Table of Contents

Instructor

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Office Hours: Tuesday/Wednesday 2:30pm-4:45pm or
    by appointment for meeting in office/ use Collaboratory Tool in D2L or
    by email anytime (please don't send the email through D2L instead of using your KSU student email)
Please use student email for your questions related to the course. Be sure to have a descriptive subject line with the course number and title, such as "IT4893-module 1", "IT 4893-discussion 1".

Course Description

IT 4893 – Internet of Things: Applications and Security

3 Class Hours 0 Laboratory Hours 3 Credit Hours

This course introduces core knowledge and skills required to develop and design of innovative IoT solutions. Students will analyze the challenges, apply adequate patterns for user-interaction and learn about trends and characteristics in IoT. In addition, students will evaluate the security design of a suite of IoT-connected products.

Pre-requisites:
IT 4323: Data Communications & Networking
IT 4823: Information Security Administration & Privacy
Students should get at least C on IT 4323 and IT 4823 courses.

Course Objectives:
1. Define the meaning of internet of things in various IoT application domains (smart cities, smart environment, eHealth, etc.)
2. Explain the impact of IoT on existing business models and business use cases.
3. Explain the IoT in conjunction with big data, applications, and mobility.
4. Explain IoT security challenges and the impact of IoT on consumer privacy.
5. Define the components required for the internet of things.
6. Design and develop a smart device.
7. Analyze three trends of IoT and explain their impact on consumer privacy.

Methods of Teaching and Learning:

The course will be presented through lectures slides and supplementary readings, both of which will be available in D2L. Class modules focus on knowledge and understanding of the key elements of the health information management and health information technology. Students will participate in discussion, assignments, term project, and quizzes over the course materials.

There is **NO** required textbook for this course. The recommended reference books are:

Abusing the Internet of Things: Blackouts, Freakouts and Stakeouts by Nitesh Dhanjani (O'Reilly, 2015) $40
https://www.owasp.org/index.php/OWASP_Internet_of_Things_Top_Ten_Project
http://www-03.ibm.com/software/products/en/internet-of-things-foundation

Assignment Requirements:

Discussion

Discussions will be good learning opportunities when participants are prepared for the discussion, and share their viewpoints after reflecting on the articles, presentations, personal knowledge, personal experiences and learning objectives of the discussion. Online discussion will be taken place in Discussions in D2L.

Discussion Grading
- For each discussion assignment, post your own **two days** before the due date and respond to at least two others' posts by the due date, unless stated otherwise.
- Provide original, reasoned and clear viewpoints that you feel are constructive to the discussion.
- Provide appropriate reference to the sources (e.g., full references for the articles you have read, or URL for web sites you have visited).
- Show others courtesy and respect.

Written Assignments

The written assignments throughout the semester are learning opportunities for you to understand in depth what is involved in health information technology. The write-up of the assignments must follow the template provided for the assignment.

- APA format guide
- MLA format guide

Late Assignments Policy

With the exception of term project deliverables and assignments due in the final week, you may submit assignments late **up until one week** after the assignment due date. A **penalty of 10% per day** will be applied to the grade you achieved on the assignment submitted after the deadline.

Online quizzes

All the online quizzes are open-book and open-notes and you will have up to *two times* to take it.

proctored exam

Please note that all of the students (online or hybrid) may be required to take proctored exam for the final exam.

1. On campus students take the exam at a commonly scheduled time on campus. Online students are welcome to join the class.
2. Online students take the exam at a scheduled time at ProctorU website. Note that student will be responsible for the registration with proctorU.com.
3. PLEASE CONTACT THE INSTRUCTOR ASAP IF YOU HAVE ANY QUESTIONS.

What to expect from the quizzes and exams
The online quizzes focus on the concepts introduced in the learning modules. The midterm and final exams also include case study analysis questions. The final exam is not a comprehensive exam. You will only be tested on the material covered since the midterm exam.

Turn-around time/feedback
The assignments and exams will be graded by instructor. The feedback will be returned in about a week after the submission due date.

Course Outline

Below is a tentative outline of the content and activities in each week. Please note that this schedule is subject to change. Changes, if necessary, will be announced in class, posted in the D2L class announcements.

Week	Date	Topics	Assignments
1	Jan. 7	Module 1: IoT history and overview	Discussion#1, Assignment#1
2	Jan. 14	Module 2: IoT architectures	Discussion#2
3	Jan. 21	Module 3: Cloud computing for IoT	Assignment#2
4	Jan. 28	Module 4: Data acquisition	Discussion#3
5	Feb. 4	Module 5: Intelligence information processing	Assignment#3 Quiz#1
6	Feb. 11	Module 6: IoT application and design	Discussion#4
7	Feb. 18	Module 7: IoT in smart city domain and connected home	Discussion#5
8	Feb. 25	Module 8: IoT in healthcare	Assignment#4

			Feb. 27 last day to withdraw the course without penalty Quiz #2
9	Mar. 4	Midterm Exam – No class	Midterm Exam
10	Mar. 11	Module 9: IoT security issue	Assignment#5
11	Mar. 18	Module 10: IoT governance and public policy	Discussion#6
12	Mar. 25	Module 11: IoT privacy	
13	Apr. 1	No class – Spring Break	Spring Break
14	Apr. 8	Module 12: IoT challenges	Assignment#6
15	Apr. 15	Module 13: Future IoT	Discussion#7
16	Apr. 22	In-class presentation of final project	Presentation PowerPoint
17	Apr. 29	Final Project	Final Project

Grading

Grading Items	Percentage
Discussion	30%
Assignment	25%
Online Quizzes	15%
Term Project	30%
Total	**100%**

A: 90-100; B: 80-89; C: 70-79; D: 60-69

Course Expectation

Class Rules:

1. You are responsible for all course announcements and assignments posted in D2L.
2. For this class, you should expect to spend two to three hours each week on average on coursework. Logging in at least three times a week is minimally necessary to be productive and to interact with your peers. Active participation in the course discussion is encouraged.
3. It is very important that you understand the student codes of conduct and academic integrity (details can be found in the next sections). Incidents of alleged academic misconduct will be handled:

    1) your assignment/quiz/exam grade could be zero
    2) your final grade could be reduced by a letter, or
    3) a formal hearing procedure will be followed per the University policy

4. If you must miss an announced quiz/exam due to illness, work, travel, or other valid reasons, you must make alternative arrangements with instructor PRIOR TO the quiz/exam date.
5. Your feedback to the course is very important. You are expected to complete the course survey at the end of the semester.

Turnitin:

Students agree that by taking this course some required writing assignments may be subject to submission for textual similarity review to Turnitin.com for the detection of plagiarism. All submitted papers will be included as source documents in the Turnitin.com reference database solely for the purpose of detecting plagiarism of such papers. Use of the Turnitin.com service is subject to the Terms and Conditions of Use posted on the Turnitin.com site.

University Policies

KSU's Statement on Academic Integrity:

Every KSU student is responsible for upholding the provisions of the Student Code of Conduct, as published in the Undergraduate and Graduate Catalogs. Section 5c 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 the link about the KSU student code conduct.

KSU's Statement on Disruption of Campus Life:
It is the purpose of the institution to provide a campus environment, which encourages academic accomplishment, personal growth, and a spirit of understanding and cooperation. An important part of maintaining such an environment is the commitment to protect the health and safety of every member of the campus community. Belligerent, abusive, profane, threatening and/or inappropriate behavior on the part of students is a violation of the Kennesaw State University Student Conduct Regulations. Students who are found guilty of such misconduct may be subject to immediate dismissal from the institution. In addition, these violations of state law may also be subject to criminal action beyond the University disciplinary process.

KSU Student Codes of Conduct:
All students are responsible for knowing the information, policies and procedures outlined in this document. Kennesaw State University reserves the right to make changes to this code as necessary and once those changes are posted online, they are in effect. Students are encouraged to check online for the updated versions of all policies from KSU.

Withdrawal from Courses
Please refer to the Office of the Registrar about the course withdraw policies from office of the registrar.

Additional Legal Considerations with Web Links for Details

Copyright Law:

The Copyright Law of the United States (codified as Title 17 U.S.C.) governs the making of photocopies or other reproductions of copyright material. Teachers have latitude to copy materials, but within the "fair use" intent and should consider the effect of the copying on the sales of books and other materials. The Board of Regents provides comprehensive information on university policies and procedures with regard to copyright laws at University System of Georgia.

Disability 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. This link directs to the accessibility tutorials from University of Georgia.

Student Privacy:
Students have certain rights to privacy.
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. Please refer to the FERPA rule from KSU website.

Electronic Recording & Social Media Policy (Pending):
Electronic recording performed without the consent of the people being recorded chills the free exchange of ideas. Academic freedom, free inquiry, and freedom of expression should not be limited by the fear that one's brainstorming, polemic discourse, speculative inquiry, or any other kind of expressed curiosity made within the space of a university classroom will be made public without one's consent. No person shall make public any electronically recorded class discussion without the written permission of the instructor.

Ethics Statement:
Respect religious, cultural, and gender differences. Kennesaw State University recognizes that an ethical, efficient, and effective work environment is essential to our continuing to successfully accomplish our mission. As a result, we have always placed a high priority on assuring that each member of our university community has the opportunity and means to convey any matter that could compromise that environment. Click to find the contents of compliance and ethics reporting hotline from KSU.

Netiquette: Communication Courtesy

All members of the class are expected to follow rules of common courtesy in all email messages, threaded discussions and chats. The link to the Netiquette document.

Sexual Misconduct Policy:

Kennesaw State University does not condone and will not tolerate sexual misconduct or sexually exploitative or harassing behavior of any kind. Adhere to KSU's policy prohibiting sexual misconduct both in and out of the classroom. The link to sexual misconduct policy can be found here.

Web Accessibility:

Policies on the standards for all course materials posted online can be found here.

KSU Student Recourses

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

Email: studenthelpdesk@kennesaw.edu
Call: 470-578-3555;
UITS Website for technical support

Student Recourses and Technology Resources:

For more information and get support for the University Library, Tech Support, Student Support Resources, Tutoring & Academic Support, Advising, Bookstore Resource Guide, Online Courses, Desire2Learn, please click to find the student resources and technology resources.

MSIT New Curriculum and IT Graduate Student Lounge

- MSIT New Curriculum
- IT Graduate Student Lounge