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KON-C2004 - Mechatronics Basics, Lecture, 22.10.2024-12.12.2024

This course space end date is set to 12.12.2024 [Search Courses: KON-C2004](#)

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Assignments

External tools

Forums

Questionnaires

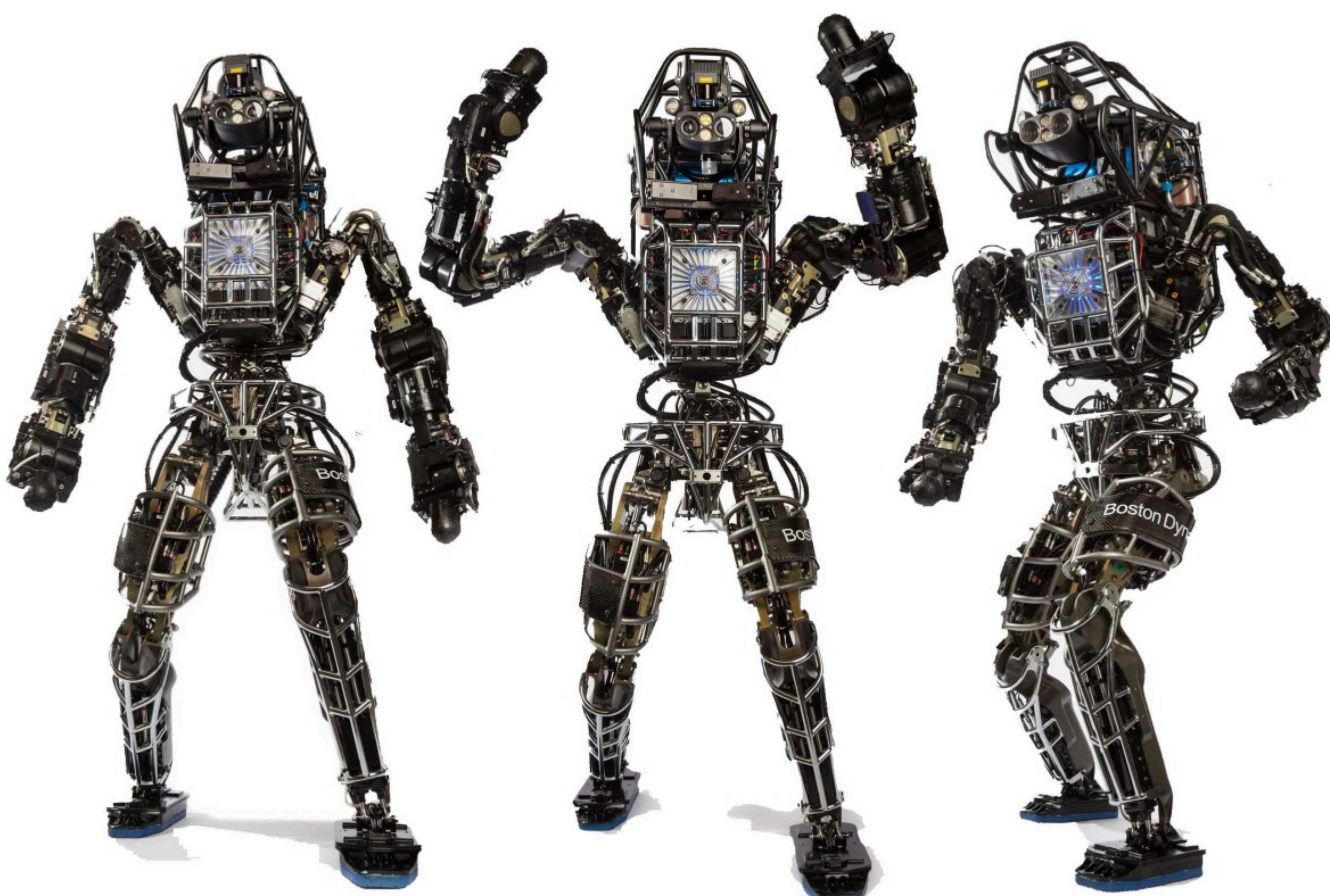
Quizzes

Resources

Turnitin Assignments

Syllabus Course feedback

General



Lecture and exercise info

The lectures will be given in lecture halls 213a and 216 in K1 building (Otakaari 4). They are also streamed and recorded using Zoom, which is however not guaranteed due to technological challenges sometimes occurring in the lecture halls. Active participation in the lectures is only possible locally - joining virtually enables only passive participation. Local lecture is the "main event" and joining it is recommended.

- **Tuesdays 10:15-12:00 (213a).** The first lecture is on 22.10.2024.
- **Thursdays 10:15-12:00 (216).**

The exercise sessions are organized only locally in Y430 (Otakaari 1). 50% of exercise points are required to pass the course.

- **Thursdays 12.15 - 14.00.** The first Thursday session is on 24.10.2023, and includes a Matlab/Simulink demo.
- **Mondays 14.15 - 16.00.** The first Monday session is on 28.10.2023, and includes a Matlab/Simulink demo.
- **Exercise deadline on Tuesdays at 10.00.** Late submissions will not be accepted.

Course personnel

Responsible teacher, lecturer: Raine Viitala

Main assistant: Samuli Rytömaa

In cases of any questions or issues, please use the general discussion forum, or contact the teachers directly via email or teams.

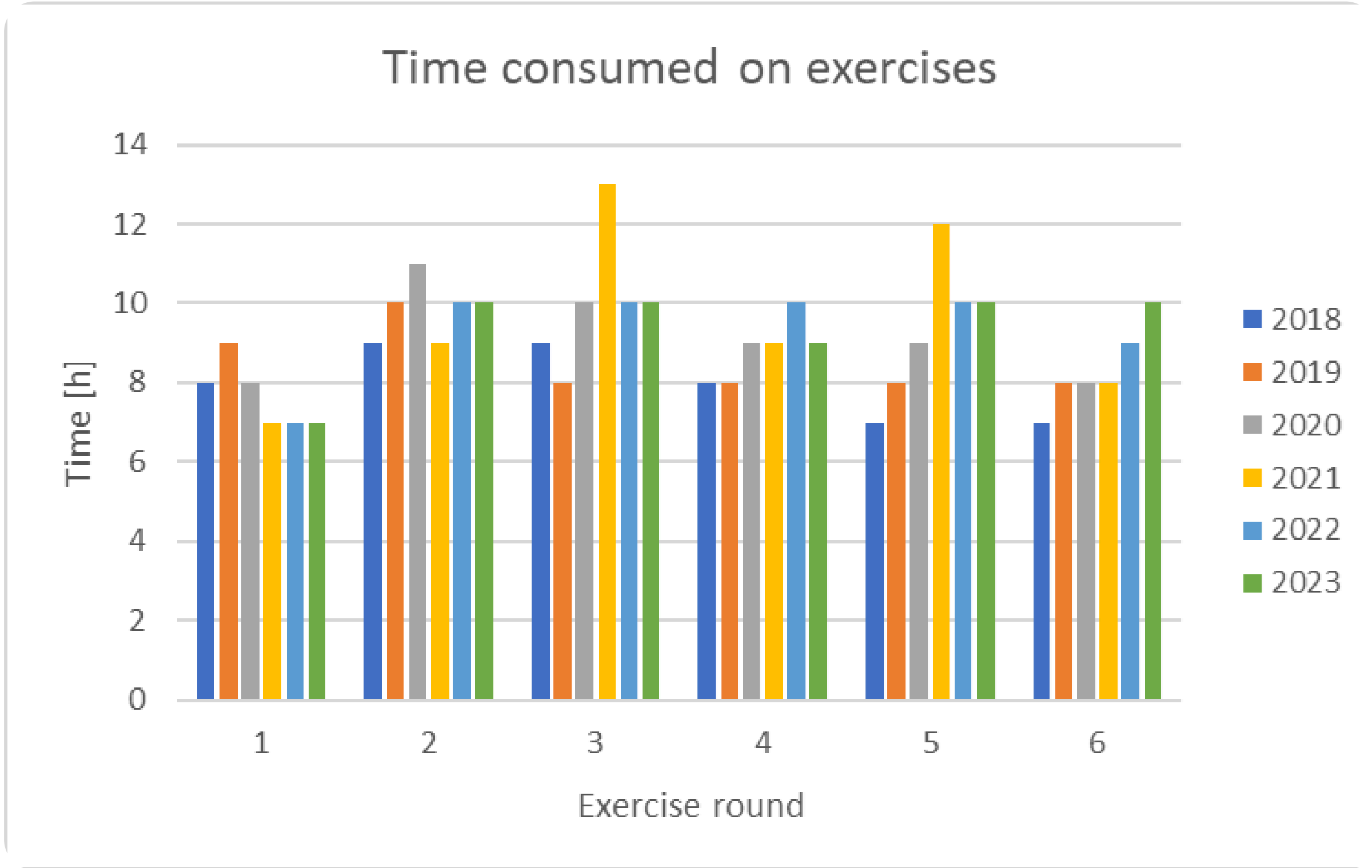
Introduction of the course

The course is arranged during only one period. This means 5 credits worth of studying, i.e. nominally 135 hours, during seven weeks. Therefore, be prepared to allocate enough time for the lectures and the exercises in your calendar.

This course is, as its name suggests, a basic level course which covers a very wide area of subjects in as much detail as we have time for. This course does not have official prerequisites; however, some understanding of electrical and mechanical engineering is required to successfully pass the exercises and to follow the lectures. These basics are not taught on this course. The first introductory exercise round will have basic exercises about electrical engineering (Ohm's law, Kirchoff's law, inductance etc.) and mechanical engineering (gears, kinetic energy, inertia etc.) to ensure that everyone has at least some knowledge of them. If you have never heard of these concepts, the course book has a very good and short basic electrics chapter. Take a look also to [Introduction to Mechanics](#) and [Introduction to Electrics](#).

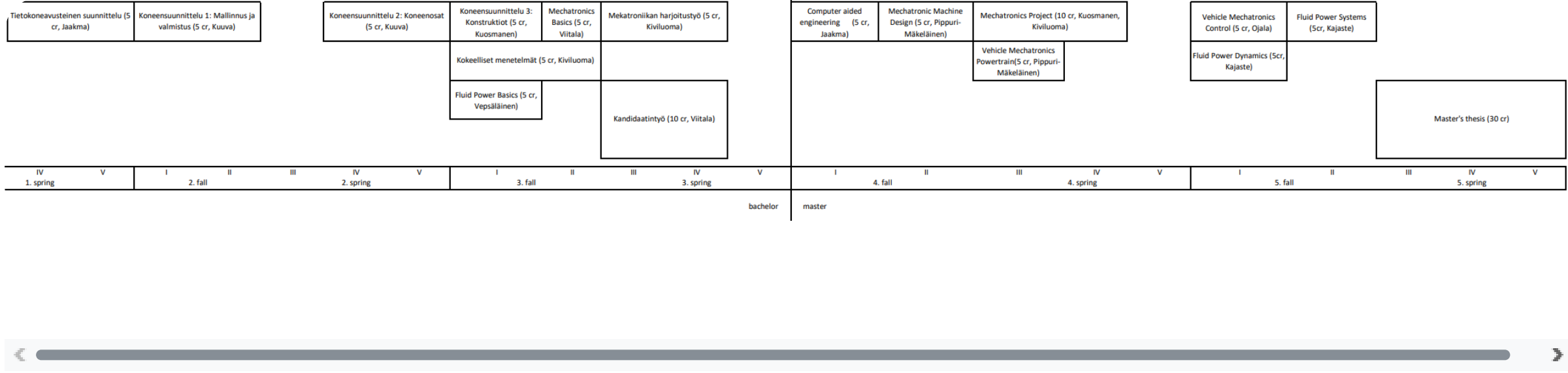
The course book is Alciatore & Histan: *Introduction to mechatronics and measurement systems*. We will not follow the book; however, it is a good book covering all the subjects of this course. The lecture slides do not have all the necessary information to solve the weekly exercises or to answer to the exam questions.

The exercises contain calculations, simulations and essays. Simulation exercises are emphasized since they can give a good understanding of the dynamics of a complex system. The simulations are conducted using Matlab Simulink, which indicates that previous experience with Matlab and/or Simulink will make your life easier but is not required. The weekly exercises are the most important part of this course and thus passing half of the weekly exercise rounds is mandatory in order to pass the course. Last year, according to the feedback, solving the weekly exercises took on average nine hours per week. Be prepared for something similar.



Remember to enroll into the course in SISU on time. Check also [Exercise and MyCourses instructions](#).

The figure below shows the streamline of the mechatronics education in Aalto. The bachelor level courses can naturally be taken as elective studies in the masters programme.



Use of artificial intelligence in learning

ChatGPT and other generative AI in exercises is accepted in accordance with Aalto guidance

- We have halved the points of essays compared to pre-generative AI era (reduces their weight in the final evaluation)
- Rehearse writing yourself, because in the exam the use of chatGPT and other generative AI is prohibited and monitored!

Zoom link for all the lectures:

[Zoom link](#)

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Exercise help queue

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Announcements

MyCourses support for students



Students

- MyCourses instructions for students
- Support form for students

Teachers

- MyCourses help
- MyTeaching Support

About service

- MyCourses protection of privacy
- Privacy notice
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