**Computer Network II**

**Fourth Year – Second Semester**

**Mr. Ahmed S Muhammed**

**Academic Year: 2024 – 2025**

**Course Book**

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| **S. No.** | **Information** | **Details** |
|  | **Course Name** | Computer Networks |
|  | **Course Code** | CE402CN |
|  | **Lecturer In-charge** | Asst.Lect. Ahmed S Muhammed |
|  | **College/Department** | College of Engineering & Computer Science / Department of Computer Engineering |
|  | **Contact Information** | E-mail: ahmed.salahaddin@lfu.edu.krd  Mobile No.: 0964-750 |
|  | **Time (in hours) per Week** | Theory:2  Practical: 2 |
|  | **Office Hours** | 8:30 AM-3:00PM |
|  | **Teacher’s Academic Profile** | * Master of Science (MSc.) in college of Engineering and computer science department of Information Technology, from the Lebanese French University (LFU). * Bachelor of Science (BSc.) in Information Technology, from the Lebanese French University (LFU).   **He has five years of teaching experience in Computer Networks, and Hardware .** |
|  | **Academic Title** | Assistant Lecturer |
|  | **Keywords** | Internet addressing protocols  Transport Layer  Application Layer  WWW & Domain Name System |
|  | **Course Overview:**  This course provides general knowledge on data communication and computer networking. It deals with data communication concepts and techniques. It will provide detailed knowledge on the transport-layer protocols in the Internet: SCTP, ICMP, IGMP. The students will learn about IEEE standards, Switched Networks. This course also introduces Application layer Protocols. | |

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| **12.** | **Aims & Objective:** Learning Objectives includes  Upon completing this course, students will:  To learn the design principles of data communication and computer networks  To learn about WWW and DNS  To understand layered protocol architecture (OSI, TCP/IP)  To understand and apply Application layer protocols, technologies etc. |
| **13.** | **Course Requirement:**  The tasks assigned to the students in this article are to attend weekly theoretical and practical lectures, as well as to assign the students to the theoretical, practical aspect and to complete the reports on the material. |
| **14.** | **Teaching and Learning Method:**   * Book, Data Show and PowerPoint, white board, Lectures, homework’s, and assignments. |
| **15.** | **Assessment Scheme:**   * 5 % Attendance * 10 % Class Tests and Quizzes * 25 % Mid-term Examination * 10 % Practical Exam * 50 % Final Examination |
| **16.** | **Students Learning Outcome:**  Students will:  After completing the course, students are expected to:  - Identify Internet addressing methods  - Identify the TCP and UDP usage.  - To recognize the WWW structure.  - Identify the Domain Name levels. |
| **17.** | **Course Reading List and References**  **Textbooks**   * 1. Data Communications and Networking, Behrouz A. Forouzan, McGraw Hill Education, 5th Edition.   2. Computer Networks, Andrew S. Tanenbaum, David J. Wetherall, Pearson Educaiton, 5th Edition.   3. Computer Networking – A Top Down Approach, James F.Kurose, Keith W. Ross, Pearson Education, 6th Edition |
| **18.** | **Course Content** |

**Course Content**

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| **S.No** | **Lecture Date** | **No. of Hours** | **Topics** |
| 1. | Week 1 | 4 | Internet Protocol |
| 2. | Week 2 | 4 | -Public IP  -Private IP |
| 3. | Week 3 | 4 | Subnetting |
| 4. | Week 4 | 4 | Network class and Subnet Mask |
| 5. | Week 5 | 4 | IPV4 |
| 6. | Week 6 | 4 | IPV6 |
| 7. | Week 7 | 4 | Domain Name System – Introduction |
| 8. | Week 8 | 4 | Domain Name System |
| 9. | Week 9 | 4 | Remote Logging |
| 10. | Week 10 | 4 | Email |
| 11. | Week 11 | 4 | ICMP |
| 12. | Week 12 | 4 | IGMP |
| 13. | Week 13 | 4 | IEEE Standards |
| 14. | Week 14 | 4 | Switched Networks |
| 15. | Week 15 | Examination | |
| **19.** | **Examinations:**   1. Illustrate the SCTP in detail 2. Explain the HTTP versions 3. Differentiate ICMP and IGMP. 4. Explain the Domain Name System in detail. | | |
| **20.** | **Course Policy:**  Designed to cover the structure, implementation, and theoretical underpinnings of computer networks.. | | |
| **21.** | **Notes:**  Students will work in groups to prepare a 20-minute presentation on a topic of their choosing. The presentations will be conducted during the last few weeks of class. | | |