**University of Management and Technology**

**School of Engineering**

**Department of Electrical Engineering**

**Course Outline**

**Course code:** EE 461 **Course title:** Networks and Protocols

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| --- | --- |
| Program | BSEE |
| Credit Hours | 3 |
| Duration | One semester |
| Prerequisites | Computer Networking and Data Communication, Communication Systems, Signals and Systems |
| Resource Person | T.B.A |
| Counseling Timing | T.B.A |
| Contact | T.B.A |

**Chairman/Director signature………………………………….**

**Dean’s signature…………………………… Date………………………………………….**

**Learning Objectives:**

Upon completing this course student should be able to understand:

1. The architectures and elements of a network.
2. Use and process of mobility management.
3. The signaling schemes used in networks.
4. The wired network protocols and standards.
5. The operation and performance of wireless protocols.
6. Most recent development in 3G wireless systems**.**

**Learning Methodology:**

Interactive and participative.

**Grade Evaluation Criteria**

Following is the criteria for the distribution of marks to evaluate final grade in the semester.

**Marks Evaluation Marks in percentage**

Quizzes and Assignments 20 %

Mid Term 30 %

Final exam 50 %

Total 100 %

**Recommended Text Books:**

1. Designing and Deploying 802.11n Wireless Networks by Jim Geier

2. Computer Networks 5e by A. Tannenbaum, 2011.

3. Telecommunication Networks: Protocols, Modeling and Analysis by Mischa Schwartz

**Reference Books**

K. Pahlavan and P. Krishnamurthy, Principles of Wireless Networks, Prentice Hall, 2002

W. Stallings, Wireless Communications & Networks, Prentice Hall, 2001.

**Calendar of Course contents to be covered during semester**

**Course code:** EE 461  **Course title:** Networks and Protocols

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| --- | --- |
| **Week** | **Course Contents** |
| 1 and 2 | 4G wireless network systems (WiMAX, LTE and LTE-A) |
| 3 and 4 | Peer-to-peer networks |
| 5,6 and 7 | Network Virtualization |
| 8 | **Midterm Exam** |
| 9 and 10 | Network testbeds (PlanetLab) |
| 11 and 12 | IPv6 |
| 13 and 14 | Quality of Service (QoS) and Quality of Experience (QoE) |
| 15 | High Speed Networks |