

  
**AMOUD UNIVERSITY**  
**“A Vehicle for Peace and Development”**  
**AMOUD UNIVERSITY**



**FACULTY OF COMPUTING AND ICT**

**BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY PROGRAMME**

**ACADEMIC YEAR 2015/ 2016**

**COURSE DESCRIPTION**

|  |   |                      |
|--|---|----------------------|
| <b>BIT 315</b>                                     | <b>Computer Networks</b>  |                      |
| Contact Hours                                      | 52  |                      |
| Pre-requisite                                      | <b>BIT 215 Network Essentials</b><br><b>BIT 223 Data Communications</b>   |                      |
| Purpose/Aim  | This course introduces the concepts of computer networking as a pre-requisite to Network Systems and Administration and Principles of Data Communications courses.  |                      |
| Course Objective<br>(Indicative Learning Outcomes) | <ul style="list-style-type: none"> <li>• The learner can explain the concept of a computer network</li> <li>• The learner can enumerate different types of computer network</li> <li>• The learner can explain the technology that underlies the Internet</li> </ul>  |                      |
| Course Content                                     | <ul style="list-style-type: none"> <li>• Uses of computer networks</li> <li>• Network hardware and software</li> <li>• Review of reference models</li> <li>• Example networks</li> <li>• Review of data communications services and standards</li> <li>• Review of the OSI model</li> <li>• Network layer design issues</li> <li>• Routing algorithms</li> <li>• Congestion control algorithms</li> <li>• Internetworking</li> <li>• The network layer in the internet</li> <li>• The network layer in ATM networks</li> <li>• Introduction to TCP/IP</li> <li>• The TCP/IP model</li> <li>• Comparison of OSI &amp; TCP/IP models</li> <li>• The world wide web</li> <li>• Multimedia</li> </ul> |                      |
| Learning & Teaching Methodologies                  | Lectures, tutorials and computer laboratory exercises   |                      |
| Instructional Materials/Equipment                  | Classroom with audio visual aids<br>Network laboratory  |                      |
| Course Assessment                                  | <b>Type</b>   | <b>Weighting (%)</b> |
|  | Examination   | 70                   |



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|------------------------|--|--------------------------------------|----------------------------|
|                        | Continuous Assessment  | 30                                   |                            |
|                        | Total  | 100                                  |                            |
| Recommended Reading    | <b>Title</b>   | <b>Author</b>                        | <b>Publisher</b>           |
|                        | Computer Networks  | Tanenbaum A.S.                       | Prentice-Hall India (1996) |
| Additional Reading     | Practical internetworking with TCP/IP and UNIX   | Carl-Mitchell S.,<br>Quarterman J.S. | Addison Wesley; (1993)     |
| Other Support Material | A variety of multimedia systems and electronic information resources as prescribed by the lecturer.<br>Various application manuals, URL search and journals. |                                      |                            |