t.KN - Kommunikationsnetze

Person responsible for the course:	Hans Weibel, wlan
Credits:	4
Valid for:	2010/2011
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Learning objectives:

The student

- knows the fundamental technologies applied in the public communication network infrastructure and understands its structure, functionality, and application areas

- understands how the traditional telecommunication networks, the internet infrastructure, and the mobile networks complement each other and how they merge slowly

- is aware of the concepts and the purpose of the "next generation networks"

Course content:

The enumerated network types and technologies are discussed with repect to the aspects architecture, functions, protocols, topology, network elements, services, planning, operations, availability, and evolution:

- transport networks (fiber optical wide area networks)

- access networks (copper, fibre, and wireless broadband)

- voice networks (traditional and IP based concepts, signalling system no. 7)

- Ethernet and IP based core networks (Metro Ethernet and Multi-protocol Label Switching)

- provider provisioned VPNs (in contrast to IPsec based VPNs)

- internet infrastructure (domains and their interconnection, interdomain routing))

- networks for mobile communications (GSM, GPRS, UMTS, Voice over IP in wireless networks, outlook of 4th generation networks)

Previous knowledge:

KT1 and KT2

Teaching method:

Type of lesson:	Number of lessons per week:
Lecture	14*4 (exercises included)
Tutorial/Practicum	no hands-on lab
Group teaching	
Block instruction	
Seminar	

Assessment:

According to the table or as specified in writing by the lecture at the beginning of the semester!

Number	Type	Weighting
1	End of term exam	60%
3	Short exam during the semester	20%
1	Presentation	20%

Language of instruction:

German

Instruction material:

Detailed lecture notes

Comments:

- Excursion to a network operator

- This is an informative description. Authoritative information is given in

https://olat.zhaw.ch/olat/url/RepositoryEntry/58851351