

## IT 6833 Wireless Security Course Syllabus Summer 2017

### Instructor

**Dr. Lei Li, Associate Professor**

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**Office Location:** Atrium Building J364

**Office Hours:** Wednesday 2pm -4:50pm, Thursday 4pm -4:50pm, and by appointment

**Virtual Office Hours:** Email/Text message, or online chat, contact instructor to make an appointment.

### Course Communication

Effective communication is the key to the success of online classes. Please use following guideline for class communication.

- **Email me or text me** (706-225-9219, don't call this number unless it's emergency). Use D2L email if possible. My KSU email (lli13@kennesaw.edu) should only be used when you don't have access to D2L site. Your emails and texts are **GUARANTEED** to be replied **WITHIN 12 HOURS**.
- When email me using accounts other than D2L email, put the course and section number in the subject line. Emails without proper subject line will not be replied.
- Avoid using personal email to contact me. Sensitive information (such as your grades) can **ONLY** be sent to D2L email or KSU email account.

### Course Description

#### **Classroom & Meeting time:**

IT 6833/W01 (CRN 51633). 100% Online.

#### **Required Textbook**

No textbook is required. Learning material will be provided through D2L course website.

**Prerequisites:** IT-6823

**Description:** This course covers methods and techniques to secure wireless networks against threats and attacks. Topics include:

- Security and Cryptography
- Network Security Protocols
- Security and Layered Architecture
- Voice-Oriented Wireless Networks
- Data-Oriented Wireless Networks
- Security in Traditional Wireless Networks
- Security in Wireless LAN
- Security in Wireless Ad Hoc Network

Special Topic: Mobile Security

#### **Learning Outcomes**

By the end of this course, you should be able to:

- Describe the differences between wireless security and wired security

- Build the working knowledge of security building blocks so that it can be applied to solve the problems of designing security solutions in wireless network systems
- Acquire the fundamental understanding of two main-stream approaches (i.e., data-oriented and voice-oriented) taken by wireless security systems
- Master to learn at least one of advanced wireless network security systems in depth, and enhance the skills of enabling and configuring a wireless network system
- Describe the pros and the cons of at least one emerging system (IT-6833 only)

### Technical Requirements

- This class uses D2L Brightspace as hosting site. Run a [system check](#) to ensure your computer work with D2L. Check out D2L student support site for instructions: <https://kennesaw.view.usg.edu/>
- Internet Connection. A high speed Internet connection such as DSL or cable Internet access is highly recommended. You can also use computer labs on campus to complete the coursework.

### Course Organization

For the online section and there is no scheduled face-to-face meetings. For the hybrid section, we meet once a week. Regardless the format of class, the content of this course is organized by weekly modules. Each weekly module starts on Monday and ends on Sunday. The weekly module will be available to students one week ahead of the time. A weekly unit usually includes followings items.

1. A study guide - an overview of what are covered, learning objectives and a to-do-list.
2. Assigned readings from the textbook and supplemental material such as PowerPoint slides;
3. Information of due items such as quizzes, discussions and projects. All items are usually due on Sunday 11:59pm. And the due date may change during the course of the semester. Always refer to course calendar in the D2L course site for accurate due date.
4. There might be different requirements for students in online session and hybrid session. The requirement will be clearly stated in the study guide and description of the grading items.

## Grading

Items	Percentage
Assignments & labs	42%
Quizzes and Discussions	12%
Midterm Exam	18%
Final Exam	18%
Team Project	10%
<b>Total</b>	<b>100%</b>

**Grade Conversion:** A: (90-100), B: (80-89), C: (70-79), D: (60-69), F: (0-59)

**Grade Indicator:** this is a special grading item in the grade book. It summarizes your overall grade up to date. The indicator will be updated after each major assignment/exam grade release. Always be aware of your grade indicator.

### Quizzes, Projects & Exams Policy

- All projects **MUST** be submitted through D2L Brightspace (<http://kennesaw.view.usg.edu/>) course website by the deadline. Email submission will **NOT** be accepted. Any assignment that is less than 24 hours late is subject to 10% penalty. Any assignment that is more than 24 hours late will **NOT** be accepted.
- All quizzes and exams **MUST** be completed on D2L website by the deadline. The quizzes exams can't be opened/submitted after the deadline.
- Team projects – students will work in groups (3 or 4 person per group) on a series of projects

throughout the semester.

- If you must miss an exam due to illness, you must e-mail or call me *before* the scheduled time. Failure to notify the instructor prior to the scheduled time will produce an automatic zero for the exam. **NO makeup test except for emergencies with proof ( e.g. doctor's slip)**

## Course Schedules

Below is an outline of the content and activities in each module of the course. Course schedule is tentative and subject to change.

Week	Date	Course Contents	Notes
1	5/30 – 6/4	LM0- Course Orientation LM1 - Security and Cryptography	Course Introduction
2	6/5 – 6/11	LM2 - Network Security Protocols LM3 –Security and Layered Architecture	Assignment 1
3	6/12 – 6/18	LM4 - Voice-Oriented Wireless Networks LM5 - Data-Oriented Wireless Networks	Assignment 2
4	6/19 – 6/25	Midterm Exam (Chapter 1-5)	Android Lab 1
5	6/26 – 7/2	LM 6 - Security in Traditional Wireless Networks 6/26 - Last Day to Withdraw Without Academic Penalty	Team project report 1 Android Lab 2
6	7/3 – 7/9	LM7 – Chapter 7: Security in Wireless LAN	Android Lab 3
7	7/10 – 7/16	LM8 - Special Topic: Mobile Security	Team Project final report
8	7/17 – 7/23	7/21 – Last day of class <b>Final Exam: time to be announced</b>	

## Course Expectation

### Student Responsibility

For this online class, you should expect to spend seven to eight hours each week on coursework:

- Check KSU email regularly;
- Login D2L brightspace course website frequently to access the course material (at least every other day);
- Follow the weekly study guide in the learning module;
- Study the assigned material such as virtual lectures, textbook chapters and the PowerPoint slides;
- Complete assigned quiz/assignment/discussion/project on time.

### Tips for Effective Online Learning

For an online class, students can really enjoy the benefits of learning at you own pace and at the place of your choice. Below are some tips for effective online learning. Those tips are beneficial to students enrolled in on campus section as well.

- **Check D2L Brightspace course website frequently.** It's recommended that students should login D2L course site **AT LEAST** every other day. Always be aware of current status of the course. Take advantage of the posted learning material such as recorded lectures.
- **Work with the instructor closely.** If you have any question, contact the instructor immediately. You can either email or text me and your message is guaranteed to be replied within 12 hours.

- **Start your work early.** If you can start a task early, don't start late. Assuming you spend the same amount of time completing the task, starting later will be much more stressful than starting early. Never start until the last minute! You'll have no turnaround time if you need help or something happens.
- **Keep up with the work.** Don't fall behind. If you do, contact the instructor immediately for what you need to do. The instructor may also contact you if he is concerned. Respond to the instructor's inquiry promptly.

### Communication Rules

In any classroom setting there are communication rules in place that encourage students to respect others and their opinions. In an online environment the do's and don'ts of online communication are referred to as **Netiquette**. As a student in my course you should:

- Be sensitive and reflective to what others are saying.
- **Avoid typing in all capitals** because it is difficult to read and is considered the electronic version of 'shouting'.
- Don't flame - These are outbursts of extreme emotion or opinion.
- Think before you hit the post (enter/reply) button. You can't take it back! Don't use offensive language.
- Use clear subject lines.
- Don't use abbreviations or acronyms unless the entire class knows them. Be forgiving. Anyone can make a mistake.
- Keep the dialog collegial and professional, humor is difficult to convey in an online environment.
- Always **assume good intent** and **respond accordingly**. If you are unsure of or annoyed by a message, wait 24 hours before responding.

## Policies

### Attendance Policy

Attendance and participation in class are expected. If you have any problems with attendance (or something else), contact me **BEFORE** they become a problem.

The instructor is required to file an engagement report by **[date to be determined]**. Students who never login D2L course web site or only complete little to none course work will be considered as **“NOT ENGAGED STUDENT”**. Instructor will send an email to those students for verification before file the report. Not engaged students will be **DROPPED** from the class

### Academic Honesty

Every KSU student is responsible for upholding the provisions of the Student Code of Conduct, as published in the Undergraduate and Graduate Catalogs. Section II of the Student Code of Conduct addresses the university's policy on academic honesty, including provisions regarding plagiarism and cheating, unauthorized access to university materials, misrepresentation/falsification of university records or academic work, malicious removal, retention, or destruction of library materials, malicious/intentional misuse of computer facilities and/or services, and misuse of student identification cards. Incidents of alleged academic misconduct will be handled through the established procedures of the Department of Student Conduct and Academic Integrity (SCAI), which includes either an “informal” resolution by a faculty member, resulting in a grade adjustment, or a formal hearing procedure, which may subject a student to the Code of Conduct's minimum one semester suspension requirement. See also <http://www.kennesaw.edu/scai/content/ksu-student-code-conduct>.

Students are encouraged to study together and to work together on class assignments and lab exercises; however, the provisions of the STUDENT CONDUCT REGULATIONS, II. Academic Honesty, KSC Undergraduate Catalog will be strictly enforced in this class. Examples of cooperation are **OK**: talking with someone about approaches to the assignment, discussing a particular problem that you are having.

- Examples of cooperation are **NOT OK**: taking someone else's assignment and modifying it, examining someone else's solution in detail.
- Any cases involving suspected academic dishonesty result in a grade of **ZERO** for the assignment. This penalty applies to all students involved.

Committing plagiarism is considered an act of academic dishonesty and will be taken very seriously. Any instances where academic dishonesty is suspected will result in an automatic grade of a zero for all students involved. Further disciplinary action may be taken such as suspension or expulsion from the University.

### **Grade Appeals and Student Complaints**

KSU desires to resolve student grievances, complaints and concerns in an expeditious, fair and amicable manner. For complaints regarding this course, please contact the professor. If the issue is not resolved, contact the department chair.

### **Withdrawal Policy:**

The last day to withdraw without academic penalty Wednesday 3/1/2017. Ceasing to attend class or oral notice thereof DOES NOT constitute official withdrawal from the course. Students who simply stop attending classes without officially withdrawing usually are assigned failing grades. Students wishing to withdraw after the scheduled change period (add/drop) must obtain and complete a withdrawal form from the Academic Services Department in the Registrar's Office.

### **Enrollment Policy:**

Only those students who are enrolled in the class may attend lectures, receive assignments, take quizzes and exams, and receive a grade in the class. If a student is administratively withdrawn from this course, they will not be permitted to attend class nor will they receive any grade for the class.

### **Electronic Devices:**

In order to minimize the level of distraction, all beepers and cellular phones must be on quiet mode during class meeting times. Students who wish to use a computer/PDA for note taking need prior approval of the instructor since key clicks and other noises can distract other students. Recording of lectures by any method requires prior approval of the instructor. Students using a laptop in class should not check their email, browse the web, or in other way detract from the focus of the class.

### **Reasonable Accommodations**

Students with qualifying disabilities under the Americans with Disabilities Act (ADA) and/or Section 504 of the Rehabilitation Act who require "reasonable accommodation(s)" to complete the course may request those from Office of Student Disability Services. Students requiring such accommodations are required to work with the University's Office of Student Disability Services not individual faculty members or academic departments. A student anticipating a need for accommodation, must submit documentation requesting an accommodation in a timely fashion to permit time for a determination prior to submitting assignments or taking course quizzes or exams. Students may not request retroactive accommodation. Students should contact the office as soon as possible in the term for which they are seeking accommodations. Student Disability Services is located in the Carmichael Student Center in Suite 267. For more information, please call 470-578-2666 or visit the Student Disabilities Services websites at

[www.kennesaw.edu/stu\\_dev/sds](http://www.kennesaw.edu/stu_dev/sds)

[http://www.kennesaw.edu/stu\\_dev/dsss/dsss.html](http://www.kennesaw.edu/stu_dev/dsss/dsss.html)

## **Student Privacy (FERPA)**

Students have certain rights to privacy. <http://registrar.kennesaw.edu/resources/ferpa.php>

The University's online learning system and email system are designed to prevent unauthorized individuals from gaining access to sensitive information or information protected by federal or state law. We will communicate regarding course matters through the University's designated technology learning system or Kennesaw state email system.

## **KSU Sexual Misconduct Policy & Ethics Statement**

KSU will not tolerate sexual misconduct or sexually exploitative or harassing behavior of any kind.

<https://policy.kennesaw.edu/content/sexual-misconduct-policy>.

You are expected to respect religious, cultural, and gender differences.

## **Classroom Behavior:**

Students are reminded to conduct themselves in accordance with the Student Code of Conduct, as published in the Undergraduate and Graduate Catalogs. Every KSU student is responsible for upholding the provision. Students who are in violation of KSU policy will be asked to leave the classroom and may be subject to disciplinary action by the University.

## **Reference Requirement**

When you quote or base your ideas on other people's work (e.g., from articles, journals, magazines, books, websites, etc.) in assignments or discussions, you **MUST** cite the source you used. When you direct quote, you must put others' words in quotation marks and cite the source(s). When reading that source contributed to the ideas presented in your paper, you must give the authors proper credit.

Students are recommended to use APA style for their references.

- APA style guide: <http://owl.english.purdue.edu/owl/resource/560/01/>

## **Student Course Evaluation:**

A standard questionnaire (described below) will be administered during the last two weeks of the semester in all classes. Additional questions developed by the college or instructor(s) may be included as well. It is important that each student provide meaningful feedback to the instructor(s) so that changes can be made in the course to continually improve its effectiveness. We value student feedback about the course, our teaching styles, and course materials, so as to improve our teaching and your learning. At a minimum, the following two questions will be asked: 1) Identify the aspects of the course that most contributed to your learning (include examples of specific materials, exercises and/or the faculty member's approach to teaching and mentoring), and 2) Identify the aspects of the course, if any, that might be improved (include examples of specific materials, exercises and/or the faculty member's approach to teaching and mentoring).

## **Help Resources**

### **Library**

The KSU Library System assists all students, faculty and staff with their research, including using library databases to find articles, accessing books and other materials in our catalog, and for specialized research needs. Librarians are available for in-person walk-up assistance at library help desks, one-on-one research appointments, and 24x7 via library chat. For more information on library locations, hours, and how to access our services please visit <http://library.kennesaw.edu/>

### **Student Email and Web Account Access:**

KSU uses a central authentication server that will allow one username and password to be used by all KSU users to access an increasing variety of applications (email, WebCT etc.) This unified network identification is referred to as your "NetID". The source for university-provided email and web space for



students is located at <http://students.kennesaw.edu>. Students have access to this system once they have established their NetID. This system will provide email service through a web based interface.

### **How to Activate your NetID:**

To activate your NetID go to <http://netid.kennesaw.edu> and click on the "Sign up Now!" link. You will be asked to provide information to verify your identity and set your password. This password will only be for NetID enabled applications.

### **How to Look Up a NetID:**

After you have activated your NetID, you can look up other users by logging into <http://netid.kennesaw.edu> and clicking on Directory Search.

### **How to Send Email:**

Your NetID in combination with the new email address would look like [netid@students.kennesaw.edu](mailto:netid@students.kennesaw.edu).

### **Web Address:**

For student web address, your NETID in combination with the new server address would look like <http://students.kennesaw.edu/~netid>. If you have problems please call the Service Desk at ext. 6999 or e-mail [service@kennesaw.edu](mailto:service@kennesaw.edu).

### **Owl Printing System:**

The Owl Print system (student network printing/copying solution) is in place in the KSU library as well as all the open labs and lab/electronic classroom combinations across campus. Students must have an Owl Print card to use printing/copying services.

### **Other Student Resources**

For issues with technical difficulties, please contact the **Student Helpdesk:**

- Email: [studenthelpdesk@kennesaw.edu](mailto:studenthelpdesk@kennesaw.edu)
- Call: 470-578-3555

#### **\* Additional Technology Resources**

- [Student Service Desk and Help Center](#)
- [Browser Checker](#)
- [USG Desire2Learn Help Center](#)
- [ITS Documentation Center](#)
- [Check Service Outages](#)
- [Maintenance Schedule](#)

#### **\* Academic Resources**

- [Academic Tutoring Services](#)
- [Disability Resources](#)
- [ESL Study and Tutorial Center](#)
- [Library](#)
- [The Writing Center](#)

#### **\* Student Support and Wellness Resources**

- [Career Services Center](#)

[Counseling and Psychological Services](#)