

Tamkang University Academic Year 112, 2nd Semester Course Syllabus

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| Course Title | INTRODUCTION TO COMPUTER NETWORK | Instructor | TENG YU KUANG |
| Course Class | TKFXB1C DEPARTMENT OF ARTIFICIAL INTELLIGENCE, 1C | Details | <ul style="list-style-type: none"> ◆ General Course ◆ Required ◆ One Semester |
| Relevance to SDGs | SDG1 No poverty SDG2 Zero hunger SDG4 Quality education SDG9 Industry, Innovation, and Infrastructure | | |
| D e p a r t m e n t a l A i m o f E d u c a t i o n | | | |
| I. Students may analyze problems in applied science based on the fundamental knowledge of programming, mathematics, and artificial intelligence. II. Students may plan and implement an AI system following the procedures of problem analysis, experiment testing, data visualizing, derivation and deduction. III. Educate the students to be AI engineers who may accomplish their missions independently and may collaborate with their colleagues in the workplace. IV. Students may have basic skills and global competence for career diversification, and may keep lifelong learning. | | | |
| Subject Departmental core competences | | | |
| A. Professional analysis.(ratio:20.00) B. Practical application.(ratio:30.00) C. Professional attitude.(ratio:30.00) D. Global Mobility.(ratio:20.00) | | | |
| Subject Schoolwide essential virtues | | | |
| 1. A global perspective. (ratio:15.00) 2. Information literacy. (ratio:20.00) 3. A vision for the future. (ratio:15.00) 4. Moral integrity. (ratio:20.00) 5. Independent thinking. (ratio:10.00) 6. A cheerful attitude and healthy lifestyle. (ratio:5.00) 7. A spirit of teamwork and dedication. (ratio:10.00) 8. A sense of aesthetic appreciation. (ratio:5.00) | | | |

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| Course Introduction | <p>it' s our aim in this book to provide you with a modern introduction to the dynamic field of computer networking, giving you the principles and practical insights you' ll need to understand not only today' s networks, but tomorrow' s as well</p> |
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The correspondences between the course's instructional objectives and the cognitive, affective, and psychomotor objectives.

Differentiate the various objective methods among the cognitive, affective and psychomotor domains of the course's instructional objectives.

- I. Cognitive : Emphasis upon the study of various kinds of knowledge in the cognition of the course's veracity, conception, procedures, outcomes, etc.
- II.Affective : Emphasis upon the study of various kinds of knowledge in the course's appeal, morals, attitude, conviction, values, etc.
- III.Psychomotor: Emphasis upon the study of the course's physical activity and technical manipulation.

| No. | Teaching Objectives | objective methods |
|-----|---|-------------------|
| 1 | Today' s Internet is arguably the largest engineered system ever created by mankind, with hundreds of millions of connected computers, communication links, and switches; with billions of users who connect via laptops, tablets, and smartphones; and with an array of new Internet-connected "things" including game consoles, surveillance systems, watches, eye glasses, thermostats, body scales, and cars. | Psychomotor |
| 2 | We emphasis upon the study of computer networking knowledge. | Cognitive |

The correspondences of teaching objectives : core competences, essential virtues, teaching methods, and assessment

| No. | Core Competences | Essential Virtues | Teaching Methods | Assessment |
|-----|------------------|-------------------|--------------------------------|---|
| 1 | ABCD | 12345678 | Lecture, Discussion, Practicum | Testing, Discussion(including classroom and online), Report(including oral and written) |
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| 2 | ABCD | 12345678 | Lecture, Discussion | Testing, Discussion(including classroom and online), Report(including oral and written) |
|------------------|--------------------------|--|---------------------|---|
| Course Schedule | | | | |
| Week | Date | Course Contents | | Note |
| 1 | 113/02/19 ~ 113/02/25 | What Is the Internet? | | |
| 2 | 113/02/26 ~ 113/03/03 | What is a Protocol? | | |
| 3 | 113/03/04 ~ 113/03/10 | Application Layer | | |
| 4 | 113/03/11 ~ 113/03/17 | Principles of the network application | | |
| 5 | 113/03/18 ~ 113/03/24 | Transport Layer | | |
| 6 | 113/03/25 ~ 113/03/31 | UDP, TCP | | |
| 7 | 113/04/01 ~ 113/04/07 | Network Layer: Data plane | | |
| 8 | 113/04/08 ~ 113/04/14 | Router, IP, SDN | | |
| 9 | 113/04/15 ~ 113/04/21 | Midterm Exam Week | | |
| 10 | 113/04/22 ~ 113/04/28 | Link Layer and LANs | | |
| 11 | 113/04/29 ~ 113/05/05 | Link Layer and LANs | | |
| 12 | 113/05/06 ~ 113/05/12 | Multiple Access Links and Protocol | | |
| 13 | 113/05/13 ~ 113/05/19 | Wireless and Mobile Network | | |
| 14 | 113/05/20 ~ 113/05/26 | 802.11 wireless LANs | | |
| 15 | 113/05/27 ~ 113/06/02 | Security in Computer Networks | | |
| 16 | 113/06/03 ~ 113/06/09 | Cryptography | | |
| 17 | 113/06/10 ~ 113/06/16 | Final Exam Week (Date:113/6/11-113/6/17) | | |
| 18 | 113/06/17 ~ 113/06/23 | Flex week, learning activities should be arranged. | | |
| Key capabilities | | Information Technology Problem solving Interdisciplinary | | |
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| Interdisciplinary | STEAM course (S:Science, T:Technology, E:Engineering, M:Math, A field:Integration of Art and Humanist) |
| Distinctive teaching | Special/Problem-Based(PBL) Courses |
| Course Content | Computer programming or Computer language (students have hands-on experience in related projects) Environmental Safety |
| Requirement | |
| Textbooks and Teaching Materials | Self-made teaching materials:Presentations Using teaching materials from other writers:Presentations |
| References | |
| Grading Policy | <ul style="list-style-type: none"> ◆ Attendance : 10.0 % ◆ Mark of Usual : 20.0 % ◆ Midterm Exam : 30.0 % ◆ Final Exam : 40.0 % ◆ Other < > : % |
| Note | <p>This syllabus may be uploaded at the website of Course Syllabus Management System at http://info.ais.tku.edu.tw/csp or through the link of Course Syllabus Upload posted on the home page of TKU Office of Academic Affairs at http://www.acad.tku.edu.tw/CS/main.php.</p> <p>※ Unauthorized photocopying is illegal. Using original textbooks is advised. It is a crime to improperly photocopy others' publications.</p> |