Telematics
Chapter 0: Organizational

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Topics of this Course

● Question 1
  ● What are A and B?

● Question 2
  ● What is the communication between A and B?
  ● How is the communication between A and B realized?

● Question 3
  ● What is the distortion/attack?
The Term “Telematics”

**Telematics: Telecommunications + Informatics**

The integrated use of telecommunications and informatics. This is also known as Information and Communication Technology (ICT).

This course deals mainly with data communication and computer networks.

- Telematics in respect to applications
  - Telematics and Traffic ➔ Teletraffic
    - Computer aided traffic systems
  - Telematics and Medicine ➔ Telemedicine
    - Remote diagnosis, Patient observation
  - Telematics and Teaching ➔ Teleteaching
    - Computer aided learning and teaching?
    - Participating in remote classes
Topics of this Course

- Introduction
- Physical Layer
- Data Link Layer
- Medium Access Control
- Network Layer
- Transport Layer
- Application Layer
- Multimedia Comm.
- P2P Applications
Topics of this Course

- At the end of this course, you should ...
  - know what is meant with Telematics and Computer Networking
  - know how networks in general are organized
  - know what the Internet could be or is
  - understand how wired and wireless networks work
  - understand why ISO/OSI is in theory and TCP/IP is used in real world
  - understand how e-mails arrive
  - understand the cooperation of web browsers with web servers
  - think about security issues when you surf the web
  - be familiar with acronyms like: ALOHA, ARP, ATM, BGP, CDMA, CIDR, CSMA, DHCP, ETSI, FDM, FDMA, FTP, GSM, HDLC, HTTP, ICMP, IEEE, IETF, IP, IMAP, ISP, ITU, ISO/OSI, LAN, MAC, MAN, MTU, NAT, NTP, PCM, POTS, PPP, P2P, RARP, SMTP, SNMP, TCP, TDM, TDMA, UDP, VPN, WAN, etc.
Telematics vs. other Computer Science Classes

Telematics
(Data Communication and Computer Networks)

Communications Engineering

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Organizational

● Lecture
  ● Tuesday, 10:00 – 12:00, Hörsaal, Start of class at 10:15
  ● Thursday, 08:00 – 10:00, Hörsaal, Start of class at 08:30

● Exercise
  ● Thursday 14 - 16 Uhr, Takustraße 9, K 40
  Thursday 14 - 16 Uhr, Takustraße 9, SR 053
  Thursday 16 - 18 Uhr, Takustraße 9, SR 053
  Thursday 16 - 18 Uhr, Takustraße 9, SR 046
  Thursday 16 - 18 Uhr, Takustraße 9, SR 049

● Written Exam (Klausur Telematik)
  ● Thursday, 24.02.2011, 10 – 12, Arnimallee 22 HS Großer Hörsaal
  ● Thursday, 07.04.2011, 10 – 12, Arnimallee 22 HS Großer Hörsaal
Organizational

- Prof. Dr. Mesut Güneş
  - Consulting hours: Tuesday, 15-16
  - Takustr. 9, Room 154
  - mesut.guenes@fu-berlin.de
- Dipl.-Inform. Bastian Blywis
  - Takustr. 9, Room 157
  - blywis@inf.fu-berlin.de
- Literature and Materials
  - Website of the class
  - Literature and References
  - Exercise sheets
  - Slides as PDF documents ➔ Only accessible within FUB network
Literature

  - General introduction to computer networks
  - Bottom-up approach
  - Discusses many aspects of data communication and networking in detail
  - The classic book for teaching computer networks
Literature

  - General introduction to computer networks
  - Top-down approach
  - Currently one of the most popular teaching books

- New Edition
Literature

  - General introduction to computer networks
  - Discusses many communication issues in detail
Literature

  - Focus is on Internet protocols
  - All protocols are discussed based on one network configuration