### DEBRE TABOR UNIVERSITY

***Department of Computer Science***

***Course Syllabus of Introduction to Computer Science***

|  |  |
| --- | --- |
| Course Information: | |
| Course title: - | ***Introduction to Computer Science*** |
| Course Code: - | ***CoSc211*** |
| Credit hour: - | **ECTS = 5, Cr.Hr. = 3, lec.= 2, lab = 3, Tut=0** |
| Pre Requisites: | ***None*** |
| Program: - | Degree |
| Target group: - | 2nd Year veterinary Students |
| Year |  |
| Semester | 2nd  Semester |
| Academic Year: | 2014 E.C |
| Instructor’s Contact Information: | |
| Instructor’s name: | . |
| Office location | Block: **43** Office No.: - |
| Phone: |  |
| Email: |  |
| Lecture & Lab contact day & hours: |  |
| Consultation Hours: |  |

May,2022

DTU

**Course Description:**

The aim of the course is to develop basic awareness of computer, information and communication technology, computer system, computer network and data communication, computer security and ethics. Hence active learning/student cantered method of teaching has been practiced and the progress of the students is assessed by both continuous and Summative way of evaluation.

**Course Objectives**

Upon completion of this course, a student will be able to:

* Use information and communication technology as a prime tool in solving of common problems with in various facets of our society
* Explain the major components, functions and principles of information and communication technology
* Identify various components of a computer system
* Explain historical development of computer with their characteristics
* Describe data representation techniques
* Define basics terms associated with communication and networking.
* Make use of the basic MS office application

Develop the general computer skill

Show the usefulness of computer in real life.

**Learning outcomes:**

At the end of the course students will be able to:-

1. Define computer & application of computer K**,L1**
2. Identify computer system **K,L1**
3. Describe computer Arithmetic & data representation in computer **K,L1**
4. Differentiate computer network based on network topology. **A,L3**
5. Distinguish the best security mechanism for their computer **S,L1**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Chapter 1:- Introduction to Computer*** | | | | | | | | | | | | | | |
| schedule | Lecture hour | | Objectives | | | Contents | Methods of delivery | | Domain & hierarchy | | | | Reference | |
| 1st week and  2nd week | 4 | | * Define computer. * Identify history and generations of Computers. * Differentiate b/n computer and human beings * Identify the characteristics of Computers. * Describe the importance of computer * List types of computers. * Identify the applications of computer. | | | 1.1 Overview of Computers: Some terminologies  1.2 History and Generations of Computers  1.3 Characteristics of computer  1.4 Classification of Computers  1.5 Limitation of Computers  1.6 Applications of computer | Brain storming, interactive lecture and group discussion  Question  Individual assignment  Quiz | | K,.L1  S,L1  K,L2  K,L1  A,L3  K,L1  S,L1 | | | | 1. Williams,Sawyer and Hutchinson, “Using Information Technology”,third edition. 2. “Introduction to computer science”. 2nd Edition (pages 1-15) | |
| ***Chapter 2:- Organization of Computer System*** | | | | | | | | | | | | | | |
| 3rd week  4th week  5th week | | 6 | * Define system and computer system * Identify the component of computer system * Show the use of application software | | | 2.1 Computer systems and its Components  2.2 Computer Hardware   * Input devices * Processing devices * Storage devices * Output devices   1. Computer Software   2.3.1 System software  2.3.2 Application software | | Brain storming,  gap lecture,  Group discussion.   * Test-1 | | K,.L1  K,.L4  A,.L1  S,L2 | | 1 ) Williams,Sawyer and Hutchinson, “Using Information Technology”,third edition.   1. “Introduction to computer science”. 2nd Edition. (pages 19-21), and 305-327 | | |
| ***Chapter 3:- Data Representation in Computer System*** | | | | | | | | | | | | | | |
| 6th week  7th week  8th week | | 6 | | * Describe the term data based on computer Science. * Describe numbering system conversion * Practice binary arithmetic * Practice coding methods * Explain the data units | * 1. Data representation inside the Computer   2. Numbering system   3. Converting from One Number System to Another   4. Binary Coding methods   5. Data units | | | Mini lecture, group discussion,  Questions and Answers  group assignment (Numbering system)   * Test-2 | | | K,.L2  K, L2  S, L3  S, L2  K,.L2 | | | 1) Williams,Sawyer and Hutchinson, “Using Information Technology”,third edition.  2) “Introduction to computer science”. 2nd Edition. (pages 27-60) |
| ***Chapter 4:-*** ***Data Communication And Computer Networking*** | | | | | | | | | | | | | | |
| 9th week  10th week  11th week | | 6 | | * Define communication. * Differentiate the types of computer network. * Choose the best types of Network topology based upon the criteria. * Define Internet | * 1. Data communication Basics   2. Data transmission channels   3. Modes of data transmission   4. Computer Network      1. Benefits of Computer Networks      2. Types of Computer Networks      3. Computer Networks Configuration      4. Network topology      5. Network Protocols   5. Internet and its Applications | | | Brainstorming,  Group discussion, interactive lecture   * **Quiz 2** | | | K.,L1  A.,L3  s., L1  K.,L1  K.,L1 | | | 1) Williams,Sawyer and Hutchinson, “**Using Information Technology”**,*third edition.*  2) “**Introduction to computer science”. 2nd Edition. (pages 333-367)** |
| ***Chapter 5:***  ***Computer Safety and Security*** | | | | | | | | | | | | | | |
| 14th week  15th week | | 4 | | * Define computer ethics and security * Describe backup * Explain encryption * Construct protection mechanism for viruses and worms | * 1. Computer security   2. Threats of Computer Systems   3. Techniques to Reduce Security Problems * Antivirus Software * Backup * Encryption and decryption * Password   1. Rules for Safe Computing | | | Brain storming,  Lecture,  group discussion  Presentation | | | K,L1  K,L1  K,L2  S,L3 | | | 1)Williams,Sawyer and Hutchinson, “**Using Information Technology”**,*third edition.*  2) “**Introduction to computer science”. 2nd Edition. (pages 442-443)** |

**Reference**

**Text book:**

* “**Introduction to computer science”. 2nd Edition.**
* **Reference books:**
* Williams,Sawyer and Hutchinson, “**Using Information Technology”**, *third edition.*

***Methods of course delivery***

* 75% of active learning (Brain storming, Group discussion, presentation…) with 25% of mini lecture.

***Assessment methods***

The assessment methods are listed below by considering both domains of education and hierarch of learning.

**Continuous Assessments:**

Quiz……….……………...............5% Lab Exam…………………………….25% ***Sub Total*……….......50** %

Assignments........................... ......10% Test…………………………………..10%

**Summative Assessment:** Final Exams………………………..50%