



Report - SD2900 - 2017-08-23

Respondents: 1
Answer Count: 1
Answer Frequency: 100.00 %

Please note that there is only one respondent to this form: the person that performs the course analysis.

Course analysis carried out by (name, e-mail):

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COURSE DESIGN

Briefly describe the course design (learning activities, examinations) and any changes that have been implemented since the last course offering.

The course contains the following:

- Overview lectures and follow-up lectures where hard-to-understand topics are discussed further.
 - Teamwork workshops where the student teams work with the project, solve problems to understand the theory better.
 - A large engineering project, where the students work in teams.
 - Several deliverables during the project: Work Breakdown Structure, Concept sheet, draft paper, peer review, oral presentation, final paper and team check-out.
 - A two-hour concept test as an individual written examination.
 - An optional oral dissertation to get a higher grade.
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THE STUDENT'S WORKLOAD

Does the students' workload correspond to the expected level (40 hours/1.5 credits)? If there is a significant deviation from the expected, what can be the reason?

The students' workload varies from 5 to 38 hours per week, but 42% of the students who filled in the questionnaire said that they work between 15 and 20 hours per week, which would be an expected answer.

THE STUDENTS' RESULTS

How well have the students succeeded on the course? If there are significant differences compared to previous course offerings, what can be the reason?

Most students (over 95%) finish this course the first time, partly because it includes a teamwork project so they push each other to finish the course. Only a few students fail the concept test, but usually complete it at the re-test.

OVERALL IMPRESSION OF THE LEARNING ENVIRONMENT

What is your overall impression of the learning environment in the polar diagrams, for example in terms of the students' experience of meaningfulness, comprehensibility and manageability? If there are significant differences between different groups of students, what can be the reason?

The polar diagram show high values for all questions, which is expected since the course originally was designed to provide a rich learning experience. Hence, the course is very different from a traditional lecture-exercise-written-examination-type of course. Not notable difference in answers between the different groups of students.



ANALYSIS OF THE LEARNING ENVIRONMENT

Can you identify some stronger or weaker areas of the learning environment in the polar diagram - or in the response to each statement - respectively? Do they have an explanation?

No specific weak areas as seen from the polar diagram. The highest score (6.8/7) was for "I worked with interesting issues" and the lowest score (5.4/7) was for "I received regular feedback that helped me see my progress".

ANSWERS TO OPEN QUESTIONS

What emerges in the students' answers to the open questions? Is there any good advice to future course participants that you want to pass on?

Most students answer that they really liked the course layout and the project, even though the project required a lot of time. They appreciated that the lectures were focusing on understanding fundamental concepts rather than going deep into theory.

The students want to pass on the following to future course participants:

- Start with the project early and follow the advice and instructions of the handbook.
 - Make sure that you have a good communication in your group as that will free up time for the project work.
 - Read the recommended sections in the course textbook before the overview lectures.
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PRIORITY COURSE DEVELOPMENT

What aspects of the course should primarily be developed? How could these aspects be developed in the short or long term?

Course development in the short term:

- More scheduled workshop slots for the students, so that they do not have to look for rooms themselves.
- Divide the students into groups based also on level of ambition and not only on background and nationality.
- Each group shall sign a contract for the teamwork (to minimize the risk of freeloaders and to better the group dynamics).
- Test to have the same groups in the two parallel courses, Fundamentals of Flight and Fundamentals of Spaceflight.
- Not require the teams to have minutes from every meeting to ease up on the management part.
- Recommended problems to solve during workshops to better understand the fundamental concepts.

Course development in the long term:

- A different matrix for the grade requirements to clarify how to reach a certain grade.
 - Learning objectives written according to the ABCD method from Stanford.
 - Replace some of the overview lectures with short videos explaining the fundamental concepts.
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Course data 2018-08-20

SD2900 - Fundamentals of Spaceflight, HT 2016

Course facts

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|----------------|---|
| Course start: | 2016 w.35 |
| Course end: | 2016 w.43 |
| Credits: | 7,5 |
| Examination: | KON1 - Conceptual Test, 3.5, Grading scale: P, F PRO1 - Project Assignment, 4.0, Grading scale: P, F TEN1 - Optional Oral Dissertation, None, Grading scale: P, F |
| Grading scale: | A, B, C, D, E, FX, F |

Staff

| | |
|-----------------------------|-------------------------------|
| Examiner: | Gunnar Tibert <tibert@kth.se> |
| Course responsible teacher: | Gunnar Tibert <tibert@kth.se> |
| Teachers: | Gunnar Tibert <tibert@kth.se> |
| Assistants: | |

Number of students on the course offering

| | |
|-----------------------------|-----|
| First-time registered: | 90 |
| Total number of registered: | 104 |

Achievements (only first-time registered students)

| | |
|---|--|
| Pass rate ¹ [%] | 97.80% |
| Performance rate ² [%] | 113.90% |
| Grade distribution ³ [%, number] | A 31% (27) B 38% (33) C 20% (18) D 27% (24) |

1 Percentage approved students

2 Percentage achieved credits

3 Distribution of grades among the approved students