

Final Exam - Individual Written Exam

IT Project Management (BU5300) – H22

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Learning Objective

This coursework aims to provide students with a case study that will require both understanding and critical thinking. It also requires applying IT Project Management methods and tools on a set of tasks to demonstrate knowledge gathered during the lectures and exercises as part of the course. A project in the tourism domain was chosen to allow the student to focus on the solution in terms of planning, budgeting, and monitoring a project.

Instructions

This exam for BU5300 consists of a written report of eleven tasks. You are expected to draw upon relevant readings from the course. Other readings and references are also allowed. You will be assessed on the overall ability to make project decisions and to reflect and communicate those choices convincingly.

The report should include appropriate diagrams and a description of why you made the project decisions. The diagrams should be readable; if possible, have them in vector graphic format (.svg, .wmf, or .eps). The report should conform to the general formatting guidelines and academic standards expected for written projects at Kristiania University College.

The exam should NOT be done in a group: each student must do the exam independently. During the exam period, you are not allowed to discuss any part of this exam with any other student or person, including the lecturer. In case of ambiguities in the instructions, make your best effort to address them and possibly explain your decision in a comment.

You should deliver the report in pdf¹ format with the name **BU5300_22H_resit_<id>.zip**, where you should replace <id> with your student id. Ideally, the report will have 5-10 pages (1000-3000 words, excluding the diagrams and references).

Deadline: {check WISEflow for exact date and time}

This exam will have a grade in the A-F range, and to pass, you **MUST** provide an answer to all tasks.

¹ create the document in Word or other text editor and export/print as .pdf

For this exam, you will develop the Project Documentation for the case described below.

Case: Health and Fitness Tracking App

The fitness industry in Norway has been growing steadily in recent years, and the demand for fitness solutions has been on the rise. According to a report by the Norwegian Fitness Association, there were over 1.6 million members in fitness centers across the country in 2020, a significant increase from 1.2 million in 2013. This growth is driven by a greater awareness of the importance of health and wellness, and an increased focus on maintaining a healthy lifestyle.

The market for fitness solutions is diverse, with a range of options available to consumers. There are traditional gym memberships, as well as boutique fitness studios offering specialized classes such as yoga, Pilates, and spinning. In addition, there is a growing trend towards digital fitness solutions, such as mobile apps and online workout programs.

There is also a strong demand for wearable fitness technology, such as fitness trackers and smartwatches. In 2020, the Norwegian market for wearables was estimated to be worth around NOK 2.5 billion, with fitness trackers accounting for a significant portion of sales.

Overall, the fitness industry in Norway is highly competitive, with a range of established players and new entrants vying for market share. However, with the ongoing growth in demand for fitness solutions, there is also significant potential for new and innovative products and services to succeed in the market.

A leading Nordic health and fitness chain is interested in the growing market opportunities. It aims to develop its health and fitness tracking app. The app will allow users to set and track their fitness goals, monitor their nutrition, and participate in workout challenges with friends. The app will be available on iOS and Android platforms. It will integrate with popular fitness wearables such as Fitbit and Apple Watch. The fitness company's IT department manages the project, and the estimated budget is NOK 30 million.

The app will consist of the following modules:

- **User registration and login:** Users will be able to create an account on the app using their email or social media accounts. The login feature will include multi-factor authentication to ensure the security of user data.
- **Dashboard:** Users will be presented with a dashboard that displays their daily activity, workouts, nutrition, and progress towards their goals.
- **Activity tracker:** The app will track users' daily activity using the sensors on their smartphone or wearable devices. The app will also allow users to set daily goals and receive notifications when they reach their goals.

- **Workout tracker:** The app will allow users to track their workouts and create custom workout plans. The app will also provide instructional videos and tips for each exercise.
- **Nutrition tracker:** Users will be able to log their meals and monitor their calorie intake. The app will also provide healthy recipe suggestions and track users' water intake.
- **Social features:** Users will be able to participate in workout challenges with friends and share their progress on social media.

The project team consists of 15 developers, 5 designers, and 5 QA testers. The project is expected to take 12 months to complete, with the app being launched on both platforms simultaneously. The team should opt for a development framework that ensures the app meets the company's high-quality standards.

Exam Tasks

Imagine that you have been asked to oversee the implementation of the case described:

1. Describe the type of information system project and choose a development lifecycle that better fits its characteristics of this project. Justify your answer with arguments.
2. Based on the description, detail the constraints of this project with regard time, budget, and scope. Also describe what type of technical skills are needed for such a project.
3. Identify the costs for the project, both one-time and recurring costs. You do not need to estimate or calculate the values (e.g., employment salaries and cost of equipment), but rather list the resources that have financial implications for the project.
4. Prepare a Work Breakdown Structure (WBS) describing the different work packages for one selected module. You can choose the module of your preference.
5. Describe the estimated effort required for each work package in the Task 4. You must choose an estimating method and estimate the work required accordingly. Use a unit of effort matching the characteristics of the project you describe in Tasks 1 and 2.
6. Identify potential dependencies among the working packages and create a network diagram (PERT chart) or planning chart (Gantt chart) to illustrate it. You should choose one of them. The diagram should make it clear the estimated duration of the project and the critical path.
7. Still working with the same module, you selected earlier, specify at least one non-functional requirement related to each of the following categories: performance, availability, security, usability.

8. Identify three potential key stakeholders and analyze their influence to the entire project. You should write a short paragraph detailing each key stakeholder and justifying their power and influence.
9. Identify and assess the main risks for the project that are related to the non-functional requirements or key stakeholders (see Tasks 7 and 8, above). For each risk, quantify the probability of occurring and severity rating in a scale of 1-5.
10. For each of the risks you identify in Task 9, describe a strategy to deal with it. The strategies should fit one of the following categories: avoid, transfer, mitigate or accept.

Bonus Task: Reflect upon the lectures and/or the content of the textbook and describe one surprising fact or information you were not aware before taking this course. Think about the potential aspects of this in your future career, and how do you plan to use your learning to manage it. *This task is not related to the project but is still a mandatory item for completing the exam.*