**Course Specification**

**(**IT 322 Computer Network II**)**

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| --- | --- |
| **University:** | Helwan University |
| **Faculty:** | Faculty of Computers & Information |
| **Department:** | Information Technology |

**1. Course Data**

|  |  |
| --- | --- |
| **Code:** | **IT 322** |
| **Course title:** | Computer Network II |
| **Level:** | 3 |
| **Specialization:** | Information Technology |
| **Credit hours:** |  |
| **Number of learning units (hours):** | ( 3) theoretical (2 ) practical |

**2. Course Objective**

To understand the problems of linking geographically distributed computers through a computer data communication network. To understand the multilevel approach to network protocols and the OSI reference model approach in particular.

**3. Intended Learning Outcomes:**

1. **Knowledge and Understanding**

A22. Identify the fundamentals of Networking.

A28. Describe the foundations of computer science: Hardware, Software and Networking.

1. **Intellectual Skills**

B22. Negotiate advanced technologies.

1. **Subject specific skills – with ability to use**

C11. Employ communication methods for effective communications.

C25. Use of communications tools and technologies.

1. **General and Transferable Skills**

D13. Use Designing skills to solve problems effectively.

D14. Support Engineering skills.

**4. Course contents**

|  |  |  |  |
| --- | --- | --- | --- |
| **Topic** | **No. of hours** | **Lecture** | **Tutorial/ Practical** |
| Small Ethernet LANs | 3 | 1 | 1 |
| Large Site Networks | 3 | 1 | 1 |
| Wide Area Networking | 3 | 1 | 1 |
| Security | 3 | 1 | 1 |
| Networked Applications | 3 | 1 | 1 |
| More on TCP & IP | 3 | 1 | 1 |
| More on Propagation | 3 | 1 | 1 |
| More on Local Area Networks | 3 | 1 | 1 |
| Telephone Service | 3 | 1 | 1 |
| More on Large- Scale Networks | 3 | 1 | 1 |
| More on Security | 3 | 1 | 1 |
| More on Internet Applications | 3 | 1 | 1 |
| More on Terminal- Host Communication | 3 | 1 | 1 |

**3.1** **Mapping contents to ILOs**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Topic | Intended Learning Outcomes (ILOs) | | | |
| Knowledge and understanding | Intellectual Skills | Professional and practical skills | General and Transferable skills |
| Small Ethernet LANs | A22 |  |  |  |
| Large Site Networks | A22 |  |  |  |
| Wide Area Networking | A22 |  |  |  |
| Security | A22 | B22 |  |  |
| Networked Applications | A22 |  | C11, C25 | D14 |
| More on TCP & IP | A22 |  |  |  |
| More on Propagation | A28 |  |  |  |
| More on Local Area Networks | A22 |  |  |  |
| Telephone Service | A22 | B22 |  |  |
| More on Large- Scale Networks | A22 |  |  |  |
| More on Security | A22 |  |  | D13 |
| More on Internet Applications | A28 |  | C11 | D13 |
| More on Terminal- Host Communication | A22 | B22 | C25 | D14 |

**5. Teaching and Learning Methods**

-Class Lectures

**-** Paper readings

**6. Teaching and Learning Methods for students with limited capability**

* Using data show
* e-learning management tools

**7. Students Evaluation**

1. **Used Methods**

-Assignments

- Quizzes

1. **Time**

Assessment 1: Test 1 Week 4

Assessment 2: Test 2 Week 7

Assessment 3: Midterm Exam Week 10

Assessment 4: Project ---

Assessment 5: Final Written exam Week 16

1. **Grades Distribution**

Mid-term Examination 15 %

Final-Year Examination 70 %

Semester Work 15 %

Project 0 %

Total 100%

Any formative only assessments

**List of Books and References**

**a) Notes**

* Course Notes
* Handouts

**b) Mandatory Books**

- Raymond R. Panko, “Business Data Communications and Networking,” 4th edition.

**c) Suggested Books**

- Fred Halsall, “Data Communications, Computer Networks and Open Systems,” 4th edition.

**d) Other publications**

- Periodicals, Web Sites … etc

**Course Coordinator: Prof. Atef Ghalwash**

**Chairman of the Department: Prof. Dr.**