

ISS3073: Networking and Security

(3 units)

Fall 2021

Point Loma Nazarene University
College of Natural and Social Sciences

PLNU Mission

Point Loma Nazarene University exists to provide higher education in a vital Christian community where minds are engaged and challenged, character is modeled and formed, and service is an expression of faith. Being of Wesleyan heritage, we strive to be a learning community where grace is foundational, truth is pursued, and holiness is a way of life.

Instructor:

Dr. Benjamin Mood
bmood@pointloma.edu
619 849 2269
RS 216

Meeting Times and Locations:

Lecture:

T/R: 1:30 – 2:45 RS 395

Office Hours:

MWF 1:30pm – 2:30pm in Caf
TR 12:15pm – 1:15pm in Caf
W: 11:00am – 12:00pm in Virus lab
TRF: 2:45 – 4:00pm in Virus lab

Books

Computer Networking: A top down approach by Kurose and Ross

Course Description:

This course provides an introduction to modern computer network technologies. Students gain an understanding of networking fundamentals including layering and the old OSI model, protocols, standards, and network services. LANS, MANS, WANS, Internet and wireless networks are covered. The class will also cover the basics of network security. The class includes hands-on activities. Alternating Years. Offered 2019-20.

Learning Outcomes:

Students will analyze the interaction between hardware and software.

Students will use information management as a tool to support decision making in business environments.

Students will be able to apply their technical knowledge to solve problems.

Department Mission:

The Mathematical, Information, and Computer Sciences department at Point Loma Nazarene University is committed to maintaining a curriculum that provides its students with the tools to be productive, the passion to continue learning, and Christian perspectives to provide a basis for making sound value judgments.

Additional Course Information:

Programming/Homework: There will be programming and other assignments. Post assignment quizzes may also be given. The final grade on each assignment will be a function of the assignment's grade and quiz grades. Late homework will not be accepted.

Missed Classes: Homework missed due to PLNU activities (i.e., sports teams, choirs, etc), can be turned in the day after the student is back. Missed exams due to emergencies can be made up once the dean of students informs Dr. Mood that PLNU has approved the reason. Non-emergency missed exams will result in a zero. It is the student's responsibility to inform the professor of when they will be gone. Missed class activities, which are due to a non-dean of students approved-emergency situation, will result in a zero.

Be Courteous and Respectful.

Cheating: PLNU requires that each student turns in their own work. Turning in someone else's work or turning in work that you do not understand or how to solve the problems is cheating. In computer science, we recognize this is sometimes a grey area as we sometimes encourage people to discuss homeworks, labs, and projects together. If Dr. Mood suspects that students are not turning in their own work or work they do not understand or did not create themselves or Dr. Mood suspects for any other reasons, they will have the privilege of explaining to Dr. Mood the assignment, project, or exam in question as well as closely related questions to demonstrate they really do understand the material. Failure to correctly explain this will result in a 0 and/or any other consequences.

COURSE CREDIT HOUR INFORMATION

In the interest of providing sufficient time to accomplish the stated Course Learning Outcomes, this class meets the PLNU credit hour policy for a 3 unit class delivered over 15 weeks. It is anticipated that students will spend a minimum of 37.5 participation hours per credit hour on their coursework. For this course, students will spend an estimated 112.5 total hours meeting the course learning outcomes. The time estimations are provided in the Canvas modules.

Grading:

Quizzes	25%
Homework / Programming Assignments	25%
Midterm	20%
Final	30%

Grades are based on the number of points accumulated throughout the course with the following exception. A student must pass at least one exam in order to pass the class. That is, a score of 60% must be achieved on one of the examinations, or else the final grade will be an F regardless of all other point totals.

Grading scale	
93 – 100%	A
90 – 92%	A-
87 – 89%	B+
83 – 86%	B
80 – 82%	B-
77 – 79%	C+
73 – 76%	C
70 – 72%	C-
67 – 69%	D+
63 – 67%	D
60 – 62%	D-
0 – 59%	F

PLNU Policies

STATE AUTHORIZATION

State authorization is a formal determination by a state that Point Loma Nazarene University is approved to conduct activities regulated by that state. In certain states outside California, Point Loma Nazarene University is not authorized to enroll online (distance education) students. If a student moves to another state after admission to the program and/or enrollment in an online course, continuation within the program and/or course will depend on whether Point Loma Nazarene University is authorized to offer distance education courses in that state. It is the student's responsibility to notify the institution of any change in his or her physical

location. Refer to the map on [State Authorization](#) to view which states allow online (distance education) outside of California.

PLNU COPYRIGHT POLICY

Point Loma Nazarene University, as a non-profit educational institution, is entitled by law to use materials protected by the US Copyright Act for classroom education. Any use of those materials outside the class may violate the law.

PLNU ACADEMIC HONESTY POLICY

Students should demonstrate academic honesty by doing original work and by giving appropriate credit to the ideas of others. Academic dishonesty is the act of presenting information, ideas, and/or concepts as one's own when in reality they are the results of another person's creativity and effort. A faculty member who believes a situation involving academic dishonesty has been detected may assign a failing grade for that assignment or examination, or, depending on the seriousness of the offense, for the course. Faculty should follow and students may appeal using the procedure in the university Catalog. See [Academic Policies](#) for definitions of kinds of academic dishonesty and for further policy information.

PLNU ACADEMIC ACCOMMODATIONS POLICY

PLNU is committed to providing equal opportunity for participation in all its programs, services, and activities. Students with disabilities may request course-related accommodations by contacting the Educational Access Center (EAC), located in the Bond Academic Center (EAC@pointloma.edu or 619-849-2486). Once a student's eligibility for an accommodation has been determined, the EAC will issue an academic accommodation plan ("AP") to all faculty who teach courses in which the student is enrolled each semester.

PLNU highly recommends that students speak with their professors during the first two weeks of each semester/term about the implementation of their AP in that particular course and/or if they do not wish to utilize some or all of the elements of their AP in that course.

Students who need accommodations for a disability should contact the EAC as early as possible (i.e., ideally before the beginning of the semester) to assure appropriate accommodations can be provided. It is

the student's responsibility to make the first contact with the EAC.

FINAL EXAM

The final exam date and time is set by the university at the beginning of the semester and may not be changed by the instructor. This schedule can be found on the university website and in the course calendar. No requests for early examinations will be approved. Only in the case that a student is required to take three exams during the same day of finals week, is an instructor authorized to consider changing the exam date and time for that particular student.

PLNU ATTENDANCE AND PARTICIPATION POLICY

Regular and punctual attendance at all class sessions is considered essential to optimum academic achievement. If the student is absent for more than 10 percent of class sessions, the faculty member will issue a written warning of de-enrollment. If the absences exceed 20 percent, the student may be de-enrolled without notice until the university drop date or, after that date, receive the appropriate grade for their work and participation.

CLASS ENROLLMENT

It is the student's responsibility to maintain his/her class schedule. Should the need arise to drop this course (personal emergencies, poor performance, etc.), the student has the responsibility to follow through (provided the drop date meets the stated calendar deadline established by the university), not the instructor. Simply ceasing to attend this course or failing to follow through to arrange for a change of registration (drop/add) may easily result in a grade of F on the official transcript.

SPIRITUAL CARE

Please be aware PLNU strives to be a place where you grow as whole persons. To this end, we provide resources for our students to encounter God and grow in their Christian faith.

If students have questions, a desire to meet with the chaplain or have prayer requests you can contact the [Office of Spiritual Development](#).

The following schedule is approximate:

Monday	Tuesday	Wednesday	Thu	Fri
Aug 30 No Classes			2 Intro & The layers	3
6 No Classes	7 Packet/Circuit (activity example)	8	9 Delay and Speeds	10
13	14 Intro to Layer 5 & Java Programming Applications	15	16 In depth protocols (activity example).	17

20	21 Web	22	23 DNS (activity example).	24
27	28 Web security I (crypto) (activity example motivation)	29	30 Web security II (privacy) [wireshark] Quiz	October 1
4	5 Email & P2P	6	7 End to End sec	8
11	12 App security	13	14 Layer 4 intro	15
18	19 Last quad I day UDP/TCP	20	21 TCP	22 No Classes
25	26 TCP Congestion Control	27	28 Midterm	29
	2 Routers & IP	3	4 IP & Forwarding	5
8	9 Routing	10	11 BGP	12
15	16 Network layer security	17	18 Link Layer Quiz	19
22	23 Link Layer	24 No Classes Thanksgiving	25 No Classes Thanksgiving	26 No Classes Thanksgiving

29	30 Wifi /Cell	1	2 Net-sec	3
6	7 TBD	8	9 TBD	10
13	14 Final @ 1:30pm	15	16	17