Course analysis

FSG 3132, HT2019, 2020.03.07

Course Name: Gas Dynamics for Internal Combustion Engines (5 hp)
Course number: FSG 3132
Date: Nov. 7th, 2019 – Nov. 29th, 2019
Course level: third cycle

Course Leader and Examiner: Mihai Mihaescu (KTH – Engineering Mechanics)

https://www.kth.se/profile/mihaescu

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Course Participants: 16 (13 PhD students).
Teaching format: 20 hours of lectures grouped in 4 days.
Teachers: Mihai Mihaescu, Anders Dahlkild, Laszlo Fuchs, Michael Liverts (KTH-Mechanics)
Invited Lecturers: Olle Bodin (SCANIA AB), Nicholas Anton (SCANIA AB)

Format of assignments and methods of assessment: Project examination, written report and oral presentation. A project report on a relevant topic will be submitted and orally presented. The assignment can be done individually or in groups of students (recommended not more than 2 students in each group).

Examination
- DEL1 - Participation, 1.0 credits, Grading scale: P, F
- INL1 - Assignment, 4.0 credits, Grading scale: P, F

Other requirements for final grade *
The following items have to be approved in order to obtain a pass on the course:
- Compulsory and active attendance during at least 80% of the lecture time
- Successful completion of homework assignment within given time frame

Grading scale: P, F

https://www.kth.se/student/kurser/kurs/FSG3132?l=en

Background

The year 2019 was the first time the course was offered to our Ph.D. students and post-docs with a new title. The original course used to develop FSG 3132 was the VINNPRO graduate course on “Compressor Flows” (5 ECTS); a VINNOVA financed programme, course offered in 2013 within the Competence Center for Gas Exchange (CCGEx) and with support from KTH.

The course encompassed 20 hours of lectures. There are four lecturers in the course: *Mihai Mihaescu, Anders Dahlkild, Laszlo Fuchs, Michael Liverts (*KTH - Engineering

Mechanics*). Two invited speakers from industry gave also lectures: Olle Bodin (SCANIA AB), Nicholas Anton (SCANIA AB).*

The attendance of the lectures was very good throughout the course.

Concerning the project, the students decide on an experimental or computational based project aligned with their own research plan and have thus access to the experimental/computational resources. They are using specific measurement techniques and instruments as well as programing environments, specific data acquisition and post-processing tools, CFD solvers, data visualization techniques, Matlab programming etc.

The following statements are made based on the course evaluation file submitted by 81% of the participants (13 out of 16).

- All the course participants found the information shared during the course as useful.
- 85% of participants considered that the chosen topic for the course were very valuable or essential to them.
- The participants considered very valuable the discussions with their peers regarding the exposed topics (69% found them very valuable and 23% essential).
- The teachers were approachable and open to discuss the exposed topics or to answer to the raised questions (85% strongly agreed with the statement, 15% agreed).
- 23% considered the course as excellent, while 69% as very good.
- Only 58% of participants found that the proposed literature was valuable, with 42% of them being neutral. Proposed solution to improve these numbers: suggest not only books as literature, but also peer-reviewed journal articles on the topics tackled during the course.

COURSE EVALUATION (percentage of answers)

Course Name: Gas Dynamics for Internal Combustion Engines (5 hp)

Course number: FSG 3132

Date: 7 Nov. 2019 – 29 Nov. 2019 (20 hours of lectures)

Course Leader and Examiner: Mihai Mihaescu (KTH-Teknisk Mekanik), mihaescu@kth.se

The purpose of the questionnaire is to receive feedback with the aim of improving the course.

Name of the participant (optional): _____

Q1. How valuable to you were the chosen topics for this course?

(1- Not Valuable; 2- Somehow Valuable; 3- No Opinion/Neutral; 4- Very Valuable; 5- Essential)

1	2	3	4	5
0%	0%	15%	70%	15%

Q2. Did you find useful the information shared during the course?

(1- Strongly Disagree; 2- Disagree; 3- No Opinion / Neutral; 4- Agree; 5- Strongly Agree)

1	2	3	4	5
0%	0%	0%	62%	38%

Q3. How valuable to you is the proposed literature for the course?

(1- Not Valuable; 2- Somehow Valuable; 3- No Opinion/Neutral; 4- Very Valuable; 5- Essential)

1	2	3	4	5
0%	0%	42%	50%	8%

Q4. Do you find that the discussed topics during the lectures complemented well the proposed course literature?

(1- Strongly Disagree; 2- Disagree; 3- No Opinion / Neutral; 4- Agree; 5- Strongly Agree)

1	2	3	4	5
0%	0%	25%	58%	17%

Q5. The teachers in the course were successful in explaining things to me.

(1- Strongly Disagree; 2- Disagree; 3- No Opinion / Neutral; 4- Agree; 5- Strongly Agree)

1	2	3	4	5
0%	0%	0%	62%	38%

Q6. How valuable to you were the discussions with the other participants regarding the exposed topics?

(1- Not Valuable; 2- Somehow Valuable; 3- No Opinion/Neutral; 4- Very Valuable; 5- Essential)

1	2	3	4	5
0%	0%	8%	69%	23%

Q7. In general, do you think that the teachers were approachable / open to discuss the exposed topics or the raised questions?

(1- Strongly Disagree; 2- Disagree; 3- No Opinion / Neutral; 4- Agree; 5- Strongly Agree)

1	2	3	4	5
0%	0%	0%	15%	85%

Q8. Can you think of an idea that would help to make better, more valuable course?

- *Add one more day with more invited speakers from industry.*
- *Share the lecture slides before the class*

Q9. Overall, how do you rate the course?

(1- Very poor; 2- Poor; 3- Average; 4- Very Good; 5- Excellent)

1	2	3	4	5
0%	0%	8%	69%	23%

Thank you for your input!