

Computer-aided Tools in Engineering



ENG-A2001



Aalto University
School of Engineering

Kaur Jaakma

10.9.2021

Teachers

Kaur Jaakma

- Responsible teacher, Mechanical Engineering

Athanasios Markou

- Civil Engineering

Jarkko Niiranen

- Civil Engineering



Tools in engineering



ArcGIS®



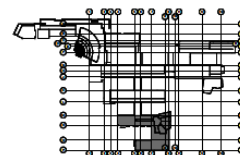
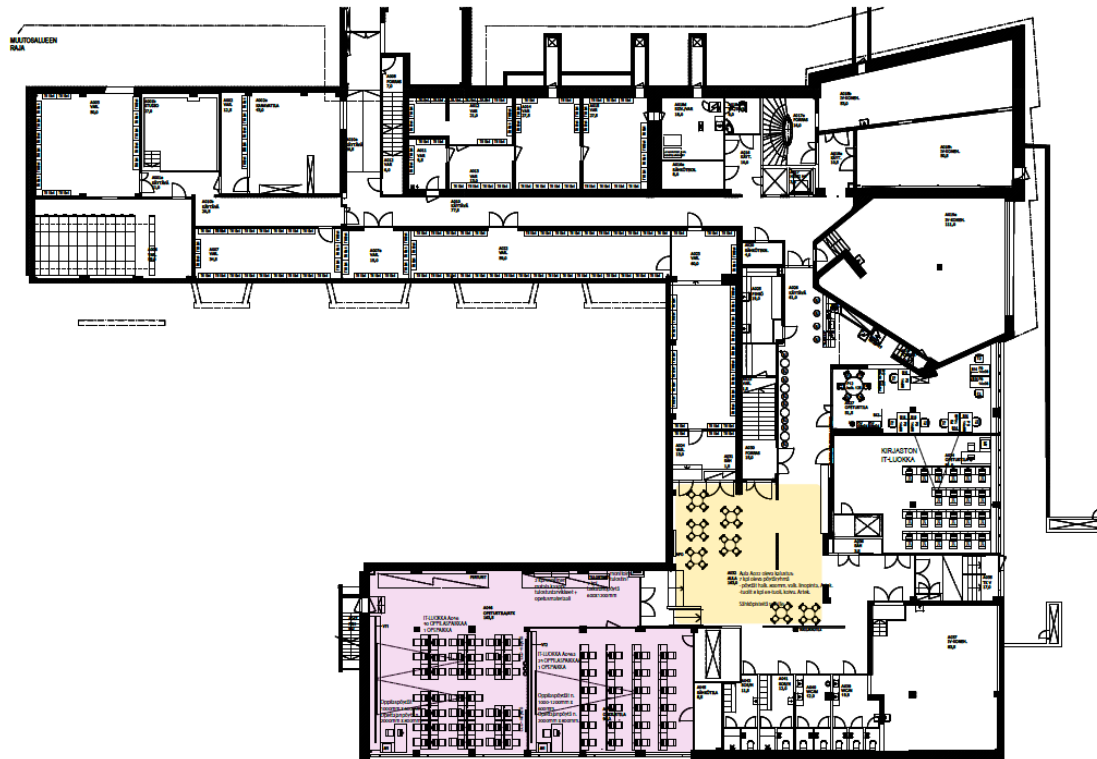
And lots
more...



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Why We Need 2D CAD?

To communicate

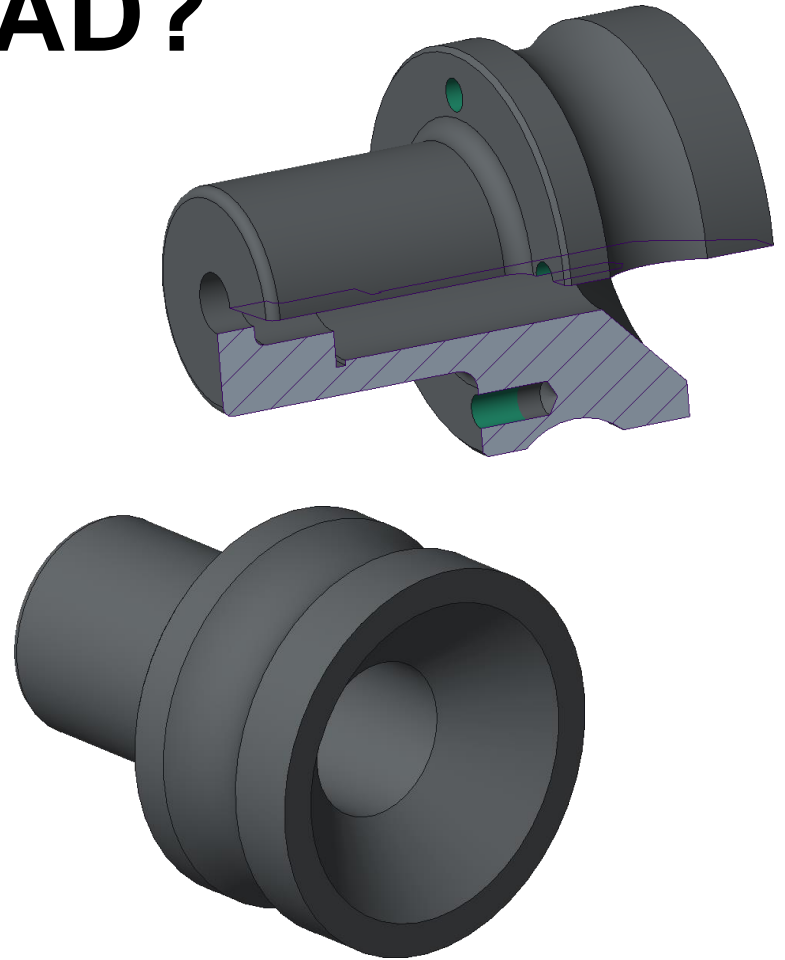


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ENG + ARTS CAD LUOKAT A045 & A046
EHDOTUS KALUSTELAYOUT, VAIHTOEHTO B

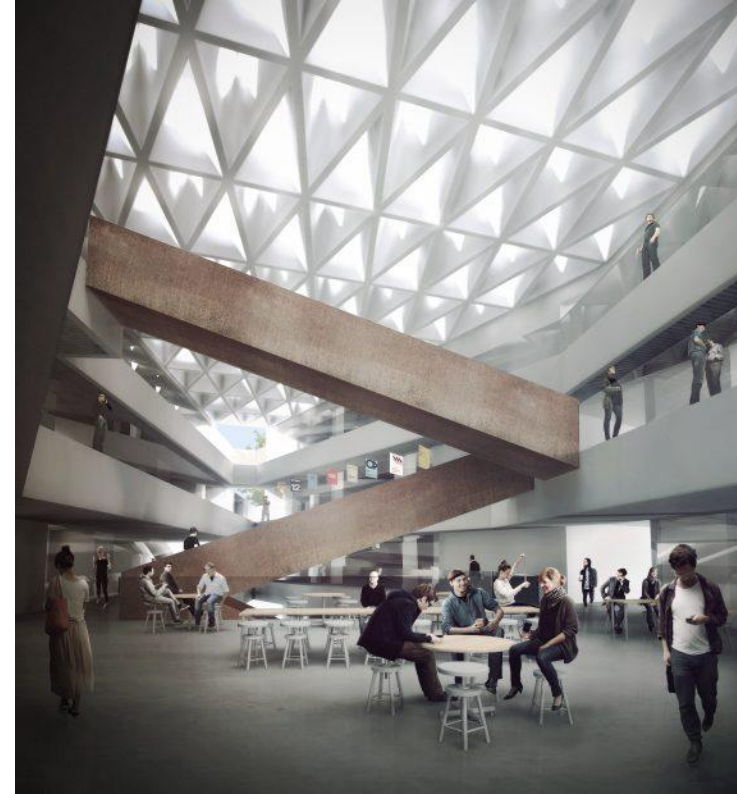
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AALTO ORE, 26.5.2016

To communicate



Why CAD?

To visualize



Why CAD?

To visualize



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Why CAD?

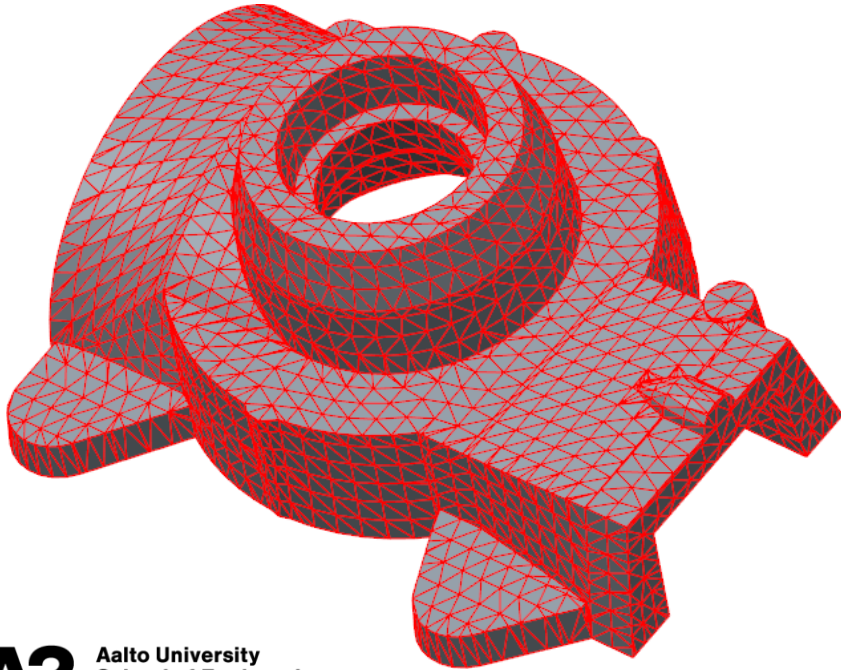
Augment/Virtual Reality (AR/VR)



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Why CAD?

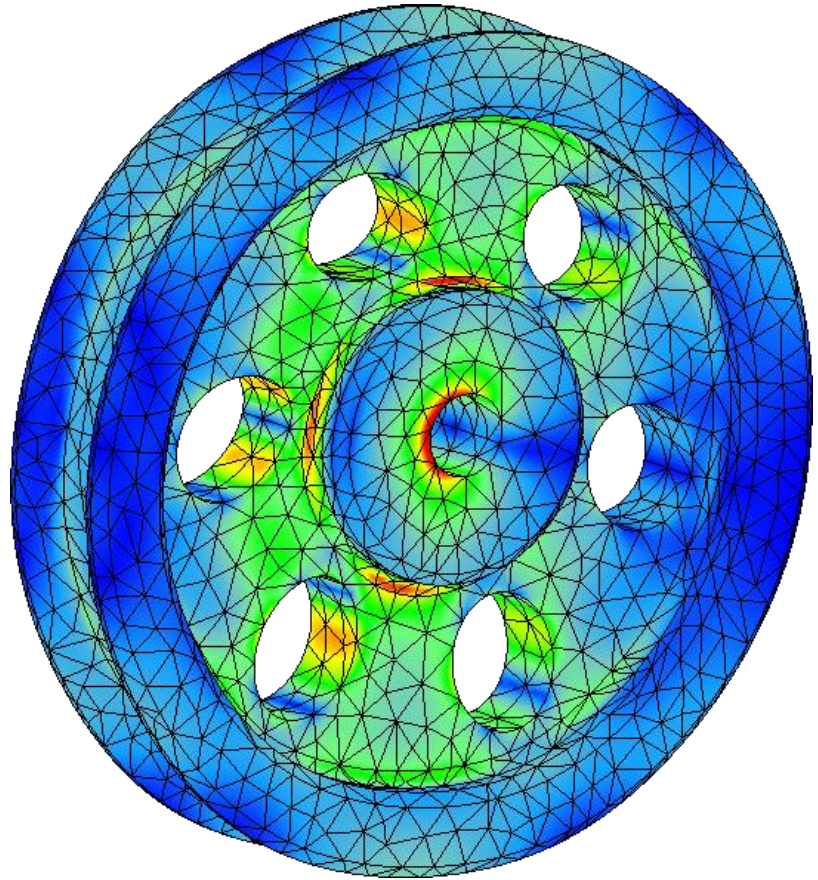
Additive manufacturing (3D printing)



Why CAD?

Simulations

Finite Element Analyses



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The course

Computer-aided Tools in Engineering, ENG-A2001

- 5 ECTS
- Periods I-II
- Scheduled for 2nd year
- Grading pass/fail
- Fully Online

Learning outcomes

After completed the course, the student will understand the basics of computer-aided tools, can implement tools into one's own field and can evaluate the suitability of the tools for different subjects

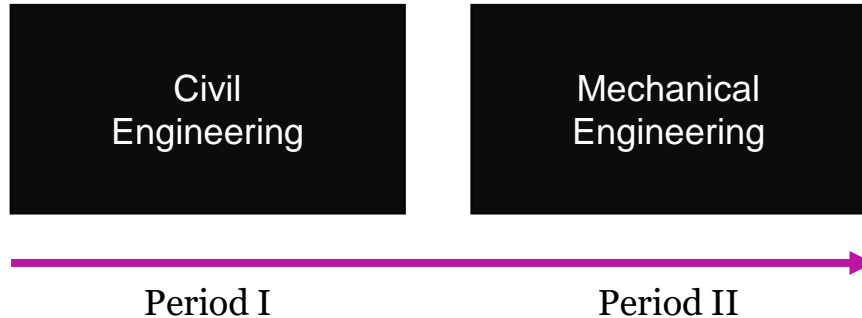
The student will understand both the characteristics and limits of computer-aided modeling and the methods of utilization in the field of industry and research.



Course structure

Two modules

- CAD/CAE tools in Civil Engineering
- CAD/CAE tools in Mechanical Engineering
- Both obligatory and needed to be completed during the same semester



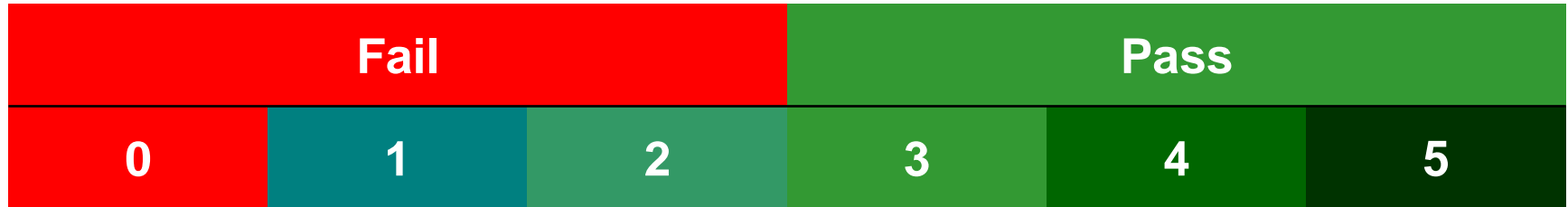
Exercises

All exercises are obligatory

- If not told otherwise

Main point is to learn to utilize tools

- Grading pass/fail



MS Teams

The course is online this semester

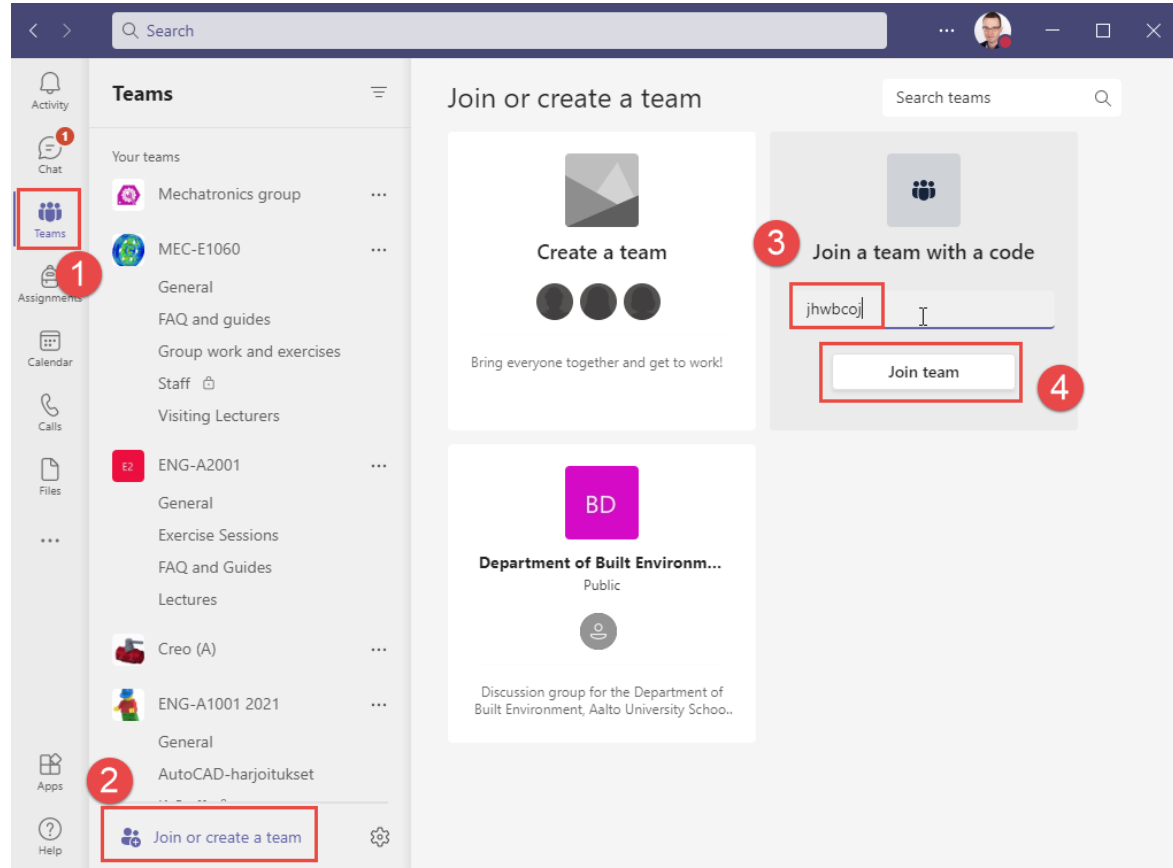
MS Teams is used during the course as a communication platform

- Enrollment key **jhwbcvj**
- teams.microsoft.com, log in with Aalto account



MS Teams

Self-enrollment



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Course's weekly schedule

| Time | Mon | Tue | Wed | Thur | Fri |
|-------|--------------------|-----|-------------------|------|-------------------|
| 8-10 | | | | | |
| 10-12 | | | | | |
| 12-14 | Lecture | | Exercise Sessions | | Exercise Sessions |
| 14-16 | Exercise Sessions | | Exercise Sessions | | Exercise Sessions |
| 16-18 | Exercises Sessions | | | | |
| 18-20 | | | | | |





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