Title:	Methods for System Analysis
Short Code:	EVA_MSA
ECTS Credits:	2
UAS:	ZHAW
Organizer Details:	MRU IAMP
Evaluation:	Oral Presentation
Decision Date:	21 August 2020
Start Date:	17 September 2020
End Date:	31 December 2020
Date Details:	
Type:	Seminar / Workshop
Language(s):	English by default
Description (max. 300 characters):	There are different analysis methods that increase the system understanding and can be used to analyse the failure behaviour and the system behaviour among others. In this course we will explore some of the analysis methods used in industry.
Contents and Learning Objectives:	This course introduces the most important quantitative and qualitative methods of systems analysis with a special focus on safety, reliability and availability. Contents: • parameters for the system evaluation • qualitative methods like STPA (Systems-Theoretic Process Analysis) • quantitative basics • quantitative methods such as FTA (Fault Tree Analysis), FMEDA (Failure Mode, Affects and Diagnosis Analysis) or Markov models • application of what has been learned within a comprehensive case study Learning Objectives: • students can identify useful system parameters to evaluate a system • students know different methods of verification and validation of systems and can apply them • students know qualitative methods for system analysis • students know quantitative methods for system analysis

	• students can work with different tools to prove system parameters • students will be able to perform system analysis within a case study
Admission:	Electrical and Mechatronic Engineers, Computer and Data Scientists, Mechanical Engineers, Systems Engineers, Aviation Engineers
Literature:	Literature list will be provided
Conditions:	50% theory / discussion, 50% labs / work in teams
Contact:	Dr. Monika Reif
Contact Person E-Mail:	monika.reif@zhaw.ch
Status:	registration open
Specialization:	Aviation (Avi) Computer Science (CS) Data Science (DS) Electrical Engineering (ElE) Mechanical Engineering (ME) Mechatronics & Automation (MA) Medical Engineering (Med)