CSE 101
ESSENTIAL COMPUTING

MANARAT INTERNATIONAL UNIVERSITY

Course Profile

All details in this course profile for CSE101 is given by the course teacher for the convenience of CSE student for **Spring 2019** semester. The information may be changed if necessary or practical situation demands.

General Information

OVERVIEW

This course, using both lecture and laboratory practice, introduces students to basic computer concepts in hardware, software, internet and World Wide Web, networking, computer security, programming, database, e-commerce, Artificial Intelligence, and other emerging technologies such as cloud computing, Big data etc. Some lectures will also cover fundamental concepts related to computer science. Additional lectures examine social, legal, ethical issues including privacy, intellectual property, health concerns, green computing, and accessibility. Students learn techniques to search, evaluate, validate, and cite information found online. Widely used applications including word processing, spreadsheets, databases, presentation, and web development software are studied. Special focus will be given on computer programming specifically scratch and Java Script.

DETAILS

Level	Under graduate
Credit Points	3.00
Classes	Two 50 minutes classes per week
Sessional	One 2 hours sessional per week
Course Teacher	**Sohaib Abdullah**, Assistant Professor in CSE, MIU.

PRE-REQUISITES OR CO-REQUISITES

High school level algebra, basic logic and reasoning ability.

ATTENDANCE REQUIREMENTS

All students are expected to attend scheduled classes. Failure to attend **50%** of classes may have severe consequences. In that case student will not be allowed to attend the final exam.

Assessment Overview

Assessment Mode	Weighting
1. Class attendance	5%
2. Class Assignments and quizes	10%
3. Lab Assignments and quizes	25%
4. Mid Term exam	20%
5. Final Examination	40%

Textbooks and Resources

PRESCRIBED TEXTBOOKS

Introduction to Computers
Author : PETER NORTON
Publisher : TATA McGraw Hill

How Computers Work
Author : RON WHITE
Publisher : Que Publishing

OTHER RESOURCES ONLINE

1. Harvard University course “CS50 Introduction to computer science I” instructed by David J. Malan. All course materials including lecture notes, audio/video lectures are available at **http://cs50.tv/2017/fall/**
2. Stanford University course “computer science 101” instructed by Nick Parlante. You can enroll into that course through Stanford Lagunita: https://lagunita.stanford.edu/courses/Engineering/CS101/Summer2014/about
3. Khan Academy tutorials on computer science specially “How Computers Work” and Internet 101, available at https://www.khanacademy.org/

IT RESOURCES

You will need access to the following IT resources: Computer, scanner, Internet, email and course website.

Course Website

Lecture material, assignments, announcements will be given to the site https://classroom.google.com. Open a new gmail account or use an existing one to log in then go to the following link: https://classroom.google.com. Then click on the option “Join class”. Then give the following Class Code: **nugmu6h.**

Teaching Contacts

For CSE101 course you can ask any question to or share any of difficulties you face with the course teacher on Wednesday from 11: AM – 12:00 PM. Teacher will be available in room# 220 on 2th floor of Ashulia campus of MIU. You can mail asking any question or requiring clarification at **sohaib@manarat.ac.bd**.

Course contents

Module No.	Module/Topic title	Module/Topic Details
1	Introduction	What is computer, intelligence, different types of computer, inside the desktop computer. Binary & data, circuit & logic, cpu, memory, input/output, hardware, software, history of computer.
2	Software and program	Application software, operating systems, creating computer program, programming process, algorithm, data structures
3	Programming languages - I	Introduction to the world of programming, sratch, Java script
4	Programming languages - II	High level programming languages: C, Python
5	Hardware	Processor, memory, storage devices, input/output devices.
6	Digital Logic and circuits	Boolean algebra and logic gates, circuits, integrated circuits
7	Network	Networking basics, LAN, WAN, network media and hardware, wireless network.
8	Internet and World Wide Web	How internet Works, WWW, HTTP, HTML, url, browsers.
9	Database	Survey of Database systems, SQL,common corporate database management systems : oracle, SQL server, MySQL
10	Computer Security	Basic security concepts, threats, spying tools, spam, issues related to privacy and anonymous browsing.
11	Cloud computing, Big data and emerging technologies	Concepts related to cloud computing and big data and their influence in the world. Other emerging technologies.
12	Artificial intelligence and future of computing	Machine learning, deep learning, computing vision, self driving car and the future of intelligent computing.