

Department of Computer Science and Engineering, NSYSU

4 Areas of Elective Courses

(Latest updates: Jan. 9th , 2026)

Area 1: Information Security and Algorithms	Area 2: Computer Network and Mobile Computing
<ol style="list-style-type: none">1. Programming with AI-Assistance Tools2. Introduction to Artificial Intelligence3. Introduction to Big Data4. Secure Vehicular Communication Systems5. Secure Electronic Commerce6. Advanced Programming and Practices7. Introduction to Blockchain Technology8. Data Mining9. Information Security10. Machine Learning Algorithms11. Introduction to Machine Learning12. Algorithm for Electronics Design Automation and Testing13. Theory and Practice of Wireless and Mobile Networks Security	<ol style="list-style-type: none">1. JAVA Object-Oriented Programming2. Intermediate Probability3. Bayesian Inference and Applications4. Wireless and Mobile Networks5. Wireless Communications and Networks6. Wireless Internet7. Network System Programming8. Network Applications Programming
Area 3: Hardware and Embedded Systems	Area 4: Multimedia and Database Systems

1. QT and Windows Programming
2. Introduction to Digital System Design with SystemC
3. Programming for Embedded System
4. Hardware Description Languages
5. Introduction to VLSI Design
6. Introduction to Electronic Design Automation & Testing
7. Introduction to Computer-Aided VLSI Design

1. Machine Learning with Python
2. Programming in Python
3. Applications of Algebra
4. Fundamental Signal Processing
5. Deep Vision
6. Introduction to Deep Learning
7. Software Engineering
8. Procedure-Oriented Programming
9. Introduction to Data Compression
10. Computer Vision
11. Computer Graphics and Animation
12. Introduction to Computer Graphics
13. Internet Databases
14. Digital Image Processing
15. Introduction to Numerical Methods and Application

● Other CSE Elective courses you can choose (that count towards graduation credits):

1. High Tech Patent Application and Protection
2. Intellectual Property and Information Society
3. Field Project in Computer Industry