**Updated IT-6833 Wireless Security Team Project Fall 2018**

**Objective:**

* Develop a deep understanding on an emerging topic in wireless security. Or Gain hands-on experience on using software tools to attack/protect a wireless network.

**Team Project Options**

Students are required to work in a one to five-person group. There are two options for this team project: 1) A survey paper on emerging topics wireless security; 2). A technical report on tools used for attacking/protecting wireless network.

A student team can only work on one of above option. Option one involves research and writing. Option two includes hands-on and writing. Read the instructions of each option for more information. The team has to choose an option in their submission of Team Project Report 1. The instructions for the two options are listed as follows.

**Team Project Option 1. Survey Paper Instructions**

For this option, students are asked to work in team to write a survey paper on emerging topics in the field of wireless security. Possible topics are: Security in software-defined network, mobile database security, Intrusion detection/prevention system for wireless network, and attacks on wireless network etc. You are encouraged to come up with some topics that aren’t on the list. But the topic needs to be approved by the instructor before you start.

After choosing a topic, you should start to search research papers related to the topic, read those papers and start working on your survey report. The survey report serves two purposes: 1) It summarizes the research papers or Internet resources you have read and demonstrates your understanding of the research field that you have chosen. 2) The survey report is also a study guide for other people who are going to work in this area; for example, if somebody is going to work on smart phone security; instead of spending a lot of time to search for papers, read papers, and digest the papers, the reader only needs to read your survey paper and then he/she will have a good understanding of the field.

**Resources:**

1. Library’s guide on how to do literature search: <http://libguides.kennesaw.edu/lit_search>

2. Common places search research papers:

1. Google Scholar: <https://scholar.google.com/>
2. ACM digital library: <http://dl.acm.org/>
3. IEEE digital library: <http://ieeexplore.ieee.org/Xplore/home.jsp>
4. You should have direct access to ACM/IEEE digital library directly when using on-campus computers. For off-campus access, go through KSU library: <http://libguides.kennesaw.edu/content.php?pid=601768>. You’ll be asked to login using KSU netID and password before accessing the database.
5. A sample survey paper can be found in D2L “Survey Paper Resources” Module.

**Team Project Option 2. Wireless Security Tools Instructions**

For this option, students are asked to work in team to create a technical report on software tools can be used for attacking wireless network. There are two well-known attacks on wireless network: 1). WEP encryption cracking; 2). WPA-PSK handshake cracking. The student team can work on either of the topics and team can also come up with some topics that aren’t on the list. But the topic needs to be approved by the instructor.

The activities involved in the project includes:

1. Identify the attack for wireless network that the project is going to focus on;
2. Research the tools and methods used for conducting the selected attack;
3. Download, install, and use the researched tools to perform the selected attack;
4. Write a technical report on your experience.

**Resources.**If a special VM is needed for the project, notify instructor ASAP.

**Deliverables and Grading Guideline for both two option.**

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| **Deliverables** | **Description** | **Points** |
| **D1** | Create a MS Word compatible file and name it as “Team Project Final Report”, e.g., Team Project Final Report Group 1. One submission per team. Must be submitted to D2L drop box **by the date specified in D2L course site.** | **85** |
| D1.1 | **Formatting requirement:**   1. The paper should have a title and author’s name. 2. The report is organized by sections and each section has a proper title. 3. Times New Roman size 12 font for the body of report. Single space. One column. 4. The paper should be free of grammar and spelling errors.   The paper should be 5 to 10 pages in length | 15 |
| D1.2 | **Content requirement**:   1. A basic introduction to the research field, including the basic ideas, terminologies, etc.; 2. The existing research issues in this field; 3. The state-of-the-art research/methodologies in this field (i.e. what have other researchers done to address the issues); 4. A comparison and summary of the existing research/methodology; 5. Future research challenges; | 65 |
| D1.3 | **Reference requirement:**   1. There should at least 10 references listed   The reference should follow APA citation style. Check out [APA style guide](http://library.csus.edu/guides/rogenmoserd/general/apa.html). | 5 |
| **D2** | **Team peer evaluation** – everyone is expected to submit an evaluation report on their team members. A student’s score is the average value of the evaluation score she/he receives.   1. Download the “IT6833PeerEvaluation Worksheet” and renamed it as “IT6833PeerEvaluationWorksheet + You D2L ID”, e.g., IT 6833PeerEvaluationWorksheetHan. | **15** |
| **Bobus** | **Presentation -** each team can create a PowerPoints slides for their project. The quality of the presentation will result in an up to 10 points bonuses for the project. | **10** |
| **Total Points** | **100+10** | **110** |
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