

Annex 5 to the Addendum for Double Master's Degrees between Chalmers tekniska högskola and Universität Stuttgart

Double Master's Degree Scheme

The attached MACROPLAN depicts the 2-year MSc double degree structure in **Systems, Control and Mechatronics at Chalmers** and in **Mechatronik at U Stuttgart**. It shows the compulsory and elective courses in each semester as well as the prerequisites for students wishing to spend their 2nd year at the partner institution.

Semester 1		Semester 2		Semester 3		Semester 4	
Chalmers students at Chalmers	Stuttgart students in Stuttgart	Chalmers students at Chalmers	Stuttgart students in Stuttgart	Chalmers students in Stuttgart	Stuttgart students at Chalmers	Chalmers students in Stuttgart	Stuttgart students at Chalmers
<p>Quarter 1</p> <p>Modelling and Simulation (C) (7,5 ECTS) --- Discrete Event Systems (C) (7,5 ECTS) -----</p> <p>Quarter 2</p> <p>Linear Control System Design (C) (7,5 ECTS) --- Applied Signal Processing (SC) (7,5 ECTS) OR Simulation of Production Systems (SC) (7,5 ECTS)</p>	<p>Concepts of Systems and Control Theory (#18610, either as VM G2 or as compulsory module in specialization course 1 "Automatic Control") (6,0 Credits) --- Course from group "Modelling and Simulation" (VM G4) except "CAD und Produktmodelle" (6,0 Credits) --- Specialisation Course 1: Additional Module 1 from "System Dynamics" or "Automatic Control" (6,0 Credits) --- Specialisation Course 1: Additional Module 2 from "System Dynamics" or "Automatic Control" (6,0 Credits) --- Soft-Skills (6,0 Credits)</p>	<p>Quarter 3</p> <p>Mechatronic Design (SC) (7,5 ECTS) --- Elective course (7,5 ECTS) from list of course packages* -----</p> <p>Quarter 4</p> <p>Embedded Control Systems (C) (7,5 ECTS) --- Discrete Event Control and Optimization (SC) (7,5 ECTS)</p>	<p>Control Technology for Machine Tools and Industrial Robots (#14230, VM G1) (6,0 Credits) --- Discrete Event Systems (#33830, either as VM G2 or as compulsory module in specialization course 1 "Systems Dynamics") (6,0 Credits) --- Course from group "Systems Engineering" (VM G3) (6,0 Credits) --- Internship (12,0 Credits) ---</p>	<p>Course from group "Industrial Control and Electrical Drives" (VM G1) (6,0 Credits) Project Work (students research work) (12 Credits) Internship (12 Credits) (preferably completed from June to October in Sweden or Germany)</p>	<p>Quarter 5</p> <p>Elective course (7,5 ECTS) from list of course packages* --- Elective course (7,5 ECTS) from list of course packages* -----</p> <p>Quarter 6</p> <p>Design Project in Systems, Control and Mechatronics (7,5 ECTS) --- Simulation of Production Systems (7,5 ECTS)</p>	<p>Master Thesis (30 ECTS)</p>	<p>Master Thesis (30 ECTS)</p>
Σ ECTS = 30	Σ ECTS = 30	Σ ECTS = 30	Σ ECTS = 30	Σ ECTS = 30	Σ ECTS = 30	Σ ECTS = 30	Σ ECTS = 30

Course code: C = compulsory; SC = semi compulsory; R = recommended

G: Gruppe VM: Vertiefungsmodul SA: Studienarbeit (Project work, student research work) SP: Specialisation Course

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Chalmers:

*) Elective Courses Course Packages:

- Artificial Intelligence
- Automation
- Automotive Systems
- Control and signal processing
- Electric Drives
- Mathematical Systems Theory
- Mechatronics and embedded systems
- Mechatronics in mechanics
- Power systems

Stuttgart

- Specialisation Course 1: Stuttgart students choose a specialisation course containing 18 credits (3 modules) in total. Possible specialisation courses are: “Automatic Control” or “System Dynamics”.
- Compulsory module: “Concepts of Systems and Control Theory” (#18610). It can be chosen either as Vertiefungsmodul in group 2 or as part of the Specialisation Course 1. If chosen as part of the Specialisation course, you are bound to the Specialisation course “Automatic Control”.
- Compulsory module: “Discrete Event Systems” (#33830). It can be chosen either as Vertiefungsmodul in group 2 or as part of the Specialisation Course 1. If chosen as part of the Specialisation course, you are bound to the Specialisation course “System Dynamics”. As third possibility this module can be chosen at Chalmers (module SSY165) in semester 3 (quarter 5) as substitute of one elective course.
- List of courses VM G1 for Chalmers students in Stuttgart in semester 3:
 - Automatisierungstechnik II (#21730)
 - Software Engineering for Real-Time Systems (#56470)
 - Control of Network Systems