

# COURSE DETAIL

## CRYPTOGRAPHY AND NETWORK SECURITY

**Country**

Taiwan

**Host Institution**

National Taiwan University

**Program(s)**

National Taiwan University

**UCEAP Course Level**

Graduate

**UCEAP Subject Area(s)**

Computer Science

**UCEAP Course Number**

208

**UCEAP Course Suffix****UCEAP Official Title**

CRYPTOGRAPHY AND NETWORK SECURITY

**UCEAP Transcript Title**

CRYPTGRPH NTRK SEC

**UCEAP Quarter Units**

4.50

**UCEAP Semester Units**

3.00

## Course Description

This is a research-oriented course for cybersecurity, a broad, fast, evolving discipline. The course covers important concepts but it not meant to be comprehensive. The following topics will be covered:

- The applied aspects of cryptographic primitives (randomness, hash, MAC, encryption, digital signatures)
- Cryptographic protocols (key exchange, authentication, anonymous communication, privacy-enhancing technologies)
- Network security (TCP/IP, DNS, BGP, TLS, DDoS, wireless, email, MLS)
- Advanced topics: \_ security (IoT, SDN, blockchain, web, software, systems,...)

Course prerequisites: Basic knowledge in discrete mathematics, programming, and networking is strongly recommended. Class participants are also expected to comprehend research papers and conduct a research project.

### Language(s) of Instruction

English

### Host Institution Course Number

CSIE7190

### Host Institution Course Title

CRYPTOGRAPHY AND NETWORK SECURITY

### Host Institution Course Details

### Host Institution Campus

### Host Institution Faculty

College of Electrical Engineering and Computer Science

### Host Institution Degree

### Host Institution Department

Graduate Institute of Computer Science and Information Engineering

**Course Last Reviewed**

2024-2025

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