VAC 10

BASICS OF COMPUTER

Value Added Course of computer Applications

Computers in Healthcare: Minimizing error and smart and swift Healthcare

The goals of medical education are to provide students and graduate clinicians specific facts and information, to teach strategies for applying this knowledge appropriately to the situations that arise in medical practice, and to encourage development of skills necessary to acquire new knowledge over a lifetime of practice.

Information technology is an increasingly important tool for accessing and managing medical information—both patient specific and more general scientific knowledge. Medical educators are aware of the need for all medical students to learn to use information technology effectively.

Computers also can play a direct role in the education process; students may interact with educational computer programs to acquire factual information and to learn and practice problem-solving techniques. In addition, practicing physicians may use computers to expand and reinforce their professional skills throughout their careers. The application of computer technology to education is often referred to as **computer assisted learning, computer-based education (CBE)**, or **computer-aided instruction (CAI)**.

With its vast storage capacity, a computer can be an extension of the student's memory, providing quick access to reference and new content.

Multimedia capabilities allow the computer to present rapidly a much larger number of images than can be accessed through a book or an atlas and to supplement the static images with sounds, video clips, and interactive teaching modules. Immersive interfaces, which present three-dimensional worlds and allow touch and force feedback through a joystick or instrumented glove, promise to support the training environment of tomorrow.

### Ways Computers Are Used in Medicine

Medical Imaging

Medical imaging is a broad term that covers technology used to create images of the human body for study and diagnosis. **Patient Monitoring**
Modern computer-based patient monitoring machines allow heart rate, respiratory activity, blood pressure and other critical vital signs to be collected automatically in digital form.
Computer-Assisted Surgery Computers are used to assist in planning, teaching and performing many surgical procedures.

Networks and Digital Communication
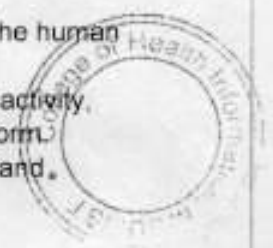
Technology infrastructure (Computers, Networks, Peripherals) Computer networks and the internet have increased the means of communication between medical professionals with email, instant messaging, video chats and webinars. **Telemedicine**
The concept of a house visit is returning to health care in the form of telemedicine.

Electronic Health Records
Perhaps one of the newest major developments in health care, the electronic health record (EHR) is also one of the most far-reaching.

Medical Databases
Computers have brought the development of many useful software solutions in the medical field. Database – Definition, terms, common function, Basic data processing, Database and spreadsheet operations
Database Management System – Introduction to database management system, design, development, deployment, and evaluation of database systems, data integrity, relational normalization theory, security, privacy, and concurrence control.

Medical Research
Much of the current research being done into incurable diseases like AIDS and cancer involves the creation of complex computer simulations.

Computers and Hospital Administration
Most hospitals depend heavily on computers and specialized software that handles patient records, supply inventory, personnel scheduling and all the other details required to care for patients.

Uses of Computer in Offices

> The typical doctor's office relies heavily on computer technology for day-to-day operations.

> Everything from patient scheduling to billing to filing insurance claims takes place through a computer. Many doctors no longer write prescriptions, but instead send a digital prescription from their office computer directly to the patient's pharmacy.

> During diagnosis, many doctors consult online databases of medical conditions using a computer instead of looking at a medical book.

Why to learn computer skills:

i.   For this acquiring basic computer skill to use it effectively. To minimise error during working, patient care and early diagnosis with integrated approach for management of patient.

ii. To get updated Knowledge and remain as lifelong learner.

iii. To learn easy and swift communication skills such e-communication.

iv. Most important be aware of research and innovation around the world and able to collaborate with various agencies. For that to become effective presenter of project.

'Hence this program to develop paperless hospital in future'

Eligibility:
Medical students (MBBS); MSc; BSc allied health science and other Graduates students. Post Graduate and PHD

ATTENDANCE:
75% Attendance is compulsory. Any one failing to achieve this, shall not be allowed to appear in the Evaluation.

Course schedule:

Sr. No.	Topic	Theory hrs.	Practical hrs.
1	Introduction to computer application in medical sciences	1 hr.	-
2	Microsoft office & its applications	1 hr.	1 hr.
3	Use of Microsoft word & its application	30 min.	2 hrs.
4	Power Point Presentation	30 min.	2 hrs.
5	Microsoft Access and its application	30 min.	2 hrs.
6	Use of media & Algorithm for PPT	30 min.	2 hrs.
7	Microsoft Excel, concept & analysis of data	1 hr.	2 hrs.
8	Microsoft publisher & Posters/ Banner making	30 min.	30 min.
9	Use of one note (a personal diary)	30 min.	30 min.
10	Application of It in medical research	1 hr.	1 hr.
11	Internet and its Application	1 hr.	1 hr.
	Total	8 hrs.	14 hrs.

- Evaluation Method – MCQ Test
- Course will be conducted Three times a year