

UNIVERSITY OF OSLO

The Faculty of Mathematics and Natural Sciences

Home exam in IN5090, spring 2025

The exam consists of one assignment. The maximum length of the combined response is 2500 words (excluding the reference list). Do not write your name on the exam but use your candidate number. You can answer the exam in English or a Scandinavian language.

We expect you to use the material from the course actively in all assignments. You can use the syllabus (articles), slides, group reflection notes, and your own lecture notes. You must explicitly cite from the material when you use them (like this (Jones 2019)). If you include sentences or paragraphs from the course material (i.e., anything not written by you), make sure to indicate so by using quotation marks (like “this”), and indicate where you got the quote from (like this (Jones, 2019, p. 43)). When asked to discuss, we expect you to use any relevant knowledge from the course material (e.g., concepts, arguments, phenomena, examples) to shed light on the question/phenomenon you are discussing, and where relevant include different and/or opposing perspectives.

You are expected to familiarize yourself with the rules that apply to exam support materials and the use of sources (see <https://www.uio.no/english/studies/examinations/cheating/>). If you use Generative AI (e.g., ChatGPT, UiOGPT) as part of your work on the exam, you need to state how you have used it in a separate paragraph in your answer. You cannot use Generative AI to generate the text of your answers. However, you can use it for tasks like generating synonyms, checking grammar, and brainstorming ideas. Any misuse of AI tools will be considered a violation of academic integrity. See also UiO's rules on AI use https://www.uio.no/english/studies/resources/ai_student.html).

Submit your answer using [Inspira](#), in one PDF document. The deadline for submission is **May 14th at 23:59** (midnight).

Assignment

Background:

Policy documents and strategic visions often portray healthcare organizations as being on a clear path to becoming "data-driven". This narrative emphasizes the vast amounts of generated data (from EHRs, registries, patient-generated data) and the transformative potential of emerging technologies like Artificial Intelligence to make healthcare more efficient and effective. The notion of “data-driven” indicates that decisions at all levels of healthcare (from strategy to treatments in the clinic) should be based on data, not just on routines or subjective interpretations.

However, as explored in IN5090, the practical reality of integrating data into complex healthcare settings is far from straightforward. It involves significant, often underestimated,

organizational efforts, navigating socio-technical complexities, making difficult strategic choices, performing data work, and addressing challenges related to quality, interoperability, and standardization. The journey towards becoming data-driven, in other words, requires active organizational engagement, not passive adoption.

Assignment:

Write a critical essay analyzing the complexities and organizational work involved for healthcare organizations striving to become more data-driven, moving beyond simplified visions. Your essay must be explicitly grounded in the concepts, theories, and examples discussed throughout the IN5090 course.

Instructions:

1. Develop a specific and narrow problem definition, grounded in the course curriculum. Within the broad theme outlined above, you must select and clearly define a specific aspect, challenge, tension, or perspective to be the central focus of your essay. For example, you can specify a theme within interoperability and AI or the data work required to make everything from registry data to genomic data usable for service improvement, research, clinical decision making or other uses.
2. Explain why you have chosen this problem, with references to both its practical relevance and the learning goals in the IN5090 course (listed at <https://www.uio.no/studier/emner/matnat/ifi/IN5090/>)
3. You need to construct a clear argument and formulate a coherent line of argumentation throughout your essay. Your argument must directly address the tension between the vision of data-driven healthcare and the practical realities, using your chosen problem definition as the lens for analysis.
4. Integrate material (syllabus, lectures, lecture notes) from the course. This is a crucial requirement. Your argument must explicitly draw upon, apply, and synthesize distinct concepts, theories, arguments, or specific examples from the course. Demonstrate your understanding by applying these concepts to analyze your chosen focus area, not just mentioning them.

These four points will be central to the evaluation of the essay.