PUBLISHED COURSE ANALYSIS

A course analysis has been carried out and published by the course convener.

The Karlstad University evaluation tool is owned by the Professional Development Unit and is managed by the systems group for educational administration.

Wireless Systems, 5.0 ECTS cr. (DVAD22)
Course convener: Giuseppe Caso

Basic LADOK data

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Course Code:	DVAD22
Application Code:	41662
Semester:	VT-23
Start Week:	202313
End Week:	202322
Pace of Study:	33%
Form of Study:	Campus

Course Data

Number of questionnaires answered: 6

Number of first registrations[1]:   20

**Changes suggested in the course analysis of the previous course date:**
N/A (DVAD22 is a new course).

1. The contents and structure of the course has supported the achievement of the learning outcomes
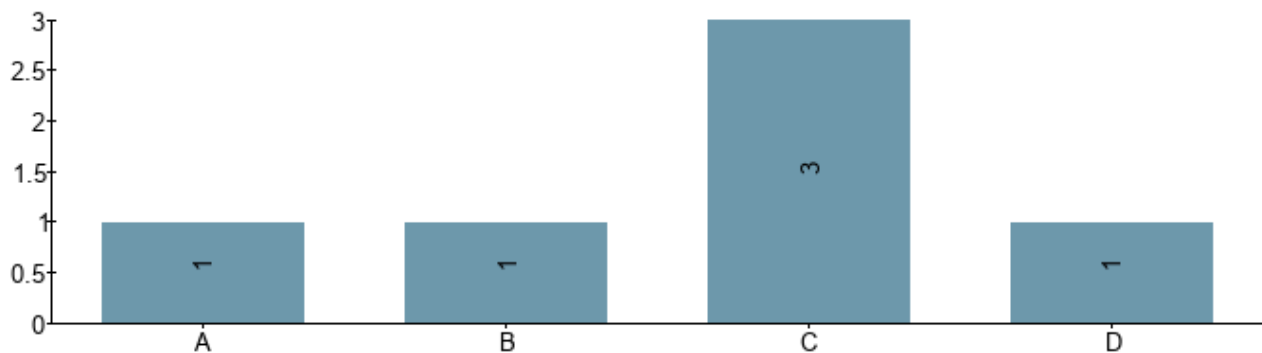
A) To a very large extent
B) To a large extent
C) To some extent
D) To a little extent or not at all

2. The assessments included in the course have given me the opportunity to demonstrate my achievement of the learning outcomes
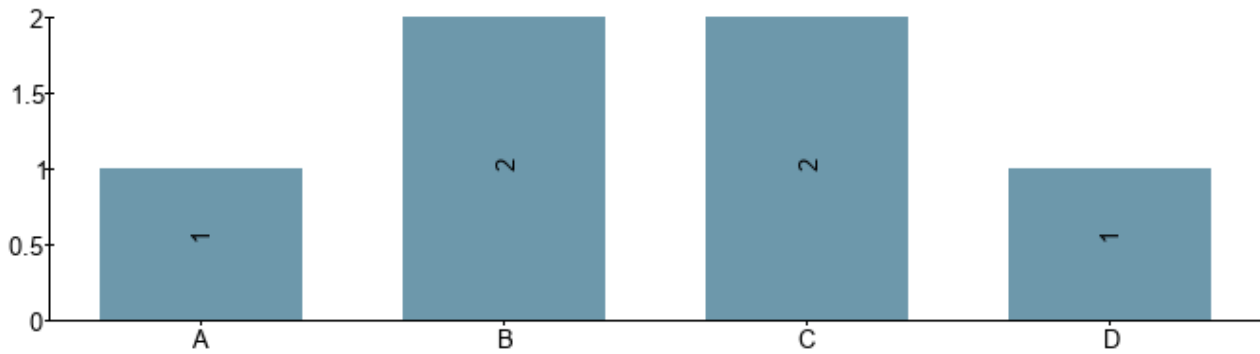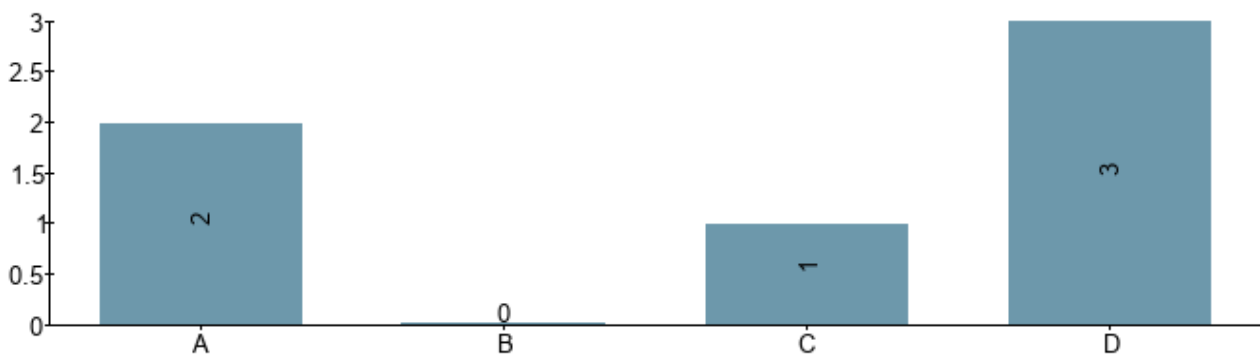

A) To a very large extent
B) To a large extent
C) To some extent
D) To a little extent or not at all

3. My workload (including scheduled activities and independent work) during the course has been
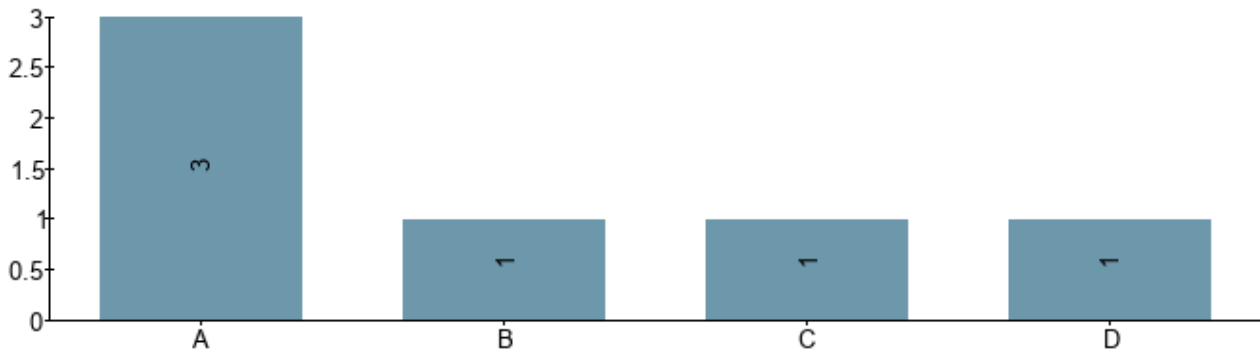
A) 40 hours per week or more (or 20 per week or more for courses given as half-time studies, 10 hours or more for cour
B) Between 30 and 39 hours per week (or between 15 and 19 hours for courses given as half-time studies, or between 8
C) Between 20 and 29 hours per week (or between 10 and 14 hours for courses given as half-time studies, or between 5
D) Less than 20 hours per week (or less than 10 hours per week for courses given as half-time studies, or less than 5 h

4. During the course, I have experienced the reception from teachers and other staff as professional

A) To a very large extent
B) To a large extent
C) To some extent
D) To a little extent or not at all

Analysis based on course evaluation, including comments fields. If information has been collected in other ways, it should also be analysed here. Any effect of joint courses should be commented

on.

DVAD22 is a new course, which was prepared in rather short time.
From the few feedback provided by the students, it seems that there are heterogeneous opinions on both course contents and examination procedure.

With respect to the course content, we strived to organize the course towards providing a good/solid background on fundamental topics in wireless communications, i.e., signals and propagation, source/channel coding, multiplexing and modulation, medium access control, and main wireless technologies. There was particular attention, and thus time spent, on the first module, "signals and propagation", in order to provide enough background to Computer Science students on basic concepts in wireless systems, without which the other topics would have been difficult to understand (e.g., concepts related to time/frequency domains, signal theory, and Fourier theory).

With respect to the course examination procedure, we agreed on a solution including 1) an optional mid-term assignment to be executed in class and 2) a mandatory written final exam. This proposal met great interest from the entire class, since a successful participation to the mid-term assignment would have granted to decrease the load of the final exam in the June date.
As the comments suggest, many students appreciated the idea, although the organisation of the mid-term assignment was considered suboptimal, in particular, with respect to the balance between mid-term assignment difficulty and allocated time. Nevertheless, it can be seen from the final results, that nearly all the students that participated to the mid-term assignment actually leveraged the obtained results and went through a less heavy final exam (again, the participation to the mid-term assignment was optional and, in all cases, students had the opportunity to go through a traditional full-length final exam in June, if they were not satisfied with the mid-term assignment results). This suggests that, altogether, the mid-term assignment was an instrument provided to the students and nearly all of them benefitted in using it. I agree that, due to lack of time and of my low experience in the examination procedures at Karlstad University, the organisation of the mid-term resulted suboptimal and can be thus further improved, with feedback on the difficulty/time tradeoff to be taken into account.

Suggestions for changes to the next course date.

From the few feedback provided by the students, I would say that there are several points where the course could be improved:

- Continue in the course content organisation, trying to better adapt the pace of the lectures over the entire course length (e.g., less focus on some aspects and more focus on others).

- Think at the possibility of instantiating at least one preliminary course (or introduce a further module within one of the available courses, e.g., extending DVAD22 itself would also work) where an initial background on wireless aspects is given. E.g., it would be good that students start DVAD22 with some knowledge of, at least, how to mathematically represent communication signals in time/frequency domain. This is a key aspect in wireless systems and DVAD22 students could leverage this knowledge, so that the other DVAD22 topics can also take benefit of this knowledge.

- Rethink at the course examination procedure: the mid-term assignment was an attempt that found a lot of interest. However, we now have more information, knowledge, and feedback in hand in order to decide how to more forward, e.g., 1) rethink at the mid-term assignment with a procedure more integrated with Karlstad University examination procedures or 2) remove the mid-term assignment and step back on a more traditional examination procedure.

1. **Number of first registrations for a course:** First registration = the first time a student registers for a specific course.