Course: Drives   credits: 3

Course code	WBVP17DR	**Modes of delivery**	Education
Name	Drives	**Assessments**	Drives - Written, organised by STAD examinations
Study year	2022-2023		
ECTS credits	3		
Language	English		
Coordinator	D. Tettero		

Learning outcomes

After finishing this module the student can:
- describes the working principles of hydraulic and pneumatic systems and components
- calculate pressures, forces, powers and energy of hydraulic components within a given hydraulic system
- analyse how a hydraulic system operates from a schematic representation of a system combined with relevant additional information and describe this operation supported by calculations
- derive efficiencies of hydro-pumps and hydro-engines
- build a control setup using pneumatic actuators

Content

Various processes and machines are equipped with actuators. Quite often, hydraulic actuators are used. These actuators excel in accuracy and (absolute) force they can deliver. Pneumatic drives are often used in control systems, where they manipulate the state of various components., i.e. switches. This course (3 EC) focusses on the principles of these actuators from an application point of view. Questions that will be answered are:
- What does a complete drive system look like (which components make-up the whole)?
- How does one design a drive system (select components based on requirements and calculations)?
- How does one model a drive system (schematizations)?

The lectures, literature and exam will focus mainly on hydraulic design. Pneumatics (and its similarities and differences with hydraulics) are addressed during a practical.

Included in programme(s)

Mechanical Engineering VWO a 3-year variant

School(s)

Institute of Engineering

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