UNIVERSITÄT
BERN

Vizerektorat Lehre, iLUB, Hochschulstrasse 6, 3012 Bern

Persönlich/Vertraulich
Prof. Dr. Oscar Nierstrasz
Institut für Informatik und angewandte Mathematik
Neubrückstr. 10
3012 Bern

Vizerektorat Lehre

Lehrveranstaltungsevaluation

Report of evaluation: FS19 Compiler Construction (7133)

Dear Mr./Mrs. Prof. Dr. Nierstrasz

Please find here the results of the evaluation of your course "Compiler Construction". Following the scanning of the questionnaires, this report was automatically generated and mailed to you.

The questionnaire used was appropriate to the course type Vorlesung. In the report, you first see the mean values of the most important dimensions:

- Conveying the course content
- Course materials to assist Learning
- Commitment of the lecturer
- Complexity and Scope
- Assessment of Individual Lectures

In the second part of the report, you see the answers to all the questions. The number of answers, the mean value and the values differing from it are also given.

Grade 1 on the left hand side equals the lowest grade given by the students, grade 5 or more on the right hand side the highest grade. In 'complexity and scope' grade 3 corresponds to 'exactly right' and is therefore the best grade. In the overall assessment of the course, grade 6 means the best result.

The free comments at the end of the questionnaire are only read by the lecturer him/herself and won't be evaluated statistically. Please don't pay much attention to negative statements of single persons. You are to look closely in case of frequent occurence of similar comments.

Please briefly discuss the results with your students before the end of the semester. You will find a presentation template on the last pages of the report. By giving serious consideration to the feedback of the students, you can contribute to higher future response rate.

In case you wish to learn more about how to improve your teaching, you might want to discuss the results with the staff of the 'Hochschuldidaktik' (mail address: hd@zuw.unibe.ch). Please bring a copy of the report with you, since the staff of Hochschuldidaktik do not have access to evaluation results.

You might find guidelines, regulations, and information about the process under www.lehrveranstaltungsevaluation.unibe.ch (documents in German).

Should you need more information, you may also contact us by e-mail.

Yours sincerely

D. Wuillemin
Evaluation office
Vice-rectorate of teaching

Daniela Wuillemin
Supportstelle für ICT-gestützte Lehre und Forschung (iLUB)
Hochschulstrasse 6, 3012 Bern

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lehrevaluation@ilub.unibe.ch
www.lehrveranstaltungsevaluation.unibe.ch

Prof. Dr. Oscar Nierstrasz

FS19 Compiler Construction (7133)
No. of responses = 36

Overall indicators

1. Conveying the course content (α = 0.8)

av.=4.58
dev.=0.72

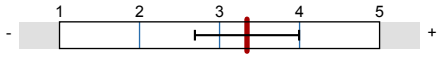
2. Course materials to assist Learning (α = 0.83)

av.=4.46
dev.=0.81

3. Commitment of the lecturer (α = 0.92)

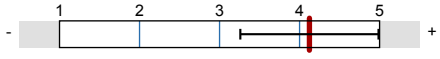
av.=4.87
dev.=0.4

4. Complexity and Scope (α = 0.78)



av.=3.34
dev.=0.65

8. Assessment of Individual Lectures (α = 0.69)

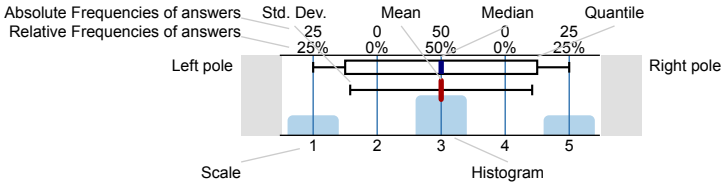


av.=4.12
dev.=0.86

Survey Results

Legend

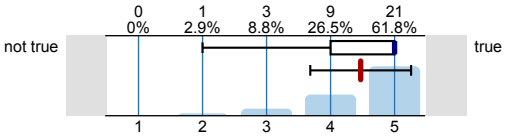
Question text



n=No. of responses
av.=Mean
md=Median
dev.=Std. Dev.
ab.=Abstention

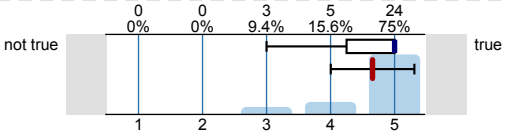
1. Conveying the course content

1.1) The course follows a coherent structure.



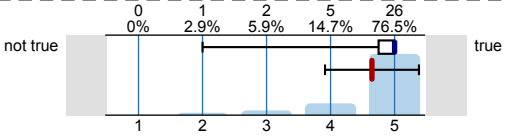
n=34
av.=4.47
md=5
dev.=0.79

1.2) The wider context of the subject matter is sufficiently elucidated.



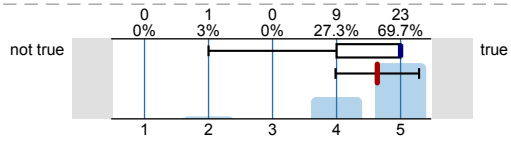
n=32
av.=4.66
md=5
dev.=0.65
ab.=1

1.3) The lecturer expresses him-/herself clearly and comprehensibly.



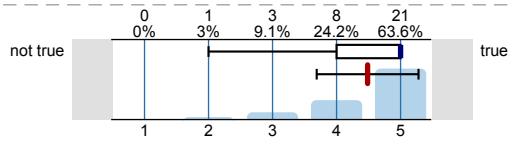
n=34
av.=4.65
md=5
dev.=0.73
ab.=1

1.4) The course provides an adequate overview of the subject matter treated.



n=33
av.=4.64
md=5
dev.=0.65
ab.=1

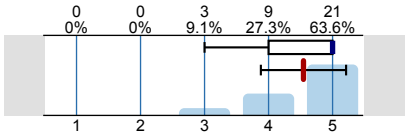
1.5) The design of the course contributes to an understanding of the subject matter.



n=33
av.=4.48
md=5
dev.=0.8
ab.=1

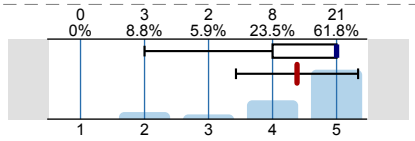
2. Course materials to assist Learning

2.1) There is overall enough material provided to assist the learning process (slides, coursematerial, hand-outs, etc.).



n=33
av.=4.55
md=5
dev.=0.67

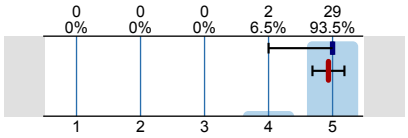
2.2) The course materials (slides, course manuals, hand-outs, etc.) are overall of sufficient quality.



n=34
av.=4.38
md=5
dev.=0.95

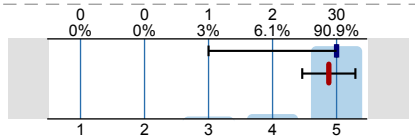
3. Commitment of the lecturer

3.1) The lecturer takes students seriously.



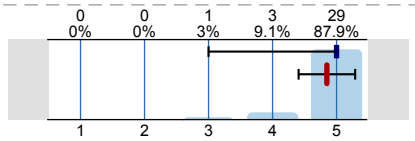
n=31
av.=4.94
md=5
dev.=0.25
ab.=2

3.2) The lecturer is friendly and respectful towards students.



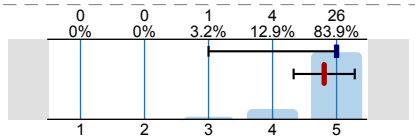
n=33
av.=4.88
md=5
dev.=0.42
ab.=2

3.3) The lecturer addresses questions and suggestions from students adequately.



n=33
av.=4.85
md=5
dev.=0.44
ab.=1

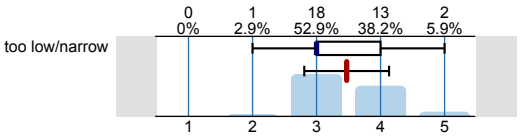
3.4) The lecturer seems to care about his/her students' learning progress.



n=31
av.=4.81
md=5
dev.=0.48
ab.=2

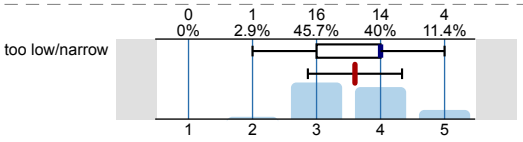
4. Complexity and Scope

4.1) The degree of difficulty of the course is:



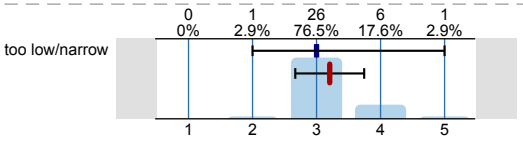
n=34
av.=3.47
md=3
dev.=0.66

4.2) The amount of content of the course is:



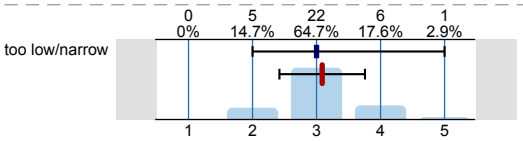
n=35
av.=3.6
md=4
dev.=0.74

4.3) The pace of the course is:



n=34
av.=3.21
md=3
dev.=0.54

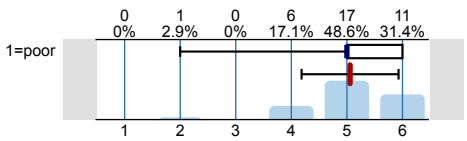
4.4) The amount of knowledge presupposed by the course is:



n=34
av.=3.09
md=3
dev.=0.67

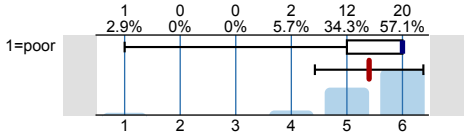
5. Overall Assessment

5.1) How would you grade the course as a whole?



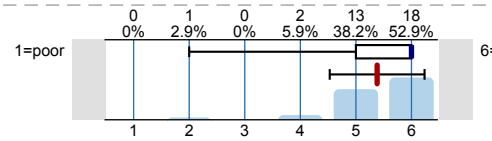
n=35
av.=5.06
md=5
dev.=0.87

5.2) How would you grade the lecturer with regard to subject expertise?



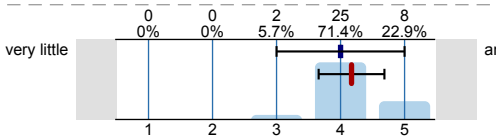
n=35
av.=5.4
md=6
dev.=0.98

5.3) How would you grade the lecturer with regard to teaching methods?



n=34
av.=5.38
md=6
dev.=0.85

5.4) The course has taught me:



n=35
av.=4.17
md=4
dev.=0.51

6. Socio-demographic Data and Background Variables

6.1) How many hours per week did you invest in preparation and revision for the course (on average)?

n=35

0h	0
less than 2h	7
2 to 4h	14
4 to 6h	11
more than 6h	3

6.2) Was the topic of interest to you?

n=35

not at all	0
slightly	3
fairly	20
quite a lot	12

6.3) How many lectures did you miss?

n=34

none	9
1 - 2	10
3 - 4	7
more than 4	8

6.4) If you missed more than 2 lectures, please give one reason:

n=18

lack of interest	0
course overlap	5
course manual / required reading suffices for exam preparation	4
illness etc.	4
other reasons	5

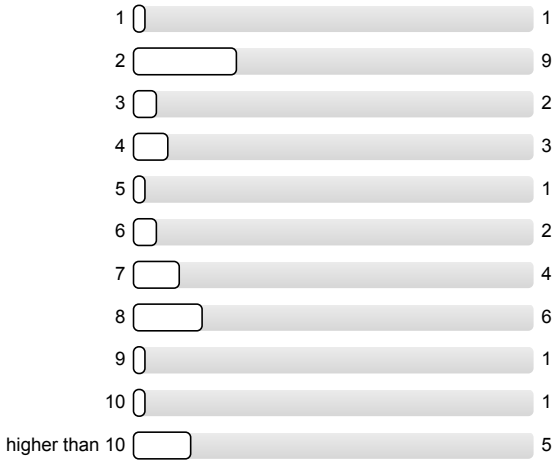
6.5) Allocation of the course in your study programme:

n=32

mono subject/ Major/Hauptfach	31
minor subject/ Nebenfach	0
other	1

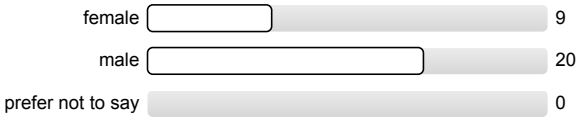
6.6) Your current number of semesters since starting your studies:

n=35



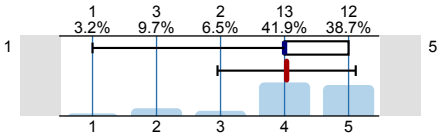
6.7) Sex:

n=29



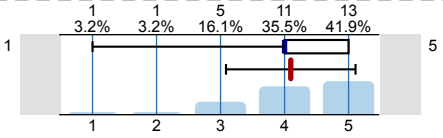
8. Assessment of Individual Lectures

8.1) Introduction



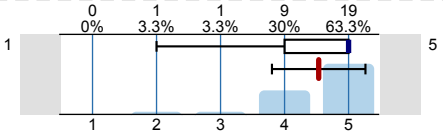
n=31
av.=4.03
md=4
dev.=1.08

8.2) Lexical Analysis



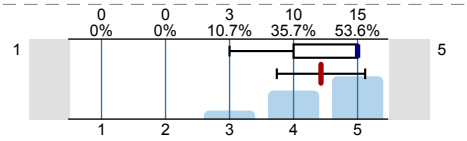
n=31
av.=4.1
md=4
dev.=1.01

8.3) Parsing



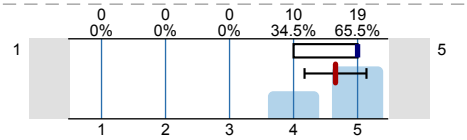
n=30
av.=4.53
md=5
dev.=0.73

8.4) Parsing in Practice



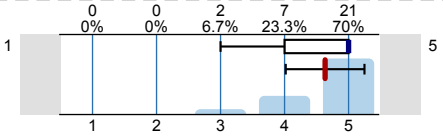
n=28
av.=4.43
md=5
dev.=0.69

8.5) Intermediate Representation



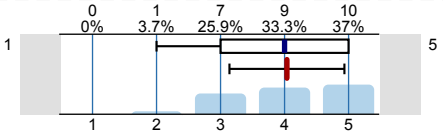
n=29
av.=4.66
md=5
dev.=0.48

8.6) Optimization



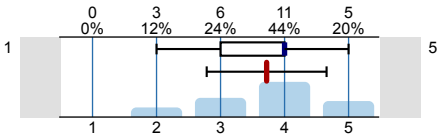
n=30
av.=4.63
md=5
dev.=0.61

8.7) Code Generation



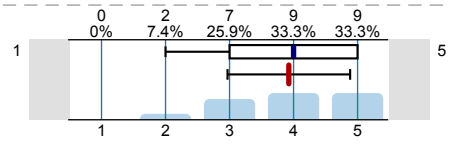
n=27
av.=4.04
md=4
dev.=0.9

8.8) Bytecode and Virtual Machines



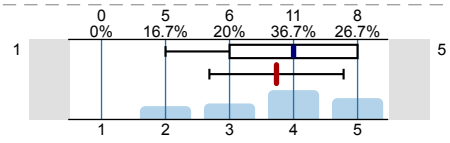
n=25
av.=3.72
md=4
dev.=0.94

8.9) PEGs, Packrats and Parser Combinators



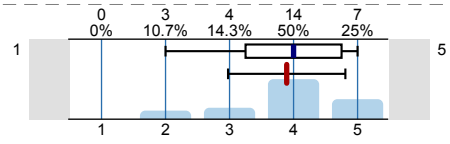
n=27
av.=3.93
md=4
dev.=0.96

8.10) Program Transformation



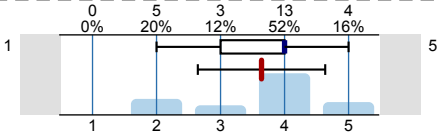
n=30
av.=3.73
md=4
dev.=1.05

8.11) Truffle - a language implementation framework



n=28
av.=3.89
md=4
dev.=0.92

8.12) Compiling R - a case study



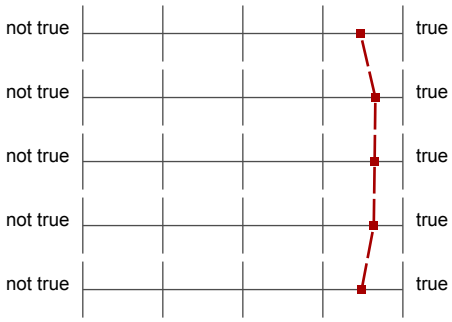
n=25
av.=3.64
md=4
dev.=0.99

Profile

Subunit: Phil.-nat. Fakultät
Name of the instructor: Prof. Dr. Oscar Nierstrasz
Name of the course: (Name of the survey) Compiler Construction

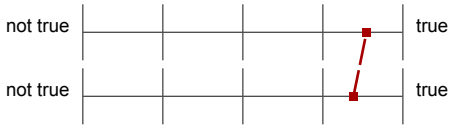
Values used in the profile line: Mean

1. Conveying the course content



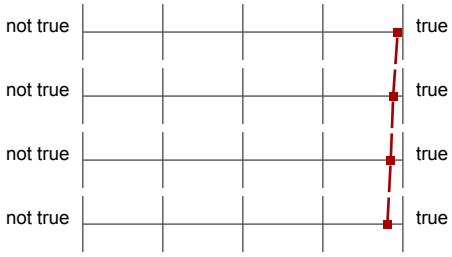
1.1)	The course follows a coherent structure.	not true	true	n=34	av.=4.47	md=5.00	dev.=0.79
1.2)	The wider context of the subject matter is sufficiently elucidated.	not true	true	n=32	av.=4.66	md=5.00	dev.=0.65
1.3)	The lecturer expresses him-/herself clearly and comprehensibly.	not true	true	n=34	av.=4.65	md=5.00	dev.=0.73
1.4)	The course provides an adequate overview of the subject matter treated.	not true	true	n=33	av.=4.64	md=5.00	dev.=0.65
1.5)	The design of the course contributes to an understanding of the subject matter.	not true	true	n=33	av.=4.48	md=5.00	dev.=0.80

2. Course materials to assist Learning



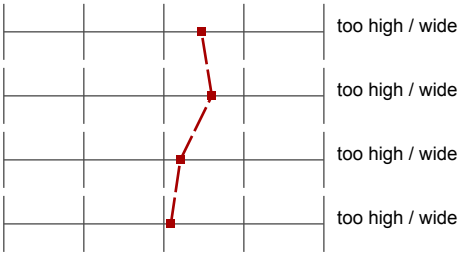
2.1)	There is overall enough material provided to assist the learning process (slides, coursematerial, hand-outs, etc.).	not true	true	n=33	av.=4.55	md=5.00	dev.=0.67
2.2)	The course materials (slides, course manuals, hand-outs, etc.) are overall of sufficient quality.	not true	true	n=34	av.=4.38	md=5.00	dev.=0.95

3. Commitment of the lecturer



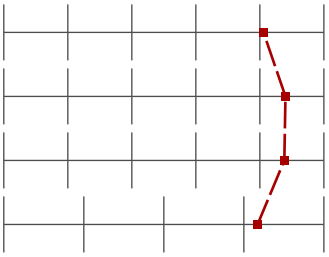
3.1)	The lecturer takes students seriously.	not true	true	n=31	av.=4.94	md=5.00	dev.=0.25
3.2)	The lecturer is friendly and respectful towards students.	not true	true	n=33	av.=4.88	md=5.00	dev.=0.42
3.3)	The lecturer addresses questions and suggestions from students adequately.	not true	true	n=33	av.=4.85	md=5.00	dev.=0.44
3.4)	The lecturer seems to care about his/her students' learning progress.	not true	true	n=31	av.=4.81	md=5.00	dev.=0.48

4. Complexity and Scope

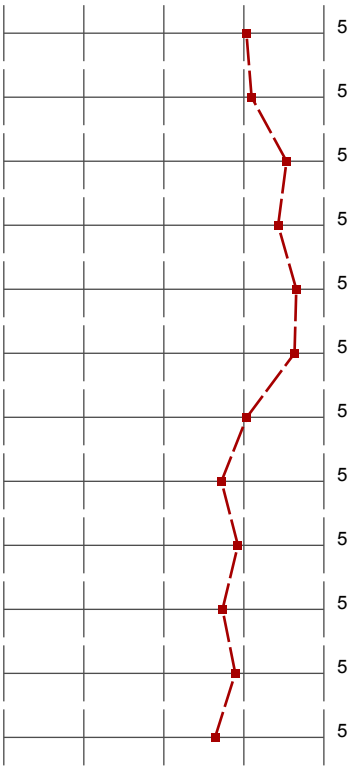


4.1)	The degree of difficulty of the course is:	too low/narrow	too high / wide	n=34	av.=3.47	md=3.00	dev.=0.66
4.2)	The amount of content of the course is:	too low/narrow	too high / wide	n=35	av.=3.60	md=4.00	dev.=0.74
4.3)	The pace of the course is:	too low/narrow	too high / wide	n=34	av.=3.21	md=3.00	dev.=0.54
4.4)	The amount of knowledge presupposed by the course is:	too low/narrow	too high / wide	n=34	av.=3.09	md=3.00	dev.=0.67

5. Overall Assessment

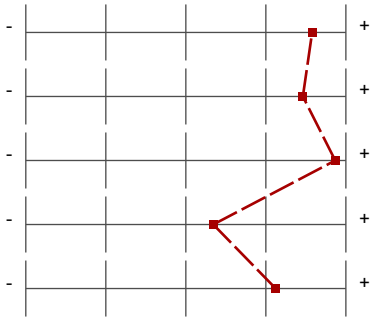
5.1)	How would you grade the course as a whole?	1=poor		6=excellent	n=35	av.=5.06	md=5.00	dev.=0.87
5.2)	How would you grade the lecturer with regard to subject expertise?	1=poor		6=excellent	n=35	av.=5.40	md=6.00	dev.=0.98
5.3)	How would you grade the lecturer with regard to teaching methods?	1=poor		6=excellent	n=34	av.=5.38	md=6.00	dev.=0.85
5.4)	The course has taught me:	very little		an awful lot	n=35	av.=4.17	md=4.00	dev.=0.51

8. Assessment of Individual Lectures

8.1)	Introduction	1		5	n=31	av.=4.03	md=4.00	dev.=1.08
8.2)	Lexical Analysis	1		5	n=31	av.=4.10	md=4.00	dev.=1.01
8.3)	Parsing	1		5	n=30	av.=4.53	md=5.00	dev.=0.73
8.4)	Parsing in Practice	1		5	n=28	av.=4.43	md=5.00	dev.=0.69
8.5)	Intermediate Representation	1		5	n=29	av.=4.66	md=5.00	dev.=0.48
8.6)	Optimization	1		5	n=30	av.=4.63	md=5.00	dev.=0.61
8.7)	Code Generation	1		5	n=27	av.=4.04	md=4.00	dev.=0.90
8.8)	Bytecode and Virtual Machines	1		5	n=25	av.=3.72	md=4.00	dev.=0.94
8.9)	PEGs, Packrats and Parser Combinators	1		5	n=27	av.=3.93	md=4.00	dev.=0.96
8.10)	Program Transformation	1		5	n=30	av.=3.73	md=4.00	dev.=1.05
8.11)	Truffle - a language implementation framework	1		5	n=28	av.=3.89	md=4.00	dev.=0.92
8.12)	Compiling R - a case study	1		5	n=25	av.=3.64	md=4.00	dev.=0.99

Profile Line for Indicators

Subunit: Phil.-nat. Fakultät
Name of the instructor: Prof. Dr. Oscar Nierstrasz
Name of the course: (Name of the survey) Compiler Construction



1. Conveying the course content	av.=4.58	dev.=0.72
2. Course materials to assist Learning	av.=4.46	dev.=0.81
3. Commitment of the lecturer	av.=4.87	dev.=0.40
4. Complexity and Scope	av.=3.34	dev.=0.65
8. Assessment of Individual Lectures	av.=4.12	dev.=0.86

7. Comments

7.1) What did you like about the course?

Exercises and project is very good. Guest lectures are really good!

The structure is fine. The material provided is good. The lecturer has a good pace in his lectures. The assistants were supportive.

The slides and the project

The overview of the subject.

Quite practical

Interesting topic!

Podcast

I like the content of the [redacted] course.

Concepts and annotated slides

having a complete parser built

~~Som~~ guest lectures

The topic was interesting. Oscar Nierstraz lectures are always good.

The first part (about processes/threads, IR & synchronization) was well structured and interesting.
(The rest was a little disorganized)

- the extern speakers on specific topics
- all-rounded view on the topic

The topic

Good overview of topic. Good and interesting guest lectures. Interesting project

Everything. Also the guest-lectures were good. Especially the Podcasts were helpful (for exam-preparation, ...)

- Guest lectures
- Slides (as usual ☺)

Video recordings were useful

I have learnt in detail

Main course slides (of non-guest lecture). That it's following a book. Project

Great teacher & assistants. Clear explanations. Self-sufficient slides.

7.2) What did you not like about the course?

Eclipse (...)

—

Practical exercices were a bit hard, because of Eclipse.

For the project, no global overview, needed to change lots of things

project was a bit hard.

I belive that there were some parts with high detail.

a lot of work in exercises didn't contribute to the understanding (a lot of boilerplate)
Bytecode lecture wasn't about Javabytecode used in exercises

The project was a bit to difficult. One needs to invest a lot of time.
There are not enough information for the project. It would be good if we implement a smaller grammer first to see how JTB and BCEL work.

[redacted] · Course structure seems to fall apart somewhere in the middle.
· No extra IR needed for the project - I would have preferred writing interpreter & optimizations instead of bytecode generation

- the slides are hard to understand: you suddenly see the trick and don't understand why the core concept is not written down. (Examples are good!) current

The project was very time consuming.

Save repetition about smalltalk (I did the SMT and P2 causes), but that is ok, some did not have it.

At least for me excercises took quite some time until I could start working on the subject (like exploring BCEL before thinking about the actual bytecode)

no exercises about last parts of the course

~~[illegible]~~

It was very complex. I think if we could ~~get~~ have ~~at~~ some simpler exercise

Amount of time needed for project.

Project was really time-consumming (some tests were extreme cases :D).

7.3) Suggestions for improvements?

Maybe merge part 8.2 and 8.3 to introduce another guest lecture ?

Maybe use the exercises lectures to create a toy example. Ask student what was hard to understand and adapt for next year by explaining this part a bit more in the exercise hours.

Give more hint for the project on the code structure

May use another toolchain → eg ANTLR

More helping resources for project.

exercises for handwriting / coding and optimizing bytecode (not Java, simpler maybe)
BCEL was mostly API usage
maybe use a simpler language / target language

- see 7.2 : Different focus
- The VM part about small talk seemed rather boring [redacted], would have preferred talking about VM's in general instead of a specific one (Pharo VM)

After Lecture 6 it was very hard to understand. Also maybe explain more details about the project.

Give more information at each step of the project

Nope

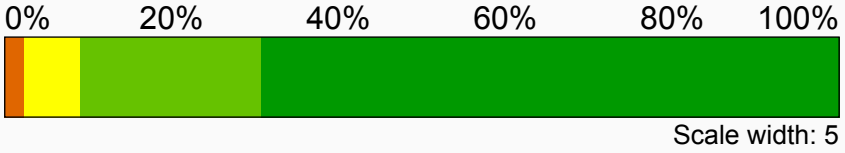
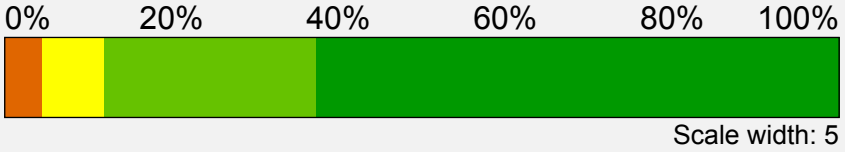
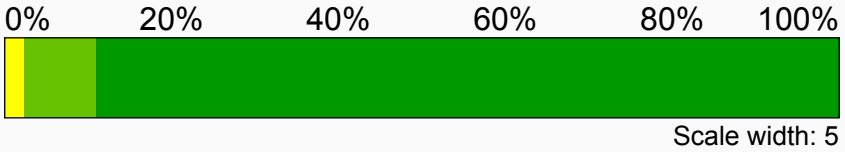
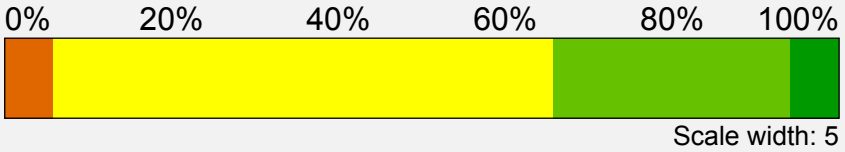
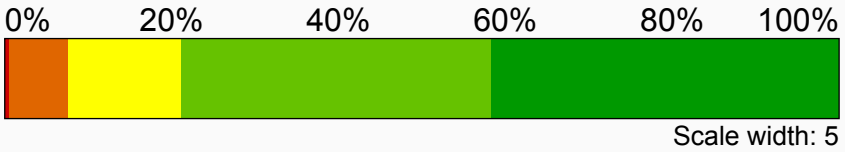
Use a simpler grammar for the projects to work more on the courses subject. e.g. by more theoretical exercises or more projects (as every project would be "smaller" = less effort).

Some [redacted] text tutorial about JavaCC

Compiler Construction

Responses = 36 questionnaires

Prof. Dr. Oscar Nierstrasz

	-	+	Ø	dev.
1. Conveying the course content	 Scale width: 5		4.58	0.72
2. Course materials to assist Learning	 Scale width: 5		4.46	0.81
3. Commitment of the lecturer	 Scale width: 5		4.87	0.4
4. Complexity and Scope Complexity and Scope: left pole=too low, right pole=too high; grade 3=exactly right	 Scale width: 5		3.34	0.65
8. Assessment of Individual Lectures	 Scale width: 5		4.12	0.86

dev.=Std. Dev.