**ASSUMPTION UNIVERSITY**

**Vincent Mary School of Science & Technology**

**DEPARTMENT OF COMPUTER SCIENCE**

**COURSE OUTLINE**

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| **COURSE ORGANIZATION** | | |
| **Course Title:** | **CSX3005/ITX3005/CS2206 (Computer Networks) section 541** | |
| **Course Status:** | Major Required | |
| **Pre-requisite:** | None | |
| **Credits:** | 3 Credit Points | |
| **Semester:** | **1/2023** | |
| **Classroom:** | **VMS 0307** | |
| **Day & Time:** | **Monday** (09:00 – 12:00) | |
| **Description:** | Fundamentals of computer networks, network devices, and services, the role of protocol layers, protocol basics, and network protocols, inter-operability issues, Open System Interconnection (OSI) reference model and TCP/IP, addressing and naming schemes, network types, and topologies, wired and wireless networks, network media, Local Area Network (LAN) and Wide Area Network (WAN) technologies, network security basics. | |
| **Objectives:** | On completion of this subject, students should understand and be able to describe the basics of computer networks, layered communication architectures (OSI and TCP/IP), network architecture (client/server and peer-to-peer), principles of congestion control and flow control, principles of routing on IP-based networks, basics of error detection, key protocols for multimedia networking, basics network security and network management. | |
| **Marks Allocation:** | Topic Presentations (individual)\*  Class participation + Homework Quizzes  Midterm Examination  Final Examination | 14%  10%  16%  20%  40% |

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| **COURSE INSTRUCTOR** | | | | |
| **Instructor:** | Asst. Prof. Dr. Anilkumar K Gopalakrishnan (**office**: VMS505) |  |  |  |
| **Email:** | [anil@scitech.au.edu](mailto:anil@scitech.au.edu), aGopalakrishnan@au.edu |  |  |  |
| **Course materials:** | MS Teams |  |  |  |
| **Mobile Phone:** | 0891351711 |  |  |  |

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| **COURSE RESOURCES** | |
| **Textbooks:** | Larry L. Peterson and Bruce S. Davie, “Computer Networks: A Systems Approach,” Web-based Version 6.1 or 6.2. https://book.systemsapproach.org/ |
| **Reference(s):** | James F. Kurose and Keith Ross, “Computer Networking: A Top-Down Approach,” 8th edition. |

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| **COURSE POLICIES:** |
| 1. Students must have at least 80% of class attendance to be eligible for the final examination. 2. If a student is absent from more than three classes without any relevant reason, then they should withdraw from the course immediately. |
| **ASSESSMENT APPEAL POLICY** |
| For any assignments/projects and examination(s) (EXCLUDING final examination), the lecturer will announce scores and discuss with students about solutions approximately within 1-3 weeks after the submission deadline and finishing grading. Students may request the lecturer for an assessment appeal, if any, within 1 week or as specified by the appeal’s deadline.: |

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| **COURSE CONTENTS AND TENTATIVE SCHEDULE** | | |
| **Week** | **Topic** |  |
| Week 1,2 | Introduction to Computer Networks |  |
| Week 3 | Direct Links |  |
| Week 4 | Internetworking |  |
| Week 5 | Advanced Internetworking |  |
| Week 6 | End-to-End Protocols |  |
| Week 7 | Topic presentation #1 |  |
| Week 8 | Quiz1  Midterm Exam |  |
| Week 9 | Congestion Control |  |
| Week 10 | End-to-End Data |  |
| Week 11 | Network Security |  |
| Week 12,13 | Applications and Emerging Network Technologies |  |
| Week 14 | Topic presentation #2 |  |
| Week 15 | Quiz2 |  |
|  | Final Exam |  |