Dankook University – City University of Hong Kong Summer Exchange Program

1. **Period**

   - Dorm move-in: July 11, 2019

   - Orientation: July 12 ~ 15, 2019

   - Classes: July 16 ~ August 8, 2019

   - Dorm move-out: August 9, 2019

2. **Courses**

   - Morning   9:00am-12:00pm

1) Technology and Smart Life

The object of this course is to provide the fundamental of smart technologies in present and future human life. Student should be able to understand the meaning of "smart" technology combined with conventional industries and the major applications of smart technologies for human life innovation. Our life is getting smarter with IT technology combined with various industries and the industries are innovated for improved performance, efficiency, transparency and convenience in human life. Smart car, smart home, smart education and smart health, etc. are the emerging areas of modern human life.   Most of the conventional industries get "SMART" by combining with internet and computer technology. The course covers the industry transition to 4th industrial revolution with IT technology and some major areas for smart life, such as smart phone, 5G and IoT, mobility, education, health, factory, government, social networks. Security is also a very important factor for smart technology and is covered with safety.

   - Afternoon   1:00pm-4:00pm

2) Introduction to Cyber security

Cyber security is a rapidly evolving field. As businesses and consumers become increasingly dependent on information thru the internet, it is imperative ever to protect the confidentiality and integrity of data. This course provides the basics of cyber security for students who do not have a technical background and prepares how to keep the information safe from various security challenges. It studies concepts and definitions regarding information security, typical security threats and protections from the threats, as well as software deficiencies used as security holes.

3. **Field trip:** Samsung Innovation Museum

Technology and Smart Life

Lecturer	Kyongho Han
Institution	Dankook University
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Course Description:

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Our life is getting smarter with IT technology combined with various industries and the industries are innovated for improved performance, efficiency, transparency and convenience in human life.

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We have two exams, one mid-term and one final-exam for evaluation.

During the course, discussions and presentation in team or individual can be used, too.

Materials/Text:

Hand-out materials are to be distributed at class.

Web sites can be used as an alternative text.

Requirements:

No specific pre-requirements are necessary

Schedule:

wk1　　　　 Introduction to Lecture

wk2　　　　 Smart phone: Mobile computer to Space of Information, smart media,

wk3　　　　 5G and IoT: Internet of Everything with 5G

wk4　　　　 Smart mobility 1: Unmanned Ground Vehicle Technology

wk5　　　　 Smart mobility 2: Unmanned Air Vehicles Technology

wk6　　　　 Smart building: Smart energy consumption, environment friendly building, smart home

wk7　　　　 Smart city: Limited city resource for expanding population, smart farm. environment control.

wk8　　　　 Midterm exam

wk9　　　　 Education: Remote education with VR, AR, on-line education

wk10　　　　 Health: Telemedicine, Robot doctor, smart ambulance

wk11　　　　 Smart Factory: 4thIndustryrevolution,smartmanufacturing,3Dmanufacturing

wk12	Security and safety: Block chain, cyber money, FinTech, privacy vs safety
wk13	Smart Government: e-Government, smart military, defense system
wk14	Smart Society: Youtube personal broadcasting, SNS, VR, AR in theater. smart commerce
wk15	Final Exam

Assignments:
Essays, reports, site surveys are assigned at class

Evaluation:
Two exams, each exam takes 30%
Class attendance takes 20%
Assignments takes 10%
Presentation takes 10%

Introduction to Cyber security

Lecturer	Youngki Chung
Institution	Dankook University
Email	Youngki.chung99@gmail.com

Course Description:

Cyber security is a rapidly evolving field. As businesses and consumers become increasingly dependent on information thru the internet, it is imperative ever to protect the confidentiality and integrity of data. This course provides the basics of cyber security for students who do not have a technical background and prepares how to keep the information safe from various security challenges. It studies concepts and definitions regarding information security, typical security threats and protections from the threats, as well as software deficiencies used as security holes.

Materials/Text:

Introduction Security: Principles and Practices by Mark Stamp
Computer Security: Principles and Practices, 4th Edition by W. Stallings and L. Brown

Requirements:

Basic understanding and using computers or mobile devices

Assignments:

To be announced

Evaluation:

To be announced

Schedule:

1 Introduction and overview
2 Major security threat types
3 Major defense techniques and software vulnerabilities
4 Easing or elimination software vulnerabilities
5 Malicious software
6 Detecting malware
7 Midterm exam
8 Crytography
9 Public-key algorithm
10 Crytogrphic hash fuctions
11 Network security I
12 Network security II
13 Security modes and practice
14 Final exam
15 Overall review