## **Questions:**

- 1. The structure of Internet, server-client vs P2P service architecture
- 2. HTTP, FTP
- 3. E-mail related protocols
- 4. Connection-oriented vs connectionless service, UDP, ICMP
- 5. Principles of reliable data transfer
- 6. TCP in general
- 7. TCP flow and congestion control
- 8. IP forwarding, generalized forwarding
- 9. IPv4 addressing, IP fragmentation, IP4 vs IP6
- 10. Link state vs distance vector routing algorithms
- 11. Intra-AS vs Inter-AS routing
- 12. Reliability as seen in transport- and link layer (wired and wireless)
- 13. Variants of multiple access protocols
- 14. ALOHA vs CSMA/CD
- 15. 802.11 association procedure, CSMA/CA
- 16. ARP, switched Ethernet, VLANs
- 17. A day in the life of a web request
- 18. DNS, NAT, DHCP
- 19. Error detection as seen in various protocols
- 20. Addressing between two LANS both connected to the Internet

You get a randomly selected question and are expected to give a brief lecture covering the central issues of itn. You can expect sub-questions related to the question.

Wireshark questions: You will be asked to discuss a randomly selected Wireshark lab based on the questions contained in the lab and the annotations of the Wireshark outputs (packet captures) that you did during the semester. The exercises can be found at: <a href="http://www-net.cs.umass.edu/wireshark-labs/">http://www-net.cs.umass.edu/wireshark-labs/</a>.