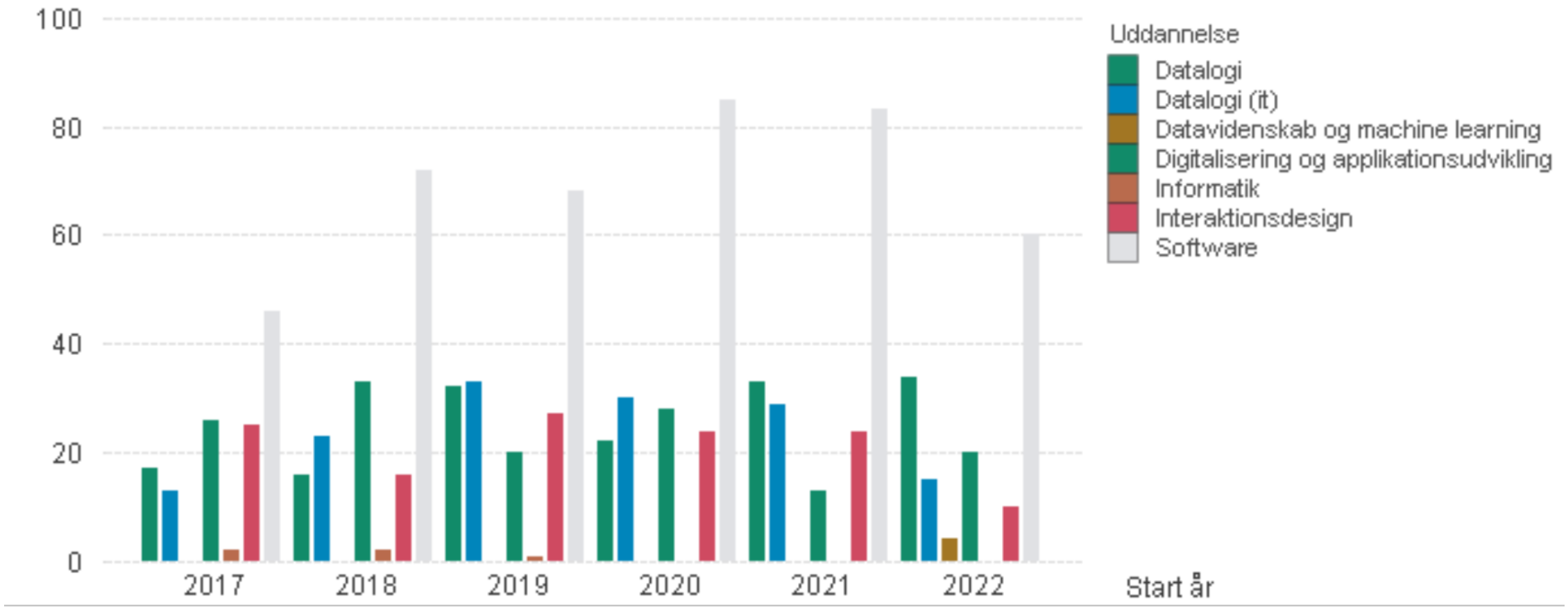


Kilde: Danmarks Statistik - Statistikbanken FRLD118

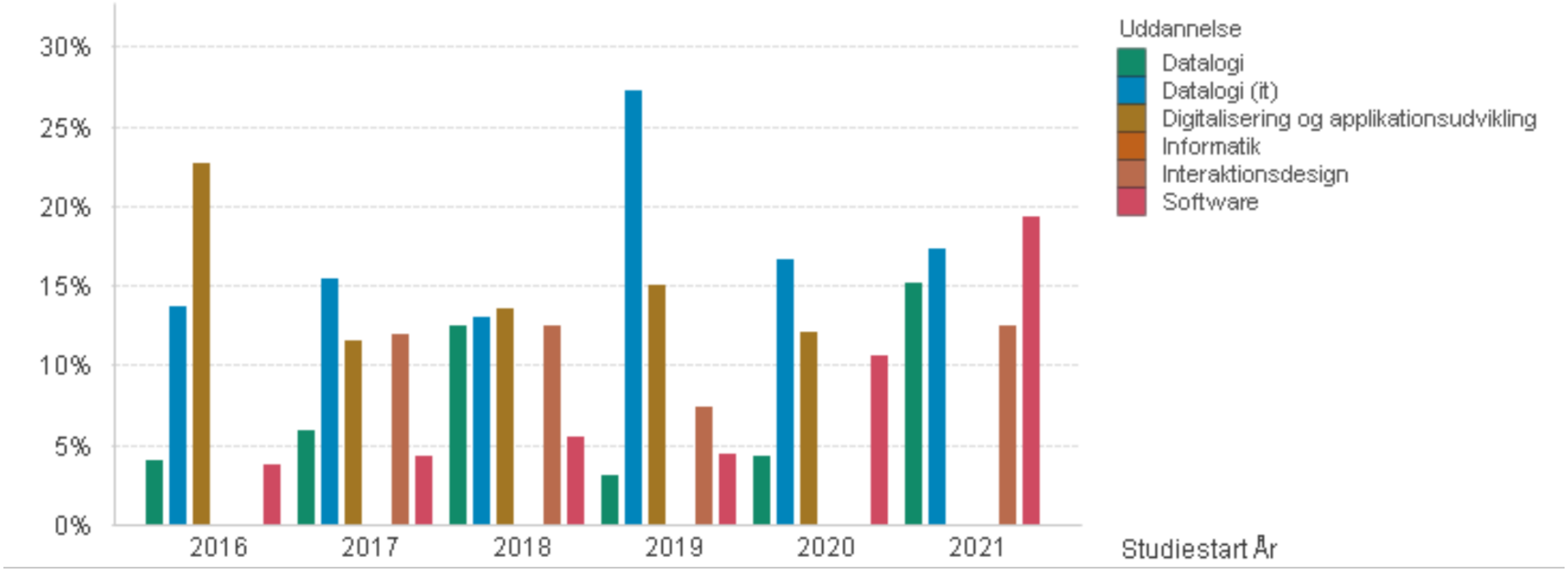
Students lost after bachelor degree



Intake on master educations



Drop-out on master educations



Unemployment, Software, Aalborg

Year	#	1.kvt	2.kvt	3.kvt	4.kvt	5.kvt	6.kvt	7.kvt	Average 4. - 7. kvartal
2015	34	35,9%	10,5%	5,5%	0,0%	2,7%	1,4%	0,0%	1,0%
2016	36	38,7%	6,8%	5,4%	8,2%	7,9%	3,8%	1,9%	5,5%
2017	32	26,8%	6,3%	2,9%	3,1%	3,1%	2,1%	0,0%	2,1%
2018	50	35,1%	6,3%	2,6%	2,1%	2,0%	2,0%	1,3%	1,8%
2019	41	31,7%	5,3%	3,2%	2,4%	2,4%	2,4%	2,4%	2,4%
2020	60	46,9%	8,6%	6,3%	4,4%	3,1%	0,2%	0,0%	1,9%
2021	61	27,4%	6,7%	2,2%	-	-	-	-	-

Unemployment, Computer Science, Aalborg

Year	#	1.kvt	2.kvt	3.kvt	4.kvt	5.kvt	6.kvt	7.kvt	Average 4. - 7. kvartal
2015	22	39,8%	11,2%	2,2%	0,0%	4,5%	0,3%	0,0%	1,2%
2016	32	36,1%	15,4%	8,8%	6,2%	4,3%	0,5%	0,0%	2,7%
2017	27	42,8%	13,8%	5,0%	3,7%	3,7%	3,7%	3,7%	3,7%
2018	22	31,9%	9,1%	1,6%	0,0%	3,0%	0,7%	2,9%	1,6%
2019	13	43,6%	19,5%	20,8%	11,0%	4,9%	2,3%	0,0%	4,6%
2020	11	51,1%	26,5%	18,2%	22,0%	13,1%	8,1%	8,4%	12,9%
2021	33	38,3%	12,5%	2,2%	-	-	-	-	-

Unemployment, Computer Science (IT), Aalborg

Year	#	1.kvt	2.kvt	3.kvt	4.kvt	5.kvt	6.kvt	7.kvt	Average 4. - 7. kvartal
2015	7	37,4%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
2016	8	30,6%	38,8%	19,0%	6,2%	11,5%	6,0%	0,0%	5,9%
2017	7	20,1%	0,0%	0,0%	0,0%	3,3%	14,3%	6,3%	6,0%
2018	16	25,0%	12,0%	8,1%	6,3%	6,3%	4,8%	5,4%	5,7%
2019	11	42,5%	23,2%	16,4%	18,2%	9,1%	8,3%	0,0%	8,9%
2020	17	28,8%	17,2%	13,3%	5,4%	4,3%	3,1%	0,0%	3,2%
2021	22	23,9%	7,1%	4,9%	-	-	-	-	-

Unemployment, Digitalization and Application Development, Aalborg

Year	#	1.kvt	2.kvt	3.kvt	4.kvt	5.kvt	6.kvt	7.kvt	Average 4. - 7. kvartal
2016	7	22,6%	14,3%	14,1%	14,3%	4,6%	0,0%	0,0%	4,7%
2017	17	50,7%	36,4%	31,9%	25,9%	21,8%	15,0%	10,7%	18,3%
2018	11	57,3%	52,9%	30,0%	24,5%	20,9%	20,8%	22,8%	22,2%
2019	23	56,2%	54,0%	45,6%	32,3%	22,2%	21,2%	15,2%	22,7%
2020	27	71,0%	49,5%	28,6%	17,1%	8,4%	4,6%	7,0%	9,3%
2021	19	53,9%	30,3%	8,3%	-	-	-	-	-

Unemployment, Interaction Design, Aalborg

Year	#	1.kvt	2.kvt	3.kvt	4.kvt	5.kvt	6.kvt	7.kvt	Average 4. - 7. kvartal
2019	24	71,4%	64,4%	53,3%	40,3%	30,7%	30,0%	21,3%	30,6%
2020	10	79,0%	35,3%	36,6%	36,6%	30,0%	19,7%	3,3%	22,4%
2021	27	67,4%	51,9%	32,6%	-	-	-	-	-

Group work tomorrow

- How to create more quality with less or sustained effort?

- Discussion will focus on specific semesters
  - Semester coordinators as moderators

  - Keeping things grounded in realistic changes to do in one semester

Creating a sense of community

Assumption: One group = one group room

In Copenhagen, the students experienced a great sense of community by being in one big room

With enough space and separator walls

Culture

- How to enable a collaborative culture among the students
- To create a better learning environment, we get further by changing the student culture than our own direct actions

Feedback between students

- Ways to introduce more feedback between students
- Potentially between semester (Cross-semester)
- Potentially between educations (Cross-education)

Co-supervision or multi-supervision

- Potential of having multiple groups working on the same topic
  - Sharing knowledge
  - One supervisor to multiple groups **(One-to-many)**

  - Synergy by working on different sub problems
  - Competition by working on different solutions to the same problem

Co-supervision or multi-supervision

- Fixed weekly supervision blocks
  - Experiences from IxD
  - Several supervisors to several groups **(Many-to-many)**

  - Pros:
    - If one supervisor is travalig the supervision can still happen
    - Multiple perspectives
  - Cons:
    - Supervisors must be assigned individual groups closer to the exam

Company involvement

- Could involve companies
  - Fixed weekly feedback from company
  - Less coordination for the company

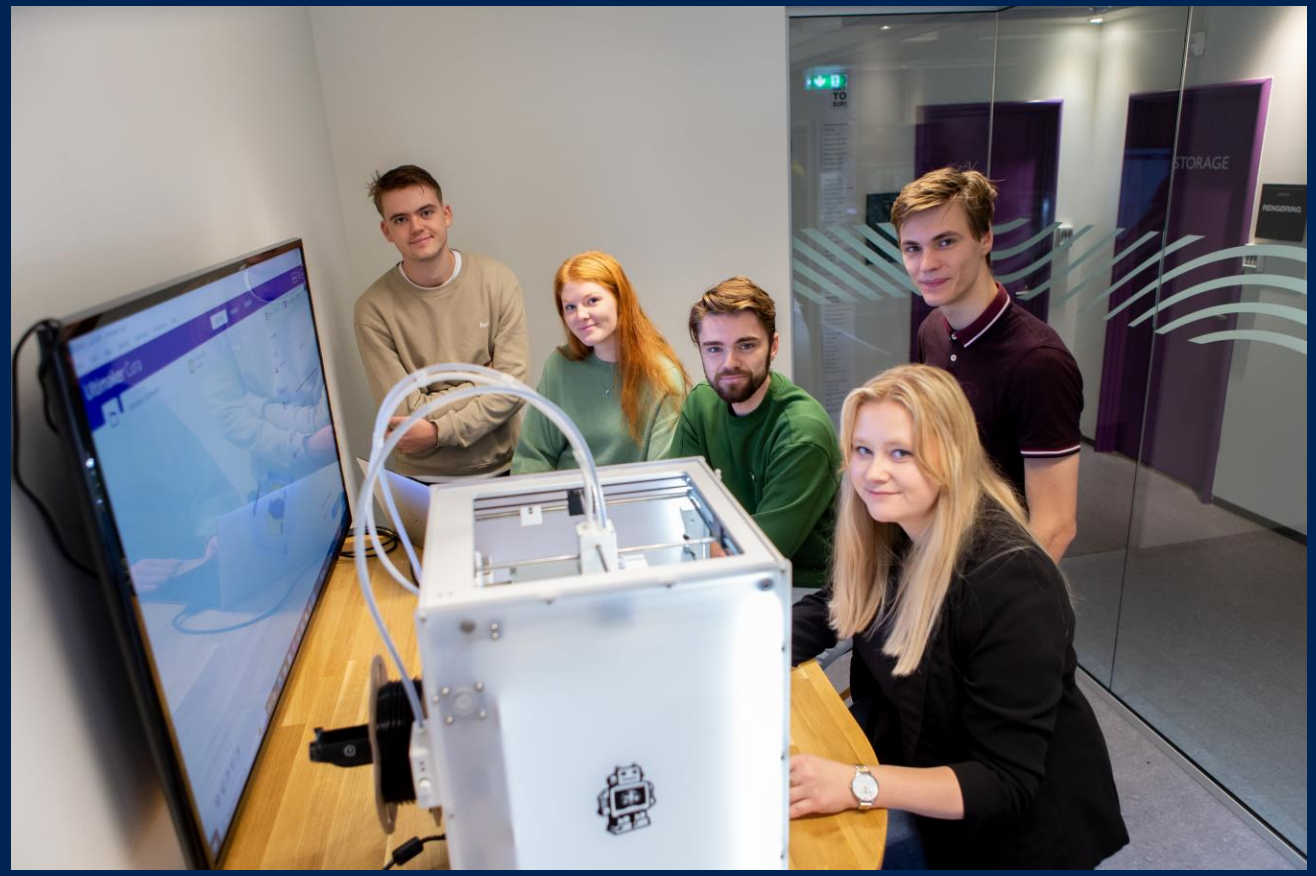
Relations between courses and projects

- Ways of strengthening the relationship between courses and projects on the semester

Experiments

- What could be experimented with in the coming semester?
  - Much can be done within the study regulations

- What is the expected outcome?



WE MAKE KNOWLEDGE MATTER

AALBORG UNIVERSITY