VITNEMÅL

Høyskolen Kristiania

Ernst G. Mortensens Stiftelse

kunngjør at

Jonas Kemi
født 15. august 1997

den 12. juni 2023 er tildelt graden

Bachelor i Data Science

Vitnemålet er utstedt 21. juni 2023.

Generell informasjon om graden

Bachelor i Data Science er tildelt i henhold til forskrift om grader og yrkesutdanninger, beskyttet tittel og normert studietid ved universiteter og høyskoler av 16.12.2005. Studietid for utdanningen er 3 år, og den har et omfang på 180 studiepoeng. Et studieår på heltid er 60 studiepoeng. Bachelor i Data Science er en kvalifikasjon som inngår i første syklus i Nasjonalt kvalifikasjonsrammeverk for livslang læring, fastsatt av Kunnskapsdepartementet 15.12.2011.

The study programme was accredited: 31.10.19 (HK-case no. 34.7/19). The study programme was approved: 06.11.19 (UU/EIT-case no. 32/19). The programme description has been approved by the Education Committee 06.11.19 (UU/EIT-case no. 32/19) and 19.10.20 (UU/EIT-case 176/20).

Study content and organisation

The Bachelor in Data Science is a research-based full-time undergraduate level program covering the academic disciplines of computer science, information science, statistics, computational linguistics, and data ethics. Throughout the studies, a close collaboration with the (inter)national industry is applied. Guest lectures are organized on a frequently basis and courses are given by a combination of national and international staff from partners in academia and business. The content of the courses is aligned with industry needs, and real-world cases are applied in assignments and exams.

Bachelor in Data Science is a three-year study with a total of 180 ECTS credits, of which 150 is comprised of compulsory courses, and 30 credits comprised of optional (elective courses). The study programme is structured with four courses with 7.5 credits each per semester. The fifth semester there are elective courses and possible exchange visits, and in the sixth semester the student writes the Bachelor's Thesis. The study programme consists of three components: core modules, shared modules with Bachelor of IT, elective courses visits and a compulsory Bachelor's Thesis.

Learning outcome

A graduate should have the following learning outcomes defined in terms of knowledge, skills and general competence:

Knowledge

The candidate…

- has a broad knowledge of data science fundamentals such as linear algebra, probability & statistics, data structures, data science algorithms, architectures and infrastructures of data science, visual analytics, text analytics, predictive analytics, machine learning, deep learning, data regulation, data security, data privacy, and data ethics
- can understand knowledge on theories, frameworks, algorithms, methods, techniques, and tools to analyze, describe, and solve complex and interdisciplinary challenges within design, development, adoption, implementation, and exploitation of both internal and external data pipelines for organizations
- has a broad knowledge of analyses of various data pipelines (such as text, prediction and visual) with an analytical focus on deriving meaningful facts, actionable insights valuable outcomes, and sustainable impacts to support domain-specific processes and functions
- has a broad understanding of and ability to aid technical aspects of data science applications in organizations and society

- has knowledge about research, methods, techniques and tools to support data-driven organizational decision making
- has knowledge of frameworks for integrating data-driven decision making into organizational practices
- has a good understanding of global and local perspective on data pipelines and data science applications

Skills
The candidate…

- can acquire, produce, apply and update new knowledge in data science using visual, text or predictive analytics and to apply results within new application domain areas
- has a deep insight into use of, comprehensive technical skills in Data Science, in addition to academic skills and the ability to reflect over own practice
- can conceptualize, implement, evaluate and reflect over data-driven architectures and data-driven decision making
- has the ability and capacity to innovative and independently reflect, and take action using the taught methods, techniques and tools
- has achieved writing skills for academic and technical documentation and oral communication and presentation skills

General competence
The candidate…

- can work independently and in teams including interdisciplinary groups, diverse professional and academic competences
- can understand and reflect upon ethical considerations of the domain of data science in relation to both work and professional scenarios
- can critically reflect upon cases from local, national, and international environments using written, oral and other related forms of expression
- can box-in complex problems and take forward actions in situations with uncertainty of outcome or data in-completeness in order to provide innovative solutions

Kristiania

Grunnlag for vitnemål

Navn: **Kemi, Jonas**
Grad: Bachelor i Data Science
Studieprogram: Bachelor i Data Science

Fødselsnr.: 150897 43327
Oppnådd grad: 12.06.2023

Emne		Termin	Studie-poeng	Karakter	Karakter-fordeling[1] A B C D E
Obligatoriske emner					
PGR105	Data Ethics and Regulations	2020 høst	7,5	C	
PGR106	Linear Algebra	2020 høst	7,5	C	
PGR107	Python Programming	2020 høst	7,5	C	
PGR111	Databases	2020 høst	7,5	B	
PGR108	Big Data and Cloud Computing	2021 vår	7,5	Bestått	
PGR109	Probability and Statistics	2021 vår	7,5	Bestått	
PGR110	Visual Analytics	2021 vår	7,5	B	
PGR113	Information Risk and Security	2021 vår	7,5	Bestått	
PGR210	Machine Learning and Natural Language Processing	2021 høst	15	B	
PGR211	Advanced Programming for Data Science	2021 høst	7,5	A	
PGR206	Data Structures and Algorithms	2022 vår	7,5	D	
PG3302	Software Design	2022 høst	7,5	E	
PGR207	Deep Learning	2022 høst	7,5	D	
PGR304	Predictive Analytics	2022 høst	7,5	D	
PGR306	Research Methods	2022 høst	7,5	E	
BAO302	Bachelorprosjekt	2023 vår	30	B	
BU5300	IT prosjektledelse	2021 høst	7,5	B	
DS4800	Innovasjon og prototyping	2022 vår	7,5	C	
PG4401	C++ programmering	2022 vår	7,5	D	
VAL227	Introduction to C#	2022 vår	7,5	B	

Sum: 180,0

If the candidate has taken courses at other higher education institutions as part of this degree, they will be listed as “Recognized” on the Transcript of Records. In that case, the diploma is only complete if the graduate attaches a transcript of records from said institution(s).

1) For en forklaring på karakterfordelingen, se siste side.

Kristiania

Grunnlag for vitnemål

Navn: **Kemi, Jonas**
Grad: Bachelor i Data Science
Studieprogram: Bachelor i Data Science

Fødselsnr.: 150897 43327
Oppnådd grad: 12.06.2023

Studiepoeng- og karaktersystem

Studieåret varer normalt 10 måneder. Et fullt studieår er beregnet til 1500 - 1800 arbeidstimer og 60 studiepoeng.

Det norske karaktersystemet består av to karakterskalaer: en skala med karakterene bestått og ikke bestått og en gradert bokstavkarakterskala fra A til E for bestått og F for ikke bestått. For den graderte skalaen gjelder følgende kvalitative beskrivelser:

A	Fremragende	Fremragende prestasjon som klart utmerker seg. Kandidaten viser svært god vurderingsevne og stor grad av selvstendighet.
B	Meget god	Meget god prestasjon. Kandidaten viser meget god vurderingsevne og selvstendighet.
C	God	Jevnt god prestasjon som er tilfredsstillende på de fleste områder. Kandidaten viser god vurderingsevne og selvstendighet på de viktigste områdene.
D	Nokså god	En akseptabel prestasjon med noen vesentlige mangler. Kandidaten viser en viss grad av vurderingsevne og selvstendighet.
E	Tilstrekkelig	Prestasjonen tilfredsstiller minimumskravene, men heller ikke mer. Kandidaten viser liten vurderingsevne og selvstendighet.
F	Ikke bestått	Prestasjon som ikke tilfredsstiller de faglige minimumskravene. Kandidaten viser både manglende vurderingsevne og selvstendighet.

Karakterskalaen er brukt absolutt. Det vil si at vurderingene er kriteriebaserte.

Karakterfordeling

Karakterfordelingen viser fordeling i prosent for emner med gradert karakterskala A – F. Strykkarakter inngår ikke i fordelingen. Alle resultater fra de siste fem år tas med i beregningen. Fordelingen vises også for emner som har vært aktive i mindre enn fem år. Det er en forutsetning at det finnes minst 10 godkjente resultater i løpet av perioden.