

Supplementary Course (EVA) at ZHAW School of Engineering

Title: Future Networks and Security

Short Code: rEVA_FutNWSec

ECTS Credits	3
Profile	Computer Science (CS)
Responsible Institute /Centre	Institute of Applied Information Technology (InIT)
Responsible lecturer and contact information	Dr. Gürkan Gür, gurkan.gur@zhaw.ch
Type and duration of examinations	Presentations (20 minutes, final one typically within the Information Security Research Group (ISE) at InIT) and a term paper (6 pages, 2-column IEEE conference format). This review paper reports on the problem investigation, related work and its analysis (e.g., weaknesses and strengths), proposed designs and/or contributions in those works, and conclusion.
Start date and duration	Semester: Autumn/Spring Detail: First week of fall and spring semesters, by arrangement
Location	Winterthur
Course type	Block Course <ul style="list-style-type: none"> • Contact hours: 16 (hrs) – in-class lectures, guidance and feedback on selected papers and presentations • Guided self-study: 24 (hrs) – identifying and discussing the related body of work (i.e., technical papers) • Independent self-study: 50 (hrs) – paper reading and literature analysis, writing own term paper, presentation preparation
Language of instruction	English
Short description (max. 300 characters)	The course consists of an introductory session and topic assignment to students (selectable by them). Regular colloquia with all participants to discuss findings and a short paper presentation by one of the students per week; and a final where each participant gives a final presentation on their topic based on their final paper.
Contents and Learning Objectives	We read and discuss original research publications in the future networks and security domain. Toward this goal, the topics of interest include, but are not limited to: <ul style="list-style-type: none"> - 5G and 6G security - Machine learning/AI and network security - Blockchain and security - Drone and satellite networks security - Device-centric and IoT security

Supplementary Course (EVA) at ZHAW School of Engineering

	<ul style="list-style-type: none"> - Secure network softwarization - Service infrastructure security - Multi-access Edge Computing (MEC) security - Trusted computing <p>The learning goals of this course are as follows:</p> <ul style="list-style-type: none"> - You learn about a specific topic in the network security context. - You have an understanding of technical challenges, solutions and potential research directions regarding future networks and security. - You can identify relevant research work in the literature, read their outcomes (i.e., technical papers), assess and analyze them with critical thinking - You can communicate your findings and your deduced knowledge in a concise and clear form as talks and written papers 			
Prerequisites	The module is intended for students with a background in computer networks and information security. Therefore, students should have knowledge of basic IT security topics such as cryptography and network security. Moreover, a good knowledge of computer networks and protocols is expected.			
Literature	An initial set of papers will be provided, but you can bring your own based on your technical interests in this domain.			
Special requirements	-			
Offer for profiles	Aviation (Avi)	<input type="checkbox"/>	Business Engineering (BE)	<input type="checkbox"/>
	Computer Science (CS)	<input checked="" type="checkbox"/>	Data Science (DS)	<input type="checkbox"/>
	Electrical Engineering (EIE)	<input type="checkbox"/>	Energy & Environment (EnEn)	<input type="checkbox"/>
	Mechanical Engineering (ME)	<input type="checkbox"/>	Mechatronics & Automation (MA)	<input type="checkbox"/>
	Medical Engineering (Med)	<input type="checkbox"/>	Photonics and Laser Engineering (Pho)	<input type="checkbox"/>
	Information and Cyber Security (ICS)	<input checked="" type="checkbox"/>	Civil Engineering (CE)	<input type="checkbox"/>