

SYLLABUS

NET 375

Network Protocols

Spring Quarter 2021

April 1, 2021

Instructor:	Dale Buchholz
Office Hours:	Thursday 4:00-5:30 PM (arranged Zoom sessions) Other times can be arranged.
Phone:	TBA
E-mail:	dbuchholz@cdm.depaul.edu
Web page:	https://d2l.depaul.edu (D2L site)
Recommended Text:	<i>Internetworking with TCP/IP, Vol. 1, 6th Edition</i> , Douglas E. Comer, Pearson Education, Inc., 2014. ISBN: 978-0-13-608530-0 (TDC 463 text)
Optional Texts:	<i>TCP/IP Illustrated, Volume 1, 2nd Edition: The Protocols</i> , Kevin R. Fall, W. Richard Stevens, Addison-Wesley, 2012 (available through DePaul Library) <i>SDN: Software Defined Networks</i> , Nadeau & Gray, Copyright 2013, ISBN: 978-1-449-34230-2. <i>End-to-End QoS Network Design</i> , Szigeti, et al., Copyright 2014, ISBN: 978-1-58714-369-4.
Handouts	RFCs and journal papers distributed via D2L

Advanced topics in TCP/IP including in-depth study of IPv6, TCP traffic control, and routing protocols; upper layer protocols supporting Quality of Service (QoS); Software Defined Network (SDN); and other advances in networking technologies.

Required coursework components will be:

- (a) 4 homework assignments, including homework problems, Wireshark captures, analysis and measurements; and
- (b) 4 labs on various aspects of forwarding (layer 2) and routing (layer 3), including QoS.

Points and due date for each assignment or lab will be included in its description. Late homeworks or labs are accepted entirely at the discretion of the instructor and must be negotiated beforehand.

NET 365 is a prerequisite for this course. It will be assumed that you already know about Ethernet and IPv4 addressing, subnetting and routing.

Grades

Percent	Grade	Percent	Grade
93-100	A	77-79	C+
90-92	A-	73-76	C
87-89	B+	70-72	C-
83-86	B	60-69	D
80-82	B-	< 60	F

Class Schedule (as of April 1)

<i>Date</i>	<i>Topics</i>	<i>Readings</i>	<i>Assignments</i>
April 1	Network Architecture Review IPv4, IPv6 and QoS basics	Ch. 1-5, 12 Gartner.zip	HW#0 due April 8
April 8	IPv6 Protocol, Addressing, Subnetting Deployment, NAT64	Ch. 5, 14, 19 IPv6 zips	
April 15	Interior Routing: RIP, EIGRP, OSPF	Ch. 14 EigrpOspf.zip	HW #1 due April 18
April 22	Exterior Routing: BGP-4 and MP-BGP	Ch. 13 BGP.zip	Lab #1 due April 25
April 29	Quality of Service—DiffServ, IntServ Access Control Lists (ACLs)	Ch, 17, 26 Cisco.zip	
May 6	Multicast (PIM, IGMP, MLD)	Handouts	HW #2 due May 9
May 13	Data Center Networking Ethernet and VMs	Handouts	Lab #2 due May 16
May 20	Congestion Control: TCP, RED/WRED, CoDEL	Ch.11 REDCodel.zip	HW #3 due May 23
May 27	Software Defined Networking (SDN) Interface to Router System (I2RS)	Ch. 28 SDN.zip	Lab #3 due May 30
June 3	Automated Networking Cisco Intent-Based Networking (IBN)	VirtualNet.zip	
June 10	Final Wrapup		Lab #4 due June 7 HW #4 due June 10

Changes to Syllabus: This syllabus is subject to change as necessary during the quarter. If a change occurs, it will be thoroughly addressed during class, posted under Announcements in D2L and sent via email.

Online Course Evaluations

Evaluations are a way for students to provide valuable feedback regarding their instructor and the course. Detailed feedback will enable the instructor to continuously tailor teaching methods and course content to meet the learning goals of the course and the academic needs of the students. They are a requirement of the course and are key to continue to provide you with the highest quality of teaching. The evaluations are anonymous; the instructor and administration do not track who entered what responses. A program is used to check if the student completed the evaluations, but the evaluation is completely separate from the student's identity. Since 100% participation is our goal, students are sent periodic reminders over three weeks. Students do not receive reminders once they complete the evaluation. Please see <https://resources.depaul.edu/teaching-commons/teaching/Pages/online-teaching-evaluations.aspx> for additional information.

Academic Integrity and Plagiarism

This course will be subject to the university's academic integrity policy. More information can be found at <https://resources.depaul.edu/teaching-commons/teaching/academic-integrity/Pages/default.aspx>.

Academic Policies

All students are required to manage their class schedules each term in accordance with the deadlines for enrolling and withdrawing as indicated in the [University Academic Calendar](#). Information on enrollment, withdrawal, grading and incompletes can be found at: <http://www.cdm.depaul.edu/Current%20Students/Pages/PoliciesandProcedures.aspx>

Incomplete Grades

An incomplete grade is a special, temporary grade that may be assigned by an instructor when unforeseeable circumstances prevent a student from completing course requirements by the end of the term and when otherwise the student had a record of satisfactory progress in the course. All incomplete requests must be approved by the instructor of the course and a CDM Associate Dean. Only exceptions cases will receive such approval. Information about the Incomplete Grades policy can be found at <http://www.cdm.depaul.edu/Current%20Students/Pages/Grading-Policies.aspx>

Students with Disabilities

Students seeking disability-related accommodations are required to register with DePaul's Center for Students with Disabilities (CSD) enabling them to access accommodations and support services to assist with their success. There are two office locations:

- Loop Campus (312) 362-8002
- Lincoln Park Campus (773) 325-1677
- Email: csd@depaul.edu

Students who register with the Center for Students with Disabilities are also invited to contact Dr. Gregory Moorhead, Director of the Center, privately to discuss how he may assist in facilitating the accommodations to be used in a course. This is best done early in the term. The conversation will remain confidential to the extent possible.

Please see <https://offices.depaul.edu/student-affairs/about/departments/Pages/csd.aspx> for Services and Contact Information.