CICT high quality class

2024 Cyber Security

Aug 06, 2024

College of Information and Communication Technology,
Can Tho University

1. Class Goal

Goal

- Learn knowledge necessary in the field(company)
- Exercise basic skills needed in the field

What to learn

- Hacking steps & protection skills basics
- Methodology for security
- International trends of cyber security

2. Course Overview

- **Subject : Cyber Security**
- **Date : class1 Tue: 7:00 to ~ 10:00 VN**
  class2 Wed: 7:00 to ~10:00 VN
- **Class room: each class**

- **Professor : Dr.Hoa (rector of CICT)**
- **Lecturer : Dr.Noh (visiting lecturer CICT)**

3. Class schedule

Semester period : 05th Aug – 30th Nov 2024

Month	Weeks	Holidays	Class weeks	Lab weeks
Aug	four		four	four
Sep	four		four	four
Oct	five		five	five
Nov	four		four	three
Tot	17		17	16

Class weeks can be variable according to CICT policy

3. Class configuration

Learning type

Types	Basic Knowledge	LAB(Week exercise)	Individual project	Group project
Times	16 weeks	16 weeks	one time	one time

Report format

LAB(Week Practice)	Individual Project	Group Project
guided format	guided format	guided format
MS word	MS word	MS word & PPT

4. Learning areas

Knowledge	Time
▪ Phase of hacking ▪ Basics of INFOSEC ▪ AI cyber security ▪ Security management ▪ Intl. standard models (ISMS,ISO27001) ▪ Security system ▪ Risk management	▪ One hour

4. Learning areas

Skills(exercise)	Time
▪ Test-bed setting ▪ Network security ▪ AI Machine learning ▪ Web security ▪ Cloud computing ▪ Secure coding ▪ Cryptography ▪ Vulnerability analysis	▪ Two hours

5. LAB : Weekly study

- Number of LABs : 16times

- Lab topic : announcement by week

- Process of exercise :

topic announcement => exercise guide
=> exercise by student => submit & FB

6. Important LABs

LAB Areas	Exercise topic
▪ Network security	▪ Attacking, Detecting, Blocking, Confirming
▪ AI Machine learning	▪ Scikit-learn ▪ Anormally detection
▪ Web security	▪ Web Pen-test developing ▪ Web hacking & responding
▪ Cloud computing	▪ Cloud computing security ▪ Connecting WEB to cloud
▪ Secure coding (security coding)	▪ Software security ▪ Input validation
▪ Cryptography	▪ Symmetric key program development
▪ Vulnerability analysis	▪ Network Vulnerability ▪ Web Vulnerability

7. S/W we use mainly

os

- Windows10 => real host
- Linux ubuntu => guest OS

Kali, Centos can be choosed optionally as a guest OS

Virtual Machine => VMware or Virtualbox

Language

Web application => Apache, PHP, SQL

Programming => C, Java, Python, AI security Python, Cloud system, Pycharm

Tool

Wireshark, NMAP, Gnome, editor Nano

8. Individual project

- Individual project topic list announcement
- Choose one topic
- Survey topic
- Submit individual report

8. Individual project

OS	Linux, Windows
Browser	
IP address	Test bed IP
Attacking type	DoS, Syn flooding, IP spoofing
Language	Python
Technology	deep learning
Library	TensorFlow
Algorithm	Isolation Forest, One-Class SVM,
topic	Guided topic

References and guidance will be introduced

9. Group project(by group)

- One group three students
- Choose group project topic
- Develop the project with three members
- Submit the project report on last day of class
- Presentation

9. Group project topic (by group)

Areas	Project name
▪ AI cyber security project Python	▪ Machine learning ▪ Deep learning
▪ Cloud Web security project	▪ Web hacking pen-test developing ▪ Cloud connecting
▪ IoT security project	▪ IoT Pen-test developing

References and examples of code will be introduced

10. Important date

Title	Date	Remarks
Individual topic announcement	Aug 20, 21	each student * one month
Individual report submission	Sep 24, 25	
Group project topic announcement	Sep 24, 25	three students * two months
Integrated LAB(week practice) submission	Nov.19, 30	two classes same
Group project report submission	Nov.19, 20	two classes same
Presentation	Nov.26, 27	two classes each
Grading	Nov.28-30	three days
Grading Submission	Dec.01(Sunday)	

11. Grading standards

Types	Individual project	LAB	Group project	Attendance monitoring	Tot
Methods	survey	exercise	development	-	
Times	one time	16 times	one time	16 times	
Portion	30 %	40 %	30 %	monitoring	100 %

To monitor & record on line attendance Via google meet screen
To apply the grading result in case of attendance

Role of Supporters

- Class environment check & preparing
- Message Notification
- Communication with faculty & students
- Project member and topic lists collecting
- Presentation supporting
- Attendance list submission

Contact point

- Professor : Rector Prof. Hoa (ph.D)

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