MAHATMA GANDHI UNIVERSITY KOTTAYAM

CAREER-ORIENTED ADD-ON COURSES SPONSORED BY UNIVERSITY GRANTS COMMISSION

GUIDELINES AND SYLLABI

2008 - 2009

Introduction

1. Career oriented programs are job-oriented add-on programs which run parallel to the conventional B. A. /B. Sc. /B. Com degree courses.
2. The objective of the scheme is to introduce career and market oriented, skill-enhancing courses that have utility for job, self-employment and empowerment of the students. At the end of three years the students will be equipped with a certificate/diploma/advanced diploma in an add-on course along with a conventional degree in Science/Arts/Commerce.
3. The courses are designed in such a way that the students should have the freedom to diversify into various fields not necessarily related to their core discipline.
4. The courses have a progressive approach – certificate, diploma and advanced diploma. As per revised guidelines, a college may opt for multiple certificates courses (three certificate courses) or certificate, diploma and advanced diploma courses. The college can opt for a maximum of three courses only. (*see revised guidelines paragraph 3*)
5. A student can either opt for certificate, diploma and advanced diploma (in a progressive way) or three certificate courses during his/her period of study.
6. Credit system is followed for these courses. One credit is equivalent to 15 hours of workload. A student earns one credit when he spends 15 hours on a subject that may include attending lectures, class work, library work, seminar, assignments etc. (*The academic credit is the unit of measurement of the workload requested of each student in order to carry out the various activities of the program.*)
7. As per revised guidelines the structure of the courses will be the following:
   a. *Certificate Course*: The course will be of 20 credits, and each credit will have 15 hours of workload. Out of the total 20 credits, 8 credits should necessarily be assigned to field work/project work/training.
   b. *Diploma course*: The course will be of 40 credits including 20 credits earned during certificate course. Each credit will have 15 hours of workload. Out of the remaining

20 credits 8 credits should necessarily be assigned to field work/project work/training.

   c. *Advanced diploma course*: The course will be of 60 credits including 40 credits earned together during certificate and diploma courses respectively. Each credit will have 15 hours of workload. Out of the remaining 20 credits 8 credits should necessarily be assigned to field work/project work/training.

8. The financial assistance from UGC will be Rs. 5 lakhs per course as one-time 'seed money' for five years in humanities and commerce streams and 7 lakhs per course as one-time 'seed money', for five years for the science stream.

9. The 'seed money' granted may be utilized for the purchase of books & journals, augmentation of laboratory facilities, equipment, contingency and payment of remuneration to the guest/internal faculty only. (*see revised guidelines para. 2*)

10. The coordinator of the career oriented course may be paid remuneration @ Rs. 5000/- per year out of the 'seed money'. Guest faculty / internal faculty may be remunerated @ 250 per lecture of one hour duration. (*see revised guidelines para.10 and 11*)

11. The courses awarded could be replaced with prior permission of the UGC.

12. The benefits of career oriented courses can be extended to regular PG students of the same college. Priority should be given to regular undergraduate students.

[All coordinators of the career oriented add-on programs are advised to go through the   XI Plan UGC guidelines for introduction of career oriented programs (including annexure)   which is available on the UGC website, www. ugc.ac.in.]

Guidelines for introduction of UGC Career Oriented Add-on Programs at first degree level in Colleges affiliated to Mahatma Gandhi University from the academic year 2008 – 2009 onwards

General:

1. For each career oriented course a coordinator shall be appointed, who will be responsible for the academic and administrative aspects of the course.
2. In colleges where more than one add-on courses are being conducted a general coordinator may be appointed preferably from one among the coordinators. The general coordinator will look into matters concerned with admission to the courses and conduct of final examinations.
3. The college must constitute a 'Career Orientation Council' to monitor the progress of the courses in the college. The council should maintain a profile of local job opportunities and will provide data support for career courses and provide necessary feedback reports periodically to the University and UGC. The Council may be constituted comprising the Principle of the college as the Chairperson and the coordinators of different courses including chief coordinator, if appointed, as members. In colleges where only a single program is being conducted the head of the department of the concerned department/s may be included in the 'Career Orientation Council'.
The Principal of the college shall be responsible for the effective functioning of the career-oriented add-on programmes.

Admission:

4. The college should prepare a prospectus informing the students of the nature and scope of the subject, an outline of the syllabus, minimum conditions which students must fulfill, time schedule, nature of project and field work/laboratory/training experience to be imparted. The prospectus may be issued along with the application form for admission.
5. For certificate courses, irrespective of the year of study regular degree and PG students of the college may be admitted. Preference must be given to regular degree students. Admission shall be strictly on merit (based on the score of the qualifying examination) and the maximum number of students to be admitted shall not exceed 50.
6. For admission to diploma and advanced diploma courses the corresponding prerequisites must be satisfied.
7. A maximum of Rs. 1000/- may be collected from students as annual fee for a course. The existing rules regarding fee concession will be followed.
8. The admission to the courses must be closed by the last working day of July (except for certificate courses) and the list of students admitted with their admission numbers (number in the admission register for the regular course) shall be submitted to the office of the Director, College Development Council within 15 days after the closure of admissions. Classes must be started by the first week of August.

Scheme of Evaluation

9. There shall be a maximum of four papers of 100 marks each for every certificate/diploma/advanced diploma courses. The fourth paper shall be the field work/project work/training. The other three papers shall be theory/and practical papers. For the first three papers 50% marks will be set apart for continual internal evaluation and 50% marks will be for the final written examination. A separate minimum of 50% marks should be secured for a pass

in both internal and written examination. The report of the field work/project work/training will be evaluated by the duly appointed examiners and the same may be presented before the career orientation council for approval at the end of the course.

10. Only those students who have earned a minimum of 15 credits shall be allowed to appear for the final examination.

11. Students who failed to attain the minimum required marks in the continual internal evaluation should repeat the course, and those failed in the written examination can appear along with subsequent junior batch.

12. The college shall conduct the final examinations by itself. The examinations should be conducted with all seriousness as that of university examinations and strict secrecy must be followed. Register numbers must be assigned to students and hall tickets must be issued. Examiners must be appointed for setting question papers and evaluation of theory/practical papers.

13. The continual evaluation marks for each paper may be recorded in form A and the consolidated marks for each paper in form B.

14. The Career Orientation Council will award the Grades of the candidates based on the total marks received including continual evaluation and final written examination for each paper.

15. The consolidated marks for each paper in Form B along with the certificates shall be sent to the Director College Development Council, who will verify the certificates and return it back to the respective colleges after countersigning.

16. The grading can be done in the following way:

Range of % of total marks   Grade

[90 – 100]   Outstanding   (A+)
[80 – 89]   Excellent   (A)
[70 – 79]   Very good   (B+)
[60 – 69]   Good   (B)
[50 – 59]   Satisfactory   (C)
Below 50%   Failed

The continual evaluation marks can be awarded in the following manner:
Test papers (minimum 2)   20 marks
Seminar/viva   10 marks
Assignments   10 marks
Attendance   10 marks
              Total   50 marks

17. The final examinations may be scheduled in such a way that it will not affect the regular degree examinations.

Field work/project work/training

18. Field work/project work/training is the most attractive part of these courses. For this the students may be attached with the local institutions and employing establishments, which have laboratory/workshop facilities related to the new course and where adequate supervision by qualified personal will be available

19. The evaluation of the student's performance in field work/project work/training will be carried out with the assistance of the personnel of the institutions with which the students are attached. Proper record of the work done must be produced by the students. The field work/project work/training may preferably be conducted during vacations.

Syllabus

20. As soon as the college gets sanction from UGC for starting career orientated program they must prepare a draft syllabus for each course as per UGC guidelines. The syllabus must be of progressive as well as stand-alone nature if the college opts for certificate/diploma/advanced diploma courses. If the course sanctioned already exists the same syllabus must be adopted.
21. Common syllabus may be followed for papers having similar content. The draft syllabus must be submitted to the Academic Core Committee for Career-Oriented Program of the University for vetting.
22. The certificate will be issued in the joint name of the UGC, University and the College. For the sake of uniformity the university will prescribe the pattern of the certificate. The colleges must prepare their own certificates as per the pattern given by the university.

Monitoring the Program

23. The career Orientation Council should monitor the progress of the course. The council should maintain a profile of local job opportunities and will provide data support for career courses and provide necessary feedback reports periodically to the University and UGC.
24. Proper record of the fee collected by the college and the statement of expenditure incurred should be maintained.
25. The statement of expenditure incurred (Annexure V) out of the UGC support and that for the fee collected must be sent to the Director College Development Council every year.
26. **The College should maintain a record of students who have completed the three-year degree course along with a 'career-oriented course' so that information is available about the activity/status of these graduates.**

INFORMATION TECHNOLOGY (IT)

CERTIFICATE COURSE

Paper I - 4 credits

Unit 1- Introduction to Computers

    Introduction to computers, uses of computers in modern society History of computers. architecture of computers, characteristics of computers-speed, accuracy, storage and versatility; Computer Languages-Evolution of languages, machine language. assemble and high level language, third, fourth and fifth generation languages; interfacing with computers- I/O devices; Storage devices-primary storage devices, secondary storage devices.   2 hrs

Unit II - Operating Systems & MS-Office

    Operating System- Catcgories of OS, Functions of OS, Windows OS, MS-DOS. Linux. UNIX; MS-Office (Word, Exccl, Power Point. Access), Information Systems, Automated Office Functions.   13 hrs

Unit III - Introduction to Publishing

    Introduction to Publishing - Print, Visual, Web; DTP, Word Processing, Page Layout Font, Typesetting and Layout, Softwares -Adobe Page Maker, Quark Express etc.; Image Processing, Understanding Color, Computer Graphics, Graphic Designing. Website Designing, Prepress Technology; Softwares- Adobe Photoshop, CoreI DRAW. Adohe InDesign, Macromedia Flash etc.   40hrs

Unit IV- Essentials of Printing Technology, Offset Printing techniques; AdvertISIng Industry, Industrial Techniques, Hardware requirements; Visual Media, Introduction to Animation - 2D and 3D.   5 hrs

Practical

    File management in Windows, Creating and formatting a document, Spreadsheet handling with Excel, Presentation Packages, Internet etc.

References:
1. Peter Norton's Introduction to Computers, Sixth Edition, Tata Mc Graw Hill.
2. Fundamentals of Computers, V. Rajaraman, Prentice Hall ofIndia, New Delhi.
3. Computer Fundamentals, P.K. Sinha, BPB Publications, New Delhi.
4. Systems Programming and Operating Systems, D.M. Damdhere, Second Revised Edition. Tata MC Graw Hill
5. Operating System Principles, Seventh Edition, Abraham Silberschatz, Peter Galvin and Gagne, John Wi ley.
6. Windows 98, Users Guide and Reference.

Paper II – Object oriented programming and C++   4 credits

Unit I -Introduction to object oriented concepts; C++ Programming basics, Loops and decisions, Structures, functions; Objects and Classes: Access specifiers- specifying the class, using the class, C++ objects as physical objects, objects as data types, constructors. destructors, Objects as function arguments, returning objects from functions.   12 hrs

Unit II - Arrays: arrays, arrays as class member data, arrays of objects, string, strings as class members.   6 hrs

Unit III - Inheritance: derived class and base class constructors, class hierarchies. private and public hierarchies, levels of inheritance, multiple inheritance, classes within classes.   8 hrs

Unit IV - Pointers in C++: memory management-new and delete, pointers to object. pointer to pointer, polymorphism-operator overloading -overloading unary operator. overloading binary operators. Function overloading, virtual functions and other subtleties. friend functions, assignment and copy-initialisation, this pointer.   13 hrs

Unit V - Files and Strings: streams, string *I/O,* character I/O, object I/O, I/O with
multiple objects, file pointers, disk *VO* with member functions, redirection.   6 hrs

Unit VI - Introduction to VB: Introduction, VB developing environment, exploring the menu bar, using the tool box, elements of VB syntax, using literals, declaring and using constants, data types, d3eclaring and using variables, using the operators, subroutine and functions, looping and decision control structure, If/then/Else structure, select structure. For/next structure, Do loop structure, while/wend structure

References:
1. Object oriented programming in Microsoft C++ - Robert Lafore
2. A C++ premier- Stanley B Hippman
3. The C++ programming language- Bjarne Stroupstrup
4. Mastering Visual basic 6 - Evangelos Petroutsos

Paper III – Communicative English – 4 credits

Unit 1 - Meeting People --Greeting - Wishing Farewell - Expressing Gratitmk. Appreciation - Apologizing - Introducing Oneself - Introducing Others ...

Unit 2 - Importance Of Correct Utterance --Phonetics - Pronunciation - Accent Modulation

Unit 3 - How To Make A Statement -- Subject -Verb Order - Affirmative and Negative Sentences - Agreement Between Subject And Verb.

Unit 4 - How To Ask Questions? - Subject -Verb Order - Types of Questions Affirmative and Negative Questions.

Unit 5 - How To Make Requests? -- Give Orders or Commands - Subject -Verb Order Use of "Let with First and Third Person Subjects".

Unit 6 - Different ways of Stating Some thing - -When the Object Assumes Importance {Active and Passive].

Unit 7 - Speaking About Today's Activities --Stages of an Action Expressed in DitTerent Present Tense Forms.

Unit 8 - Speaking About Yesterday's and Tomorrow's Actions or states --Use of Past and Future Tense Forms.

Unit 9 - Auxiliaries and Their Common Uses in Speech Making.

Unit 10 - Meaning Modification -- Correct Use of Adverbs, Adverbials and Adverb Clauses.

Unit 11 - Reporting Statements -- Direct - Indirect Statements and Questions -Quoting Others.

Unit 12 - Making Suggestions, Polite Enquiries .... Granting Requests, Accepting and Rejecting Suggestions. Making Alternate Suggestions

Unit 13 - Speech Markers --Use of Link Words and Conjunctions

Unit 14 - Expressing Opinions, Necessity, Obligation, Intentions, Permission, Prohibition etc.

Unit 15 -Making Comparison --Contrast --Degrees of comparison --Intensifiers Adjectives -Articles.

Unit 16-Rules about the Use of Prepositions.

Unit 17 -Stylish Ways of Speaking --Special Vocabulary --Idioms -Proverbs -Unit 18 - Tips for Public Speaking -- Debates --Group Discussions.

Unit 19 - Tips for Formal Interviews.   '

Unit 20 - Tips for Formal Writing -- Drafting Letters, Applications, Resume.

The whole programme is activity based. Maximum speaking time is given to the participants. Grammar tips are given after each speaking session and specially designed situations and activities.

Presentations
Exercises

Paper IV – project/training   8 credits

DIPLOMA COURSE

Paper I – Programming with visual basic   4 credits

Unit I - Introduction, VB developing environment, exploring the menu bar, using the tool box, elements of VB syntax, using literals, declaring and using constants, data types. declaring and using variables, using the operators, subroutine and functions, looping and decision control structure, If/then/Else structure, select structure, For/next structure, Do
loop structure, while/wend structure.   24 hrs
Unit II - Using intrinsic controls, pointer, label, frame, check box, combo box, scroll bar, timer, dir list box, shape, image, OLE, picture box, Text box, command button, option button, list box, adding check box controls, adding combo box, standard MDI form
features, building the MDI form, using menus, building a wizard.   16 hrs
Unit III - Database programming, data view window, query designer, data repot designer, creating a data environment, adding queries to data environment, ADO-DAO connecting to the data base, adding records, editing records, closing the database connection.
20 hrs

Paper II – Operating system   4 credits
Unit-I
Fundamentals of OS-monitors, buffering, spooling, multi programming, operating system services   1 0 hrs
Unit-II Processes- States, management, scheduling, context switching, concurrent processes, CPU scheduling, algorithms   15 hrs
Unit-III Dead locks-characterization, prevention, detection, recovery   8 hrs
 Unit-IV Memory management- partitioning, swapping, paging, segmentation, virtual memory,
 direct memory access   12 hrs
Unit-V File system- file concept, access methods, directory system, file protection methods
                                                                       15 hrs

 References:
1. Systems Programming and Operating Systems, D.M. Damdhere, Second Revised
            Edition, Tata MC Graw Hill
2. Operating System Principles, Seventh Edition, Abraham Silberschatz, Peter Galvin and
    Gagne, John Wiley.
3. Windows 98, Users Guide and Reference.

Paper III - Internet and web page designing

Unit I
Introduction to networks-types of networks-advantages, LAN, WAN, MAN   10 hrs
Unit II
Internet-services-addressing scheme, Machine addressing, mail address, resource addressing, TCP/IP, URL, MODEM   15 hrs
Unit III
Internet connectivity-setting up a connection-ISP-visiting a web site-e-mail attachments
                                                                       10 hrs

Unit IV

Types of web sites-need for web sites, web pages, search engines scope of web
designing, a good web site   10 hrs

Unit V

Introduction to HTML-Creating an HTML document-displaying and re using of HTML
document, creating a sample web page   12 hrs

Unit VI -Recent trends and techniques in IT   3 hrs

Practicals:

Web page creation E-mail
address creation Resource
gathering

1. The Internet, Complete Reference, Harley Hahn, Tata McGraw Hill
2. HTML Complete Reference, Wiley Publications.
3. A Text Book on Computer Awareness and Applications, Gireesh Kumar, Prakash
   Publications.

Paper IV – Project and training   **- 8 credits**

ADVANCED DIPLOMA COURSE

Paper I – Microprocessor 8085
Unit-I 8085 microprocessor-pin diagram, function, architecture, data address register, stack pointer   10 hrs
Unit-II Interfacing- Introduction, interfacing with ROM and RAM, Interfacing with input and output- I/O ports, synchronizing I/O data transfer using interrupts, address decoding
                                                                     15 hrs

Unit-III
Programming- Machine and assemble language, instruction set, arithmetic operations, logical operations, data transfer, Branch operation, sub routine calls return operations,
programming, branching, and looping   12 hrs
Unit-IV Programming techniques-straight line programs, looping programs, mathematical programs   8 hrs
Unit-V
Applications- traffic control, temperature control, digital clock, washing machine control
                                                                     15 hrs

Practical:
Microprocessor programming using 8085 microprocessor kit.

R.S. Goankar, Microprocessor Architecture, Programming and Applications with 8085, Wiley Eastern Edition.

Paper II – Computer hardware fundamentals I - 4 credits
Unit-I System concepts, H/W, S/W, H/W components of a system   8 hrs
Unit-II Types of memory, RAM, ROM, Speed of memory, Cache memory, BIOS, CMOS 12hrs
Unit-III Mother board functions, Components of a mother board.   15 hrs
Unit-IV Storage devices, floppy, hard disk, CD ROM, DVD ROM.   1 0 hr
Unit-V
Hard disk components, Disk formatting, disc partitioning, hard disk components, hard disk installations etc.   15 hrs

Reference:
PC Hardware, BPB Publications.

Paper III – Computer hardware fundamentals – II   - 4 credits

Unit-I
System Configurations, System Installations Unit-II
Installing peripherals.
Unit-III
Trouble shooting.
Unit-IV
Control organization, design of hardware control, and design of processor unit Unit-V
CRT Display, LCD, TFT, Printers, Scanners. Reference:
PC Hardware, BPB Publications.

Paper IV-On the Job Training and Project Report   - 8 credits