Fall 2019

IT 220-453: Wireless Networks

Matthew Sanabria

Syllabus

Course

This is the IT220 Wireless Networks course. This course introduces the students to the applied topic of Wireless Networks, focusing on applied methods, tools and technologies, as well as practical experience in designing & implementing wireless networks. Topics include hardware, software, data, applications, communication, design & installation of wireless networks, together with the implementation, performance, security and limitations of such systems.

Instructor

Matthew Sanabria (ms545@njit.edu)

Please contact the instructor to schedule office hours. There are no in-person office hours since this course is Distance Learning.

Materials

Websites

The following websites will be used for the course.
https://canvas.njit.edu

Textbook

CWNA Guide to Wireless LANs, 3rd Edition
ISBN13: 978-1133132172

Computing Requirements

It is required to have access to a computer running either macOS or Windows 10.

Assignments

Forum Posts

Each student is required to submit two posts related to the material covered in the week and must reply to at least one other posting. While there is no minimum required length of the posts, each post should contain quality content that relates to the weekly topic. Do not

post a link to an external resource without detailing the content of that external resource in your post.

Project

You must do a hands on project. You may choose the topic for the project, but it has to relate to the topics covered in the course.

Here are some examples of topics that might spark your interest.

- War driving
- Laser Communication
- Hacking Wireless Networks
- Wireless Networks Security
- Attacks on Wireless Networks
- Mobile Devices Security
- Future Applications of Wireless Networks
- Wireless Networks in Health Care
- Implanted Wireless Medical Devices
- Home Applications of Wireless Systems
- Satellite Networks

The project should be presented in a PowerPoint format, and must provide an in-depth analysis of your topic.

You may choose to create a technical presentation that addresses the following points.

- Provide a technical description of what your topic is and how it works.
- Why did you choose that topic?
- How can this topic be improved?
- What are the pros/cons of this topic?
- If you performed a hands-on experiment, provide your hypothesis and results of the experiment.

Present and explain as much technical data as possible when presenting your topic, and a comprehensive list of references that were used.

Exams

There will be one midterm exam and one final exam for this course. Each exam will contain twenty-five multiple choice questions worth four points each. The date and time for the exams is to be decided each semester, but there will only be one ninety minute window to take the exam. If you cannot make the ninety minute window to take an exam due to a

scheduling conflict, please contact the instructor to arrange a private exam session. The exam will be proctored.

Grading

Each assignment falls into one of four categories; Forum Posts, Project, Midterm, Final. All of the grades in each category will be averaged. Then, the final grade for the course will be determined based on the weight of each category. The precision for the final grade is two decimal places and will be rounded to the nearest whole number. Any number ending in .49 or lower will be rounded down and any number ending in .50 or higher will be rounded up.

Weights

Forum Posts	15%
Project	25%
Midterm	30%
Final	30%

Grading Scheme

A	100.00	to 94.00
A-	< 94.00	to 90.00
B+	< 90.00	to 87.00
B	< 87.00	to 84.00
C+	< 84.00	to 77.00
C	< 77.00	to 74.00
D	< 74.00	to 64.00
F	< 63.00	to 0.00

Grading Example

Assuming a fictional student has the following grades.

Forum Posts: 90

Project: 100

Midterm: 87
Final: 93

The final grade would be calculated like so.

(0.15 * 90) + (0.25 * 100) + (0.30 * 87) + (0.30 * 96) = 93.4

The 93.4 will be rounded down to 93.00 which will be an A- letter grade.

Academic Policies

Late work will not be accepted.

The due date for all assignments is final. If an emergency (hospitalization, jury duty, military service, etc.) causes a student to miss an assignment, please contact the instructor immediately to make other arrangements.

Extra credit will not be offered.

Every student has an equal opportunity to earn the grade they'd like in the course. The overall point spread is broad enough that doing poorly on a single assignment will not significantly affect your grade.

Grades will not be curved.

Grading scales are applied consistently across the entire class. No exceptions.

Cheating will not be tolerated.

Academic Integrity is the cornerstone of higher education and is central to the ideals of this course and the university. Cheating is strictly prohibited and devalues the degree that you are working on. As a member of the NJIT community, it is your responsibility to protect your educational investment by knowing and following the academic code of integrity policy that is found at: http://www5.njit.edu/policies/sites/policies/files/academic-integrity-code.pdf.

Please note that it is my professional obligation and responsibility to report any academic misconduct to the Dean of Students Office. Any student found in violation of the code by cheating, plagiarizing or using any online software inappropriately will result in disciplinary action. This may include a failing grade of F, and/or suspension or dismissal from the university. If you have any questions about the code of Academic Integrity, please contact the Dean of Students Office at dos@njit.edu.