EGR/ISS4003
Information and Computer Security
Spring 2020
3 units

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:**
> > **RS365 - MWF 1:30 – 2:25pm**

Office Hours:
> M – 8:30 – 9:30am (CAF), 12:15 – 1:15pm.
> T – 9:45am – 10:45am, 1:45pm – 2:45pm
> W – 8:30 – 9:30am, 12:15 – 1:15pm.
> H – 12:00pm – 2:00pm
> F – 8:30 – 9:30am (CAF), 12:15 – 1:15pm.

Books:
> *Security Engineering* by Ross Anderson. Third edition; it's free (mostly), posted by the author, online: http://www.cl.cam.ac.uk/~rja14/book.html

Course Description:

This course provides an overview of modern topics in information and computer security, including: network security, web security, compliance and operational security, threats and vulnerabilities, privacy and anonymity, application, data and host security, access control and identity management, cryptography. This class includes theoretical analysis and hands-on activities. Alternating Years.

Learning Outcomes:

Students will be able to apply their technical knowledge to solve problems.
Students will analyze the interaction between hardware and software.
Students will be able to gather relevant information, examine information and form a conclusion based on that information.
Students will be able to understand and create arguments supported by quantitative evidence, and they can clearly communicate those arguments in a variety of formats.
Students will be able to speak about their work with precision, clarity and organization.
Students will be able to write about their work with precision, clarity and organization.

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:

Pre-class assignment: On the first day of a given chapter is "due" on the schedule below, please turn in a paper in class with two paragraphs. For (1) answer, "what is the main idea of this chapter"? for (2), answer, "how does this affect my life?". Please read as much as necessary to answer these two questions. Late work will not be accepted. They must be your own words and must be at least 300 words (at least 150 words on each question). Submitted on canvas.

Research Project: Students will be doing a research project over the course of the semester. Suggested topics: public flight data (what can you learn?), malicious economies (how are these profitable? i.e., buying followings on twitter or twitch or youtube; how are they not found out?), or a different project on real world accessible data. On Fridays, you will present to achieve a high score, you must demonstrate progress each Friday and turn in a high quality write up that contains all information that you have and all requisite information and citations. Friday feedback will be given after each person presents; no slides are necessary.

Missed Classes: Homework/Quizzes/Exams/etc. missed due to PLNU excused absences (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.

Cell Phones & Laptops: Please don't use them in class unless we are doing a demonstration or asked to use them. An occasional peek is OK, but ignoring what is going on in class is not.

Plagiarism: do not plagiarize. Do not directly quote people in your submissions; you have to understand and then writeup your own write-ups based on your understanding. A good way to do this would be to read a lot about a topic, then close every website and complete your write-ups without looking at them.

Cheating: If you use online resources, you must site the direct URLs in the labs you turn in. You should not copy another student's work. Unless otherwise noted, talking and working with fellow students to understand concepts is OK. Copying code from another student is not acceptable and will result in a staggering penalty. Although sharing code seems a "nice" to help a friend, if caught and I don't know who actually wrote the code, the penalty applies to all involved. **Do not share your code with anymore.**

Grading:

Pre-class assignments	10%
Other assignments	15%
Research Projects	30%
Midterm	20%
Final	25%

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

Attendance:
Attendance is expected at each class session. In the event of an absence you are responsible for the material covered in class and the assignments given that day.

Regular and punctual attendance at all classes is considered essential to optimum academic achievement. If the student is absent from more than 10 percent of class meetings, the faculty member can file a written report which may result in 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. See the Undergraduate Academic Catalog Class Attendance.

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.

Academic Accommodations:
While all students are expected to meet the minimum standards for completion of this course as established by the instructor, students with disabilities may require academic adjustments, modifications or auxiliary aids/services. At Point Loma Nazarene University (PLNU), these students are requested to register with the Disability Resource Center (DRC), located in the Bond Academic Center. (DRC@pointloma.edu or 619-849-2486). The DRC's policies and procedures for assisting such students in the development of an appropriate academic adjustment plan (AP) allows PLNU to comply with Section 504 of the Rehabilitation Act and the Americans with Disabilities Act. Section 504 (a) prohibits discrimination against students with special needs and guarantees all qualified students equal access to and benefits of PLNU programs and activities. After the student files the required documentation, the DRC, in conjunction with the student, will develop an AP to meet that student's specific learning needs. The DRC will thereafter email the student's AP to all faculty who teach courses in which the student is enrolled each semester. The AP must be implemented in all such courses.
If students do not wish to avail themselves of some or all of the elements of their AP in a particular course, it is the responsibility of those students to notify their professor in that course. PLNU highly recommends that DRC students speak with their professors during the first two weeks of each semester about the applicability of their AP in that particular course and/or if they do not desire to take advantage of some or all of the elements of their AP in that course.

Academic Honesty:
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 Honesty for definitions of kinds of academic dishonesty and for further policy information.

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.

Copyright Protected Materials:
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.

Credit Hour:
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. Specific details about how the class meets the credit hour requirements can be provided upon request.

Tentative Schedule

Monday	Tuesday	Wednesday	Thu	Friday
Jan: 13	14:	15: Chapter 1 **Download all chapters for the book from author.**	16:	17 Chapter 1 **Turn in prospective research topic**
20 (no classes)	21	22 Chapter 2	23	24 Chapter 2
27 Chapter 3	28	29 Chapter 3	30	31 Kali
3 Chapter 4	4	5 Chapter 4	6	7 Chapter 5
10 Chapter 5	11	12 Chapter 5	13	14 Kali
17 Chapter 6	18	19 Chapter 7	20	21 Kali
24 TBD	25	26 TBD	27	28 Chapter 8
2 Chapter 8	3	4 **Midterm**	5	6 Chapter 9
9 (spring break)	**10**	**11**	**12**	**13 (spring break)**
16 Chapter 9	17	18 Chapter 10	19	20 Chapter 11
23 Chapter 11	24	25 Chapter 13	26	27 Chapter 13
30 Chapter 14	31	1 Chapter 14	2	3 Chapter 15
6 Chapter 16	7	8 Chapter 16	9	10 **EASTER**

13 **EASTER**	14	15 Chapter 17	16	17 Chapter 18
20 Chapter 19	21	22 Chapter 19	23	24 Chapter 26
27 Chapter 26	28	29 Chapter 26	30	1 Research Turn in
4	5	6	7	8 **Final**