

University of Pune

Faculty of Education

Name of the Certificate Course:(From 2009-2010)

**Certificate course in basic computing and assistive technology learning (vi)
(CBCATL)**

Course Proposal:

Overview:



Computer aided assistive technology has brought revolution in the life of visually challenged people. They can operate computers effectively using computer screen reader. Still visually challenged students of India have poor performance in formal education in colleges and universities. The main reason behind this is unawareness among students and academicians about the potential use of assistive technology in education. The students have to depend on others for their study and other educational activities due to lack of knowledge of assistive devices.

The basic objective for the introduction of the course is to increase accessibility of overall educational system to visually challenged students by training them for the use of computer as all course material can easily be available in electronic format.

The proposed course will enable all visually challenged students of any discipline to make them independent in not only education but also in their career.

Care has been taken in designing the course to provide basic knowledge of use of computer aided assistive technology devices and its application in education in short duration of the course.

The course will also give insight knowledge of application of computer to visually challenged people in various fields and day to day life activities which will enrich their life.

The visually challenged students of academic departments of the university can study some credits of the proposed course along with their degree course to which they are enrolled.

Course objectives:

-  **To increase accessibility of entire educational system to visually challenged people by training them for use of computer.**
-  To make aware the students about basics of computer and its application in various fields.
-  To provide basic knowledge of computer assistive technology to visually challenged student for making them independent in education.
-  To provide educational and work place solution to visually challenged students using computer knowledge for solving their employment problem.

Target students:

- ✚ All visually challenged students of different discipline studying various educational institutions who lack knowledge of use of computer added assistive devices in their education.
- ✚ Visually challenged employees of academic institutions, government offices, NGOS working in the field of welfare of visually challenged and public sector as well as private industries.
- ✚ Normal people who are related to education and employment of visually challenged people.

Course duration:

The course can be run by two ways:

✚ Part time Course:

Duration: 24 weeks or six months

20 weeks theory lectures and practical (1 or 2 hours theory and 3 hours practical in every week)

3 weeks preparation leave and 1 week examination.

The course will be conducted twice a year.

Course commencement: Every year in the month of June and January.

✚ Crash Course:

Crash course can be conducted in vacation on students demand

Duration: 4 weeks.

20 days theory and practical (1 or 2 hours theory 3 hours practical every day)

4 days preparation time and examination.

The course will be conducted once a year.

Course commencement: Every year in the month of May.

Course Eligibility:

Qualifying examination: H.S.C. (arts, science, commerce) or equivalent certification from recognized board of education.

Students should have minimum of 40 percent marks in qualifying examination.

Student's eligibility for appearing course examination:

1. 80 percent attendance
2. Student's sincerity during the course.
- 3 Student's have only 3 attempts to qualify the subject. In case student could not qualify any course/subjects in 3 attempts, his/her admission stands cancel and certificate will not be awarded to him/her.

Number of seats:**20 max**

Minimum 5 admissions are necessary for starting a batch.

Selection criteria: on the basis of merit in qualifying exam.

Medium of instruction:

**Teaching will be partly by English and partly by Marathi
All Examinations will be conducted only in English medium.**

Course Structure:

Total Subjects: 2

A. theory courses:

BC001 Basic Computing (T) 50 marks '2 credits'

B. practical courses:

BC002 basic Computing (P) 100 marks '4 credits'.

Total 150 marks (6 credits).

Teaching hours: 30 (T) 60 (P)

Course content:

BC001: Computer Application (T) '2 credits'

Unit I: Introduction to Computer Science

Introduction

History

Scope

Significance

Unit II: Introduction to Computer Hardware

2.1 What is Computer?

2.2 Computers and its peripherals: CPU, input and output devices: monitor (screen), keyboard, mouse, speakers, their structure and function.

2.3 Computer accessories: printer, scanner, external data traveler (USB device): their structure and functioning.

2.4 CPU components: hard disc drive, CD or DVD ROM, RAM, SMPS, micro processor, mother board, cables, connectivity ports; their structure and function

Unit III: Introduction to operating systems

3.1 Disc Operating System (DOS), windows: features and its versions.

3.2 UNIX, Linux: features and its various distributions

3.3 Macintosh features

Unit IV: introduction to Software and Software Packages

4.1 What is software program and package?

4.2 Screen readers: JAWS for windows, ORCA for Linux; their silent features and applications.

4.3 Introduction to popular software program and packages: MS Office for windows and open office for Linux, Kurzweil 1000, talking typing teacher, WinZip, Winamp, adobe acrobat, Nero, their silent features and applications.

Unit V: Basic Computer Operations

5.1 Desktop screen and desktop icons appearance and their utility

5.2 Menu bar, toolbar, task bar, status bar system tray; their location, appearance, utility

5.3 Dialog box, combo box, list box, check box, radio button; their appearance, operating method and utility

5.4 List view, grid view, three views; their appearance, operating method and utility

Unit VI: Introduction to internet

6.1 What is internet?

6.2 Application of internet for various purposes

Unit VII: Computer Networking

7.1 Miniframe and Mainframe computers

7.2 Computer Networks: LAN, VAN, MAN etc.

7.3 Application of computer networks

Unit VIII introduction to assistive devices:

8.1 Braille embossers: basic index d, tiger pro etc.

8.2 special devices: zoomX, ivo touch pad, brailier etc.

BC002: Computer application (P) '4 credit'

Students have to under go lab work and complete 20 assignments. Each practical session will be of three hours duration.

Practical 1

I Instructions for working in computer lab

II. Introduction to computer hardware: computer peripherals and CPU components

Practical 2

Introduction to key board: using talking typing teacher programme key strokes and key combinations.

Practical 3

Manually starting the computer, logon and manually shutting down computer, end task operation: shut down, stand by, restart, hibernate etc.

Practical 4

I Introduction to desktop and its icons, tool bar icons, system tray icons and its accessibility

II. Introduction to start menu and accessibility of its items with the help of JAWS screen reader using keyboard commands.

Practical 5

Introduction to common windows: My Computer, windows explorer, my document, recycle bin etc.

2 Hard disk partition: drives folder creation, deletion etc.

Practical 6

Introduction to JAWS and jaws settings: accessibility of JAWS manual, short cut keys etc.

JAWS Basic, Key board setting verbosity setting, voice, rate, speech setting etc.

Practical 7

Introduction to Kurzweil 1000: document reading, reading option, document scanning and saving document, voice setting.

Practical 8

Introduction to common applications: WinZip, winamp, media player, adobe acrobat reader etc.

Demonstration of software installation in windows environment.

Practical 9

Accessibility of external devices: memory devices: CD, DVD, data travelers, memory card, recorders.

Copying data into external memory devices and vice versa

Use of printers, scanners and its accessibility.

Practical 10

Windows setting: Control panel and its options: add and new hardware, add and remove programme, date and time, display options, file setting, key board options, sound and audio devices etc.

Practical 11

Word Processor 1

Practical 12

Word Processor 2.

Practical 13

Word processer3

Practical 14

Spread sheet 1.

Practical 15

Spread sheet 2.

Practical 16

Spread sheet 3

Practical 17

Power Point Presentation 1.

Practical 18

Power Point Presentation 2.

Practical 19

Introduction to Internet 1: Use of search engines, net surfing, email access.

Practical 20

Introduction to Internet 2:
accessibility of online application form, downloading data and software applications.

The syllabus will be revised and up dated every year as per changed scenario.

Course duration:

The course can be run in three ways:

 **Full time Course:**

Duration: 12 weeks.

10 weeks theory lectures and practicals (3 hours theory lectures and 6 hours practical in every week).

1 week preparation leave and 1 week examination.

The course will be conducted twice a year.

Course commencement: Every year in the month of June and January

 **Part time Course:**

Duration: 24 weeks

20 weeks theory lectures and practicals (1 or 2 hours theory and 3 hours practical in every week)

3 weeks preparation leave and 1 week examination.

The course will be conducted once a year.

Course commencement: Every year in the month of June.

 **Crash Course:**

Duration: 4 weeks.

20 days theory and practical (1 or 2 hours theory 3 hours practical every day)

4 days preparation time and examination.

The course will be conducted once a year.

Course commencement: Every year in the month of May.

Number of seats: **20 max**
Minimum 5 admissions are necessary for starting a batch.

Examination and Evaluation:

The assessment of students performance will be done in two ways:

✚ Internal assessment:

40 percent of the total assessment will be done by internal examination.
One internal examination will be conducted for theory in mid time of the course.
The pattern of examination will be oral for theory.

The practical assessment is done on the basis of the assignments submission during the practical session.

Subject teachers have to design assignments for students according to syllabus during practical session.

The in-house teachers are responsible for conduction and coordination of the internal theory as well as practical examination.

✚ Term end examination:

60 percent of the total assessment will be done in term end examination.
There will be 3 hours practical exam and 1 hour oral exam for each student.
Examiners: 2 lecturer level examiners will be appointed (one internal examiner and one external examiner)

Gradation:

Gradation is according to following formula.

| New Grades | | |
|------------------|----------|--------------|
| Percentage Marks | Grade | Grade Points |
| 0 | F | 0 |
| 40 | E | 1 |
| 45 | D | 2 |
| 50 | C | 3 |
| 55 | B | 4 |
| 65 | A | 5 |
| 75 | O | 6 |

Students should secure minimum of e grade in all courses for qualification of the degree/certificate

Financial management:

Fee structure:

Nominal admission fee of rs 500 will be charged to each students.

The centre expect financial assistance from university or UGC to run the course in the form of salary grant of lecturers and other non teaching staff.

Available resources at the centre for successful conduction of the course:

1 Infra structure: A lab consisting of ten computers with full net connectivity. Assistive software: JAWS, talking typing teacher, Kurzweil 1000 etc.

Special devices: 3 Linux work stations with ORCA screen reader, Braille printer, Braille graphics embosser, scanning and reading machine, instant document reader etc.

2. Human resource: 1 teaching associate level person, recruitment of three clerks and one peon is in process.

Require infra structure:

Infra structure: 1 classroom.

Human resource: 1 lecturer etc.