Wood products and processes

CLOSING 14.4.2023

CHEM-E2235 5 cr

Aalto University
School of Chemical
Engineering

Thank you!

Dr. Kristiina Lillqvist

Dr. Daniela Altgen

Dr. Callum Hill

Prof. Mark Hughes

Prof. Lauri Rautkari

Wood material technology & Wood material science
Department of Bioproducts and Bioprocesses
School of Chemical Engineering

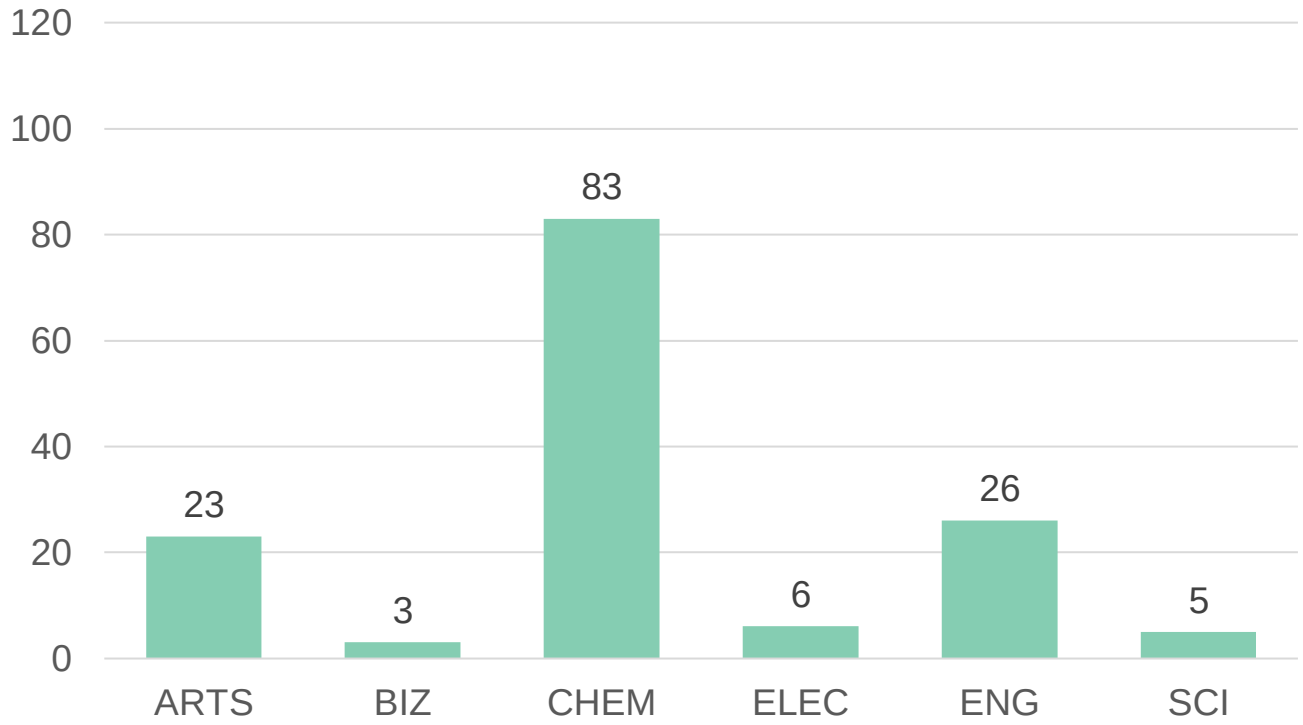
wood-teaching@aalto.fi

Aalto University
School of Chemical
Engineering

Finished students by department

12.4.2023

146 students finished
- 77% out of 189 registered



After the course, students know…

- the most common **wood adhesive systems**, their properties and application in wood products
- the most common **wood products**, their setup and application range
- **production processes** of selected wood products, such as plywood, cross-laminated timber, particleboards, fiberboards and modified wood products starting from raw material to the end product
- how **wood material properties** (such as grain orientation and knots) **influence** the processing of wood into different products
- wood **degradation** mechanisms and preservation/modification methods to enhance the **durability** of wood

LEARNING MATERIAL

EXAMS

Interactive Books:
Learning material with some exercises. Mark as **completed** by yourself.

+

Quizzes:
Exercise questions related to the topic. To **complete** the quiz you need to answer *everything correctly* before submitting.

Unlimited attempts
No time limitation
Not graded

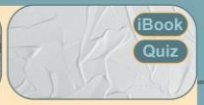
Exam:
The exam are available once you have completed the interactive books and the quizzes of the section.

One attempt
Time limitation
Graded

Wood material

1) Wood as a material

2) Wood degradation



3) How to bind wood

Wood material Exam — 20 %

Sawn wood products

1) Sawn wood

2) Glulam and CLT

3) Modified wood

Sawn wood products Exam — 40 %

Veneer products and boards

1) Plywood and LVL

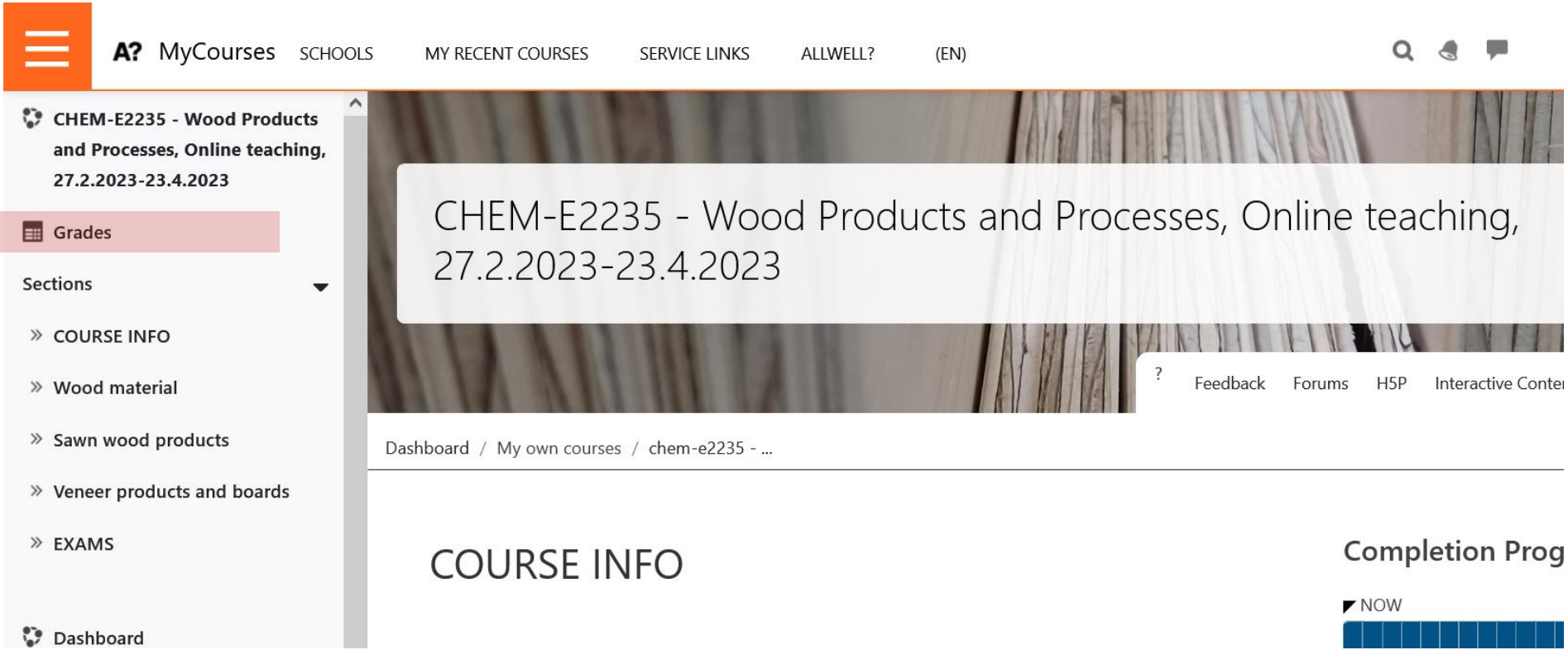
2) Particleboard and OSB

3) Fiberboards

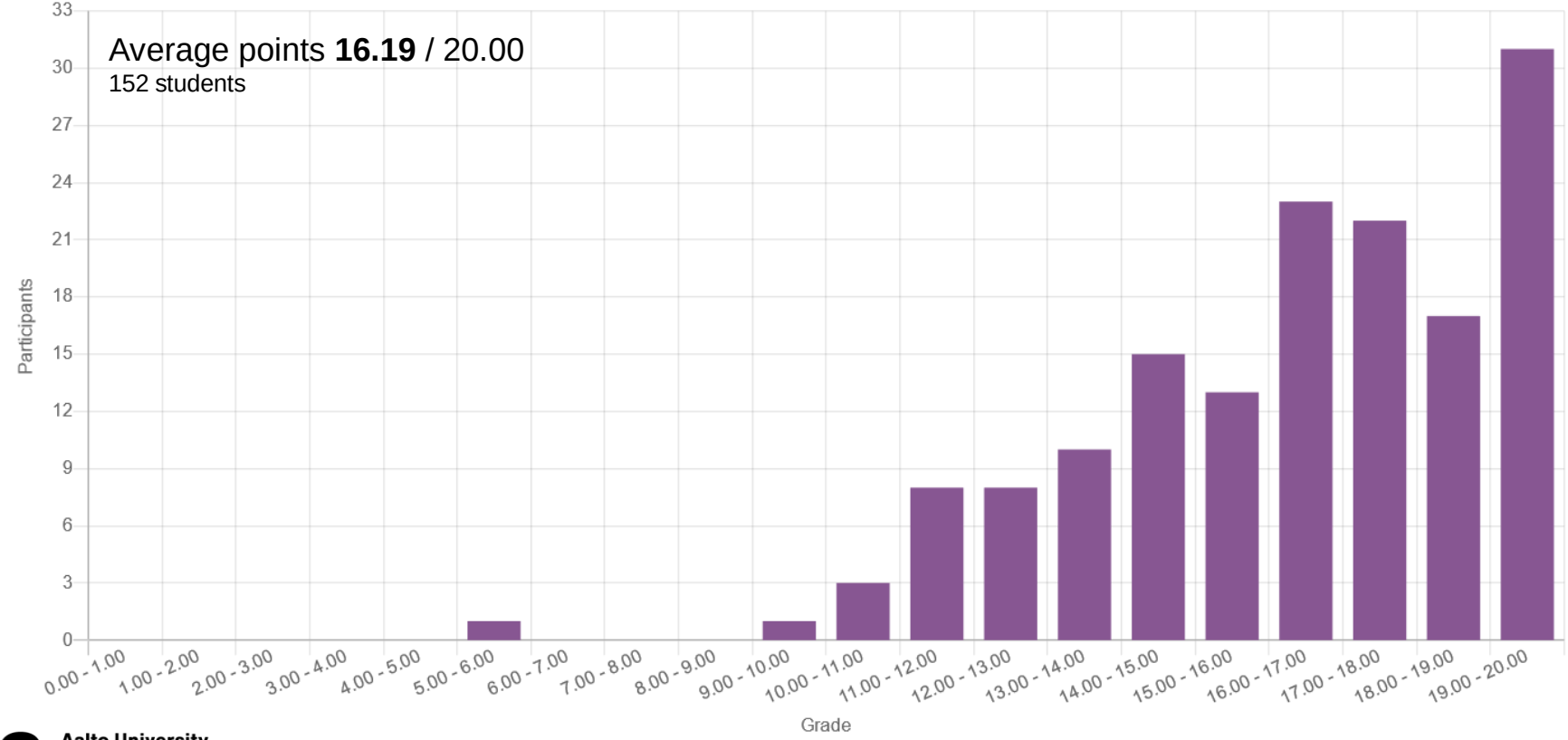
Veneer products and boards Exam — 40 %

Aalto University
School of Chemical Engineering

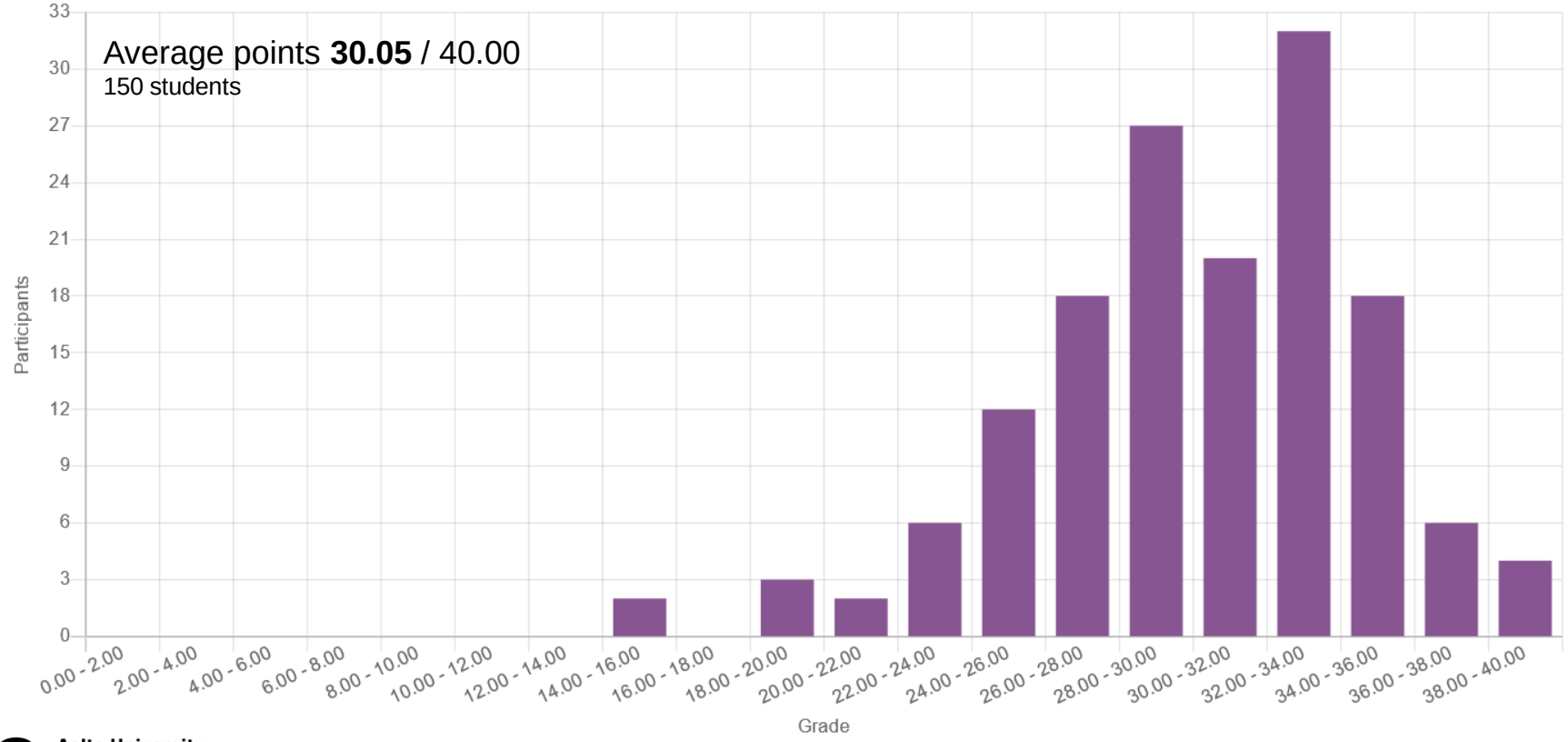
Exam points in MyCourses



EXAM: WOOD MATERIAL

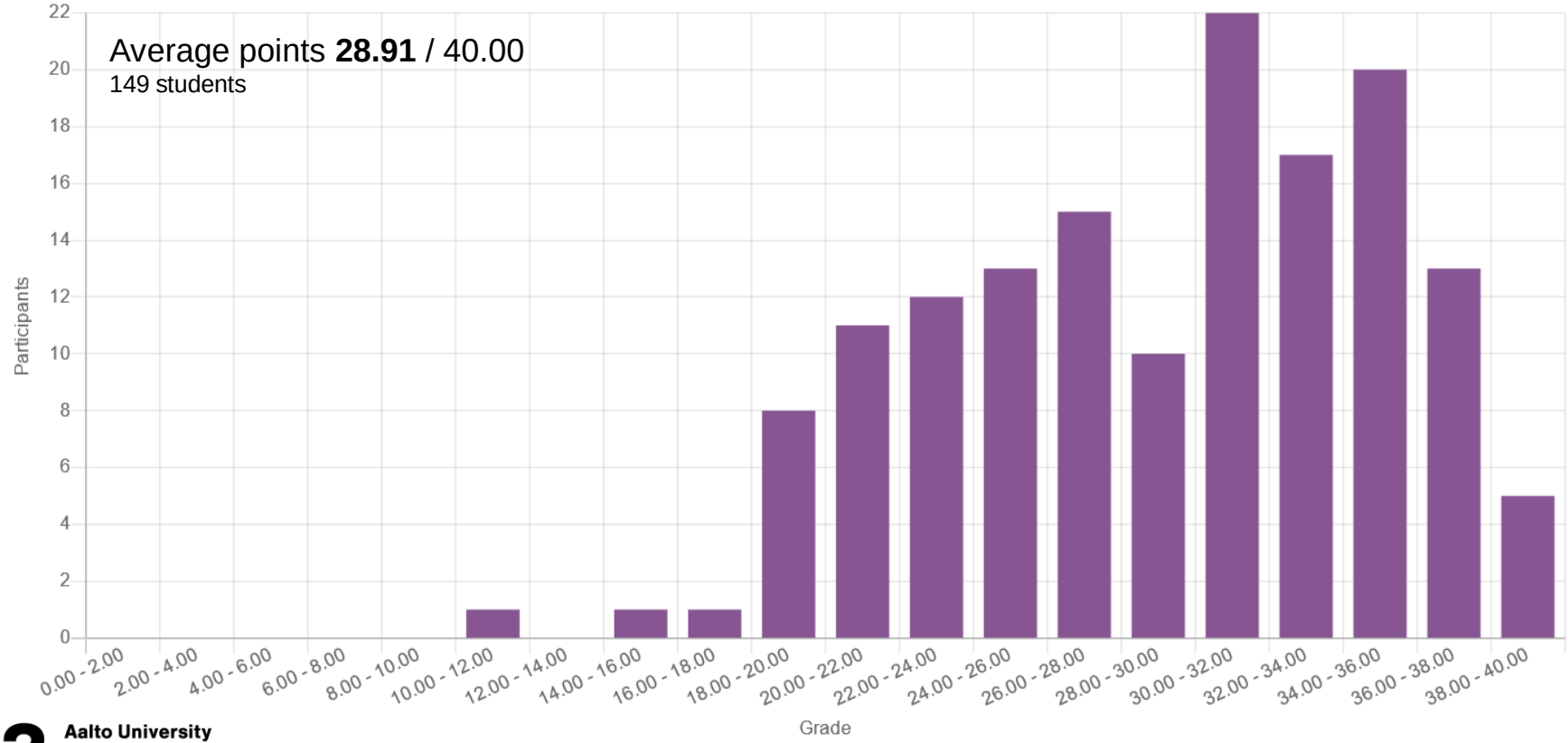


EXAM: SAWN WOOD PRODUCTS



Aalto University
School of Chemical
Engineering

EXAM: VENEER PRODUCTS AND BOARDS

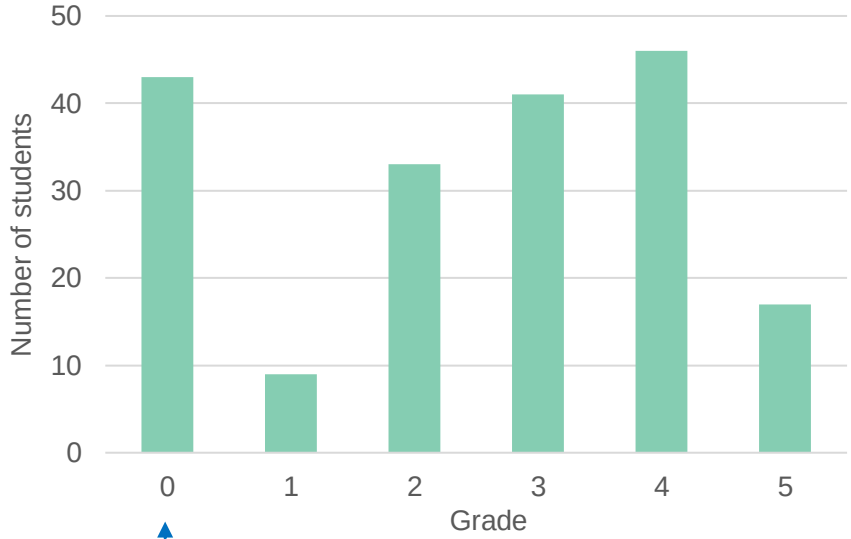


Aalto University
School of Chemical
Engineering

Grading

- **Max points 100**
- **Grading 0-5**

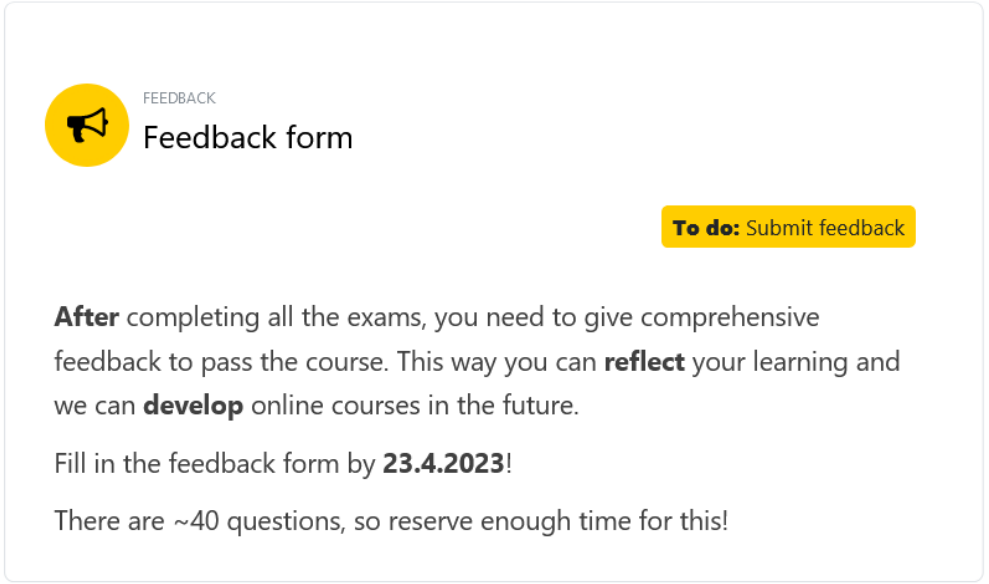
grade	min. points	amount	%
0	0	43	23 %
1	50	9	5 %
2	60	33	17 %
3	70	41	22 %
4	80	46	24 %
5	90	17	9 %



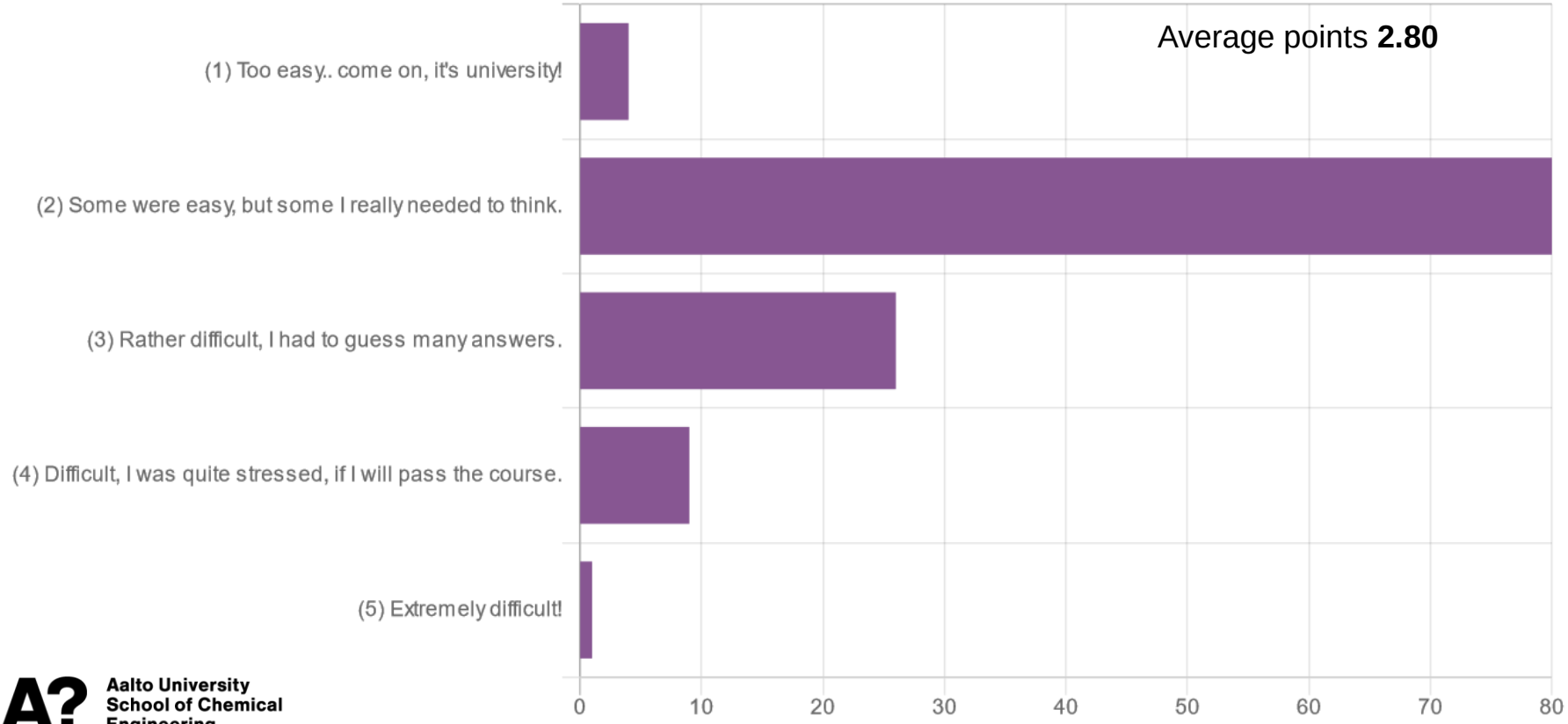
Mainly students who did not make any exams

Course Feedback

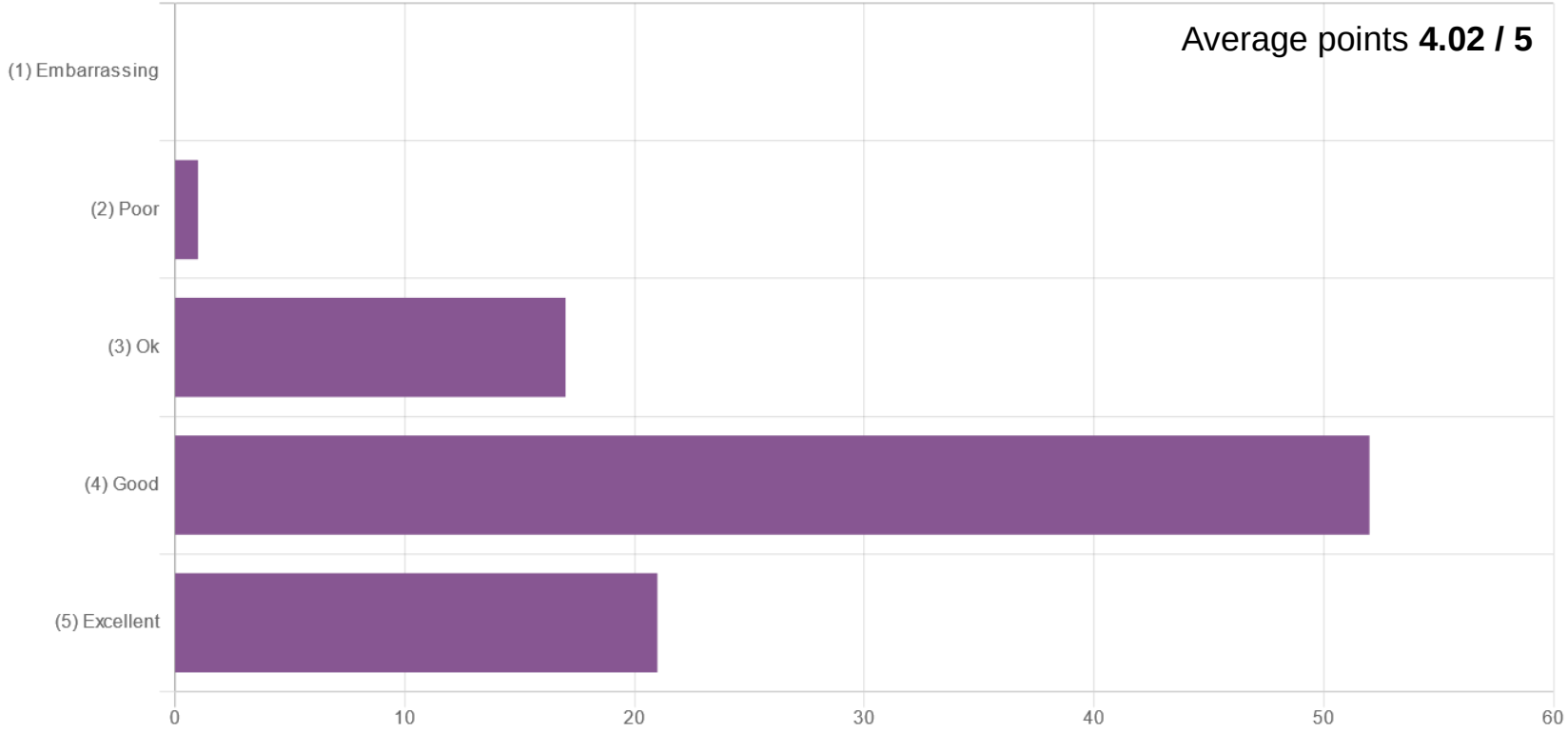
- **95 % (141) have to answer**
  - So far 91 / 149 answered
- **Open in MyCourses until Tue 23rd April!!**
- **Also another Aalto-level webropol form**



Were the final exams difficult or easy?

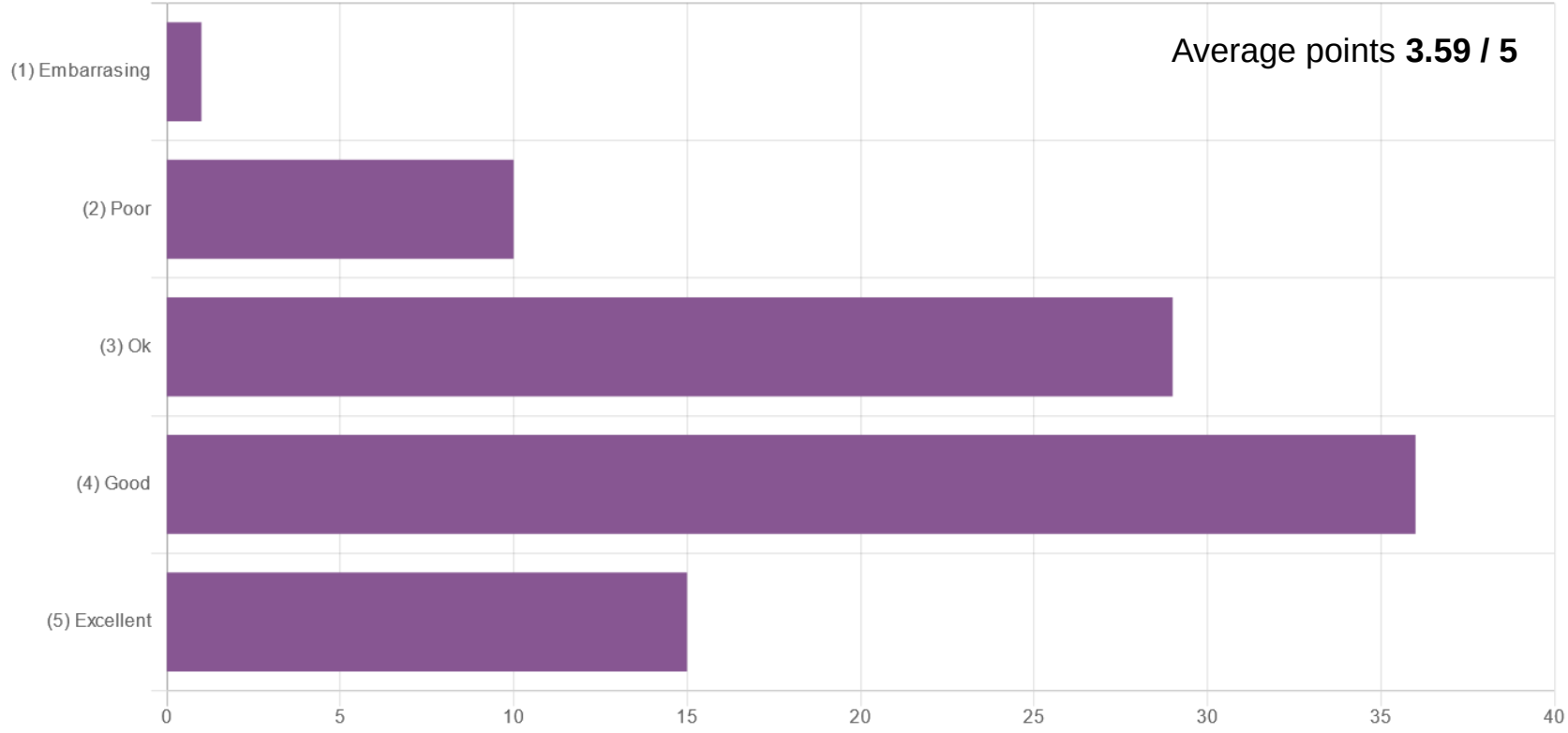


What overall grade would you give to the course?



Aalto University
School of Chemical
Engineering

How well did YOU do? Were you able to keep your schedule and do your best?



Revision

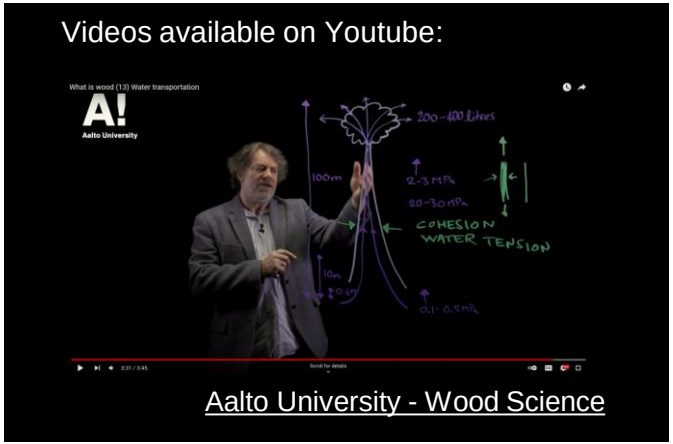
- **If you have any questions about the exam or other topics**
- **Fri 28th April, 9:30 – 11:00**
- **Vuorimiehentie 1 / room L2**
- **Book a time by 24th April: wood-teaching@aalto.fi**

- **Re-take the course / improve grade → Next year**
  - Instructions: https://www.aalto.fi/en/applications-instructions-and-guidelines/detailed-instructions-on-registering-for-courses-on-sisu

See you again?

wood-teaching@aalto.fi

Videos available on Youtube:



Aalto University - Wood Science

NEW Aalto Wood –minor (MSc) 2022 →

Pre-requisite

CHEM-C2470	Forests, Wood and Carbon **online**	5 op **NEW**

- **Next time in V-period**

Mandatory courses (10 cr):

CHEM-E2225	Wood Material Science **online**	5 op **NEW**
CHEM-E2235	Wood Products + Processes **online**	5 op **NEW**

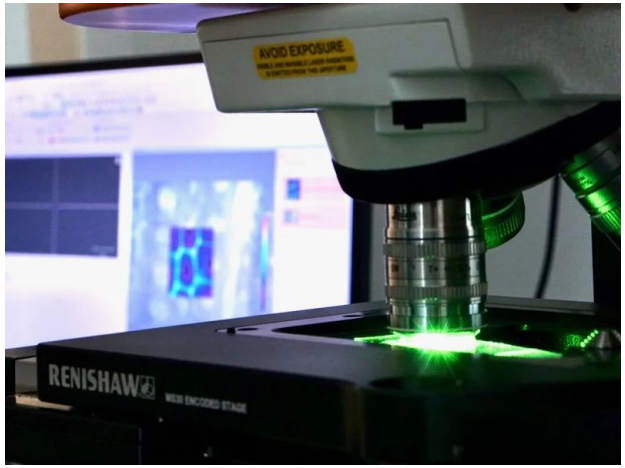
Elective courses (to fulfil 20-25 cr):

CHEM-E2170	Advanced Wood Science **I-period**	5 op **NEW**
CHEM-E1100	Plant Biomass	5 op
CIV-E4110	Timber Engineering	5 op
CIV-E4120	Timber Structures	5 op
ARK-E401201	Wood in Architecture Construction	5 op
ARK-E4008	Industrial Wood Construction	5 op
SARK-E5016	Woodstudio: Design Project	10 op

Aalto University
School of Chemical
Engineering

Advanced wood science 5 cr

- **I-period**
- **Starting Mon 4th Sept**
- **Max 20 students**
  - Students of Fibre and Polymer Engineering major and Aalto Wood minor are prioritized.
- **Learn about advanced analytical techniques to examine the material properties of wood**
  - Water sorption, chemical composition, mechanical properties



Course in Sisu:
https://sisu.aalto.fi/student/courseunit/aalto-CU-1150933093-20220801/brochure