

## Internet Engineering CS/ECE 458

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THN E213

Course web site:  
<http://toolkit.itc.virginia.edu>



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## Course prerequisite

CS 457: Computer networks with a C- or better



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## Textbook

Mastering Computer Networks: An Internet Lab Manual", J. Liebeherr, M. El Zarki, Addison-Wesley, 2003.

• Reference textbooks:

- A. Rodriguez, J. Gattrell, J. Karas, R. Peschken, "TCP/IP Tutorial and Technical Overview," IBM Redbook (available: <http://www.redbooks.ibm.com/abstracts/gg243376.html>)
- W. R. Stevens, "TCP/IP Illustrated Vol. 1 The Protocols," Addison-Wesley, 1994 (placed on reserve in the library)



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## Syllabus: lab oriented

- **Ethernet/IP addressing/ARP**
  - CIDR
- **ICMP and IP protocol**
  - fragmentation
- **Static routing and IP forwarding**
  - longest prefix match
- **Dynamic routing protocols:**
  - RIP, OSPF, BGP
- **Transport protocols:**
  - UDP and TCP (new congestion control)
- **LAN switching**
- **Private and dynamic addressing**
  - NAT and DHCP
- DNS
- SNMP
- IP Multicasting



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## Course Objectives (ABET)

• **Course Objectives**

1. Comprehend fundamental design principles of Internet Protocols, IP addressing, and IP networks, including routing and forwarding.
2. Comprehend advanced Internet protocol technologies including network management, domain name system, network address translation, and multicasting.
3. Apply understanding of Internet protocols by analyzing, evaluating, and improving actual network configurations of IP routers, switches and hosts.



ABET: Accreditation Board for Engineering and Technology

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## Class and office hours

1. Meet twice weekly for class lectures (T/R 11 to 12:15)
2. Office hours
  - Tuesdays: 10-11
  - Wednesdays: 12-1

Office location and phone numbers

1. Office location: THN E213
2. Phone numbers: 434-982-2208; 203-904-3724 (cell)
3. Email: mv5g@virginia.edu



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## Resources for extra help

- My goal: **Enable learning** of this course material for all students
- Come to my office hours and let us set up a time for additional hours
- Please ask for help



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## Grading

- Lab reports: 50%
- Examinations:
  - Two mid-term (12% each)
  - Final (24%)
- Submitting course evaluations (2%)
- Final grade (typical allocation):
  - 90 (A), 80 (B), 65 (C), 50 (D), below 50 (F)
  - Will adjust levels if needed
- Normally, there is no extra credit option



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## Laboratory component

- A major part of this course: 10 lab assignments
- Each lab consists of
  - a prelab report (submit one per group of 2 students)
  - lab exercises
  - a postlab report (submit one per group of 2 students)
- Lab exercises
  - to be completed in groups of two in **Olsson 002a**
  - no supervision
  - require an average of 3 hours per lab



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## Late assignment policy

- **Pre-lab reports due at the start of class on Tuesdays of the week of the lab**
- **Lab reports due at the start-of-class on Thursdays of the following week**
- **20% penalty per day for late submissions**
- **Unforeseen circumstances: let me know**



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## Class participation

- Attend all the classes.
- Volunteer when you have a chance to.
- Be well prepared for the lesson.
- Push yourself by trying to say something more difficult, analytical, or imaginative than usual.
- Try to move the discussion forward by responding to your colleagues' ideas.



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## Policy with respect to Honor Pledge

I trust every student in this course to fully comply with all of the provisions of the UVA honor system. In addition to pledging that you have neither received nor given aid while taking your exam, your signature also affirms that you have not accessed any notes, study outlines, problem sets, old exams, answer keys, or the textbook while taking an exam and that you have not obtained any answers from another student's exam. All alleged honor violations brought to my attention will be forwarded to the Honor Committee. If, in my judgment, it is beyond a reasonable doubt that a student has committed an honor violation with regard to a given exam, that student will receive an immediate grade of 'F' for that exam, irrespective of any subsequent action taken by the Honor Committee.



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## Lab Pledge

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You are required to write and sign the following honor statement on every prelab and lab report: "On our honor as students, this is our original work. We did not read or use work written by a current or former student in this course." Both group members should sign the pledge.



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## Class rules

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- Respect for your fellow students
  - Please turn off your cell phones



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