DEPARTMENT OF EDUCATIONAL TECHNOLOGY
BHARATHIDASAN UNIVERSITY

Post Graduate Diploma in e-Learning (PGDEL)

Preamble

Information is the lifeline of the digital age and 21st century in shaping itself in the Knowledge Economy at a breath-taking pace. People now have the power to learn on their own time and at their pace with the enormous resources around them. The development of the user-friendly computer networks, internet, multimedia, on-line instruction, satellite and other high-end ICT peripherals have enhanced the usage of this technology in education. It is certain that e-Learning technologies allow for the real-time performance, thus enabling individuals to spend time on their deficiencies rather than spending time on areas that they have mastered already. e-Learning could also be conceived as one of the boons for an individual in the modern era to accommodate oneself in the knowledge society and can help oneself win the confidence of the society with which one has to survive. In that way, the proposed programme aims at developing Knowledge, Skills and Attitude of course entrants on the effective exploitation of online and offline e-learning potentials for the enhancement of their professional preparation or to put them in to the comfortable zone. In addition, the proposed programme provides knowledge and training and develops in them an understanding of vital areas such as theoretical principles to design e-learning programmes, Development multimedia instruction and content development.

Duration of the Course

The proposed programme is of one year duration and will be organized on full time basis. Theory, practical, practicum, field visits, internship training and case studies will form part of the curriculum.

Programme Objectives

The objectives of the programme are to develop human resource capabilities in planning, designing, developing, implementing, and evaluating e-learning programmes. After successful completion of the programme the learners are expected to: -

- Apply theoretical principles to design e-learning programmes;
- Identify innovative practices and developments in the field of e-learning;
- Learn to utilize the applications of Electronic media;
- Acquire the knowledge and skills of different components of Multimedia for the development of interactive multimedia with reference to the context;
- Use appropriate instructional design models for e-learning programmes;
- Manage e-learning projects; and
- Choose appropriate technology for e-learning and develop content for e-learning.

Course structure

The programme is essentially a judicious mix of theory and practical components. The programme will be conducted using a variety of techniques: lecture, Discussion, use of the Teacher-Oriented Televised Education (TOTE) Studio for e-content development, Role playing, Panel Discussions, Simulations, Case Study and Invited Lectures from the Experts. Students of this programme are expected to conduct a research project based on different aspects of e-Learning. The theoretical aspects are suitably supported by the practical activities to the extent needed. Keeping this in view, the structure of the course and the scheme of examinations are as follows:

SI. No.	Course No.	Course Title	Content Hours/Week	Max-. Marks		Total
				Sessional	Annual	
1	EL-1	Psychological Bases of e-learning	3	25	75	100
2	EL-2	Educational Technology and Instructional Designing	3	25	75	100
3	EL-3	e-Resources and Web 2.0 Technology	3	25	75	100
4	EL-4	Educational Multimedia and e-Content Development	3	25	75	100
5	EL-5	Project & Viva-Voce	4			150 50
Total						600

ELIGIBILITY

A candidate holding any degree from a recognized institution with 50% of marks in part III will be eligible to apply for the course.

SCHEME OF EXAMINATION

There shall be the Examinations at the end of the academic year besides the Continuous Internal Assessments.

PROJECT WORK

a. Candidates shall be required to submit a project work and an abstract of it. This shall embody the record of original investigation or a critical study of existing data or combination of both or comprise the production of e-content (module) or Educational Multimedia. This work shall be prepared under the direction of a teacher approved by the department.
b. Each work shall be accompanied by a certificate signed by the Supervisor and countersigned by the Head of the Department to the effect that it has not been the basis for the award of any degree or diploma or previously submitted projects.

INTERNAL AND EXTENRAL ASSESSMENT MARKS

Internal Assessment marks will be awarded as given bellow:

a. Tests = 15 marks
b. Seminar = 5 marks
c. Assignment = 5 marks

a. There shall be internal and external assessment for each of the prescribed papers. 25 marks shall be assigned for internal assessment and 75 marks for external examinations. There shall be internal and external assessment for the Project Work. 50 marks shall be assigned for internal assessment and 150 marks for external examination.

Each written paper shall be valued by the course teacher and an external examiner separately. The average of the marks awarded by them shall be taken as the final external marks provided the difference between the marks given by the two examiners is not more than 10%. If it exceeds 10% then the concerned answer paper shall be sent to a third examiner for valuation. The average of the marks between the third examiner and the marks nearer to the third examiner will be taken as the final mark of the candidate in the paper.

b. The internal and external marks will be shown separately in the grade sheet.

c. Each project work shall be valued by an external examiner who shall also conduct the viva-voce examination on the project work.

EL-1: Psychological Bases of e-learning

Objectives

After this completion this course, the student will be to:

acquaint students with the meaning of psychology, basic concept of psychology.

acquire knowledge of various schools of psychology, learning and instruction.

make them understand the concept of sensation, attention,perception,motivation and learning.

appreciate the different sources of motivation for e-learning.

apply the knowledge of different theories of intelligence and intelligence testing for e-users/e-personnel.

apply the psychological principles of e-learning.

Unit:1: Introduction to psychology

Psychology-meaning,scope,methods and Applications-schools of psychology: Gestalt school of psychology,Behavioural school of psychology,school of psychoanalysis,stimulus response psychology-psychology of learning and instruction in the new millennium.

UNIT:2:Motivation and e-learning

Motivation:meaning,definition,types Theories of motivation: Instinct,drive,motive arousal-Role of motivation on e-learning,Factors influencing motivation on e-learning,Technology for motivation:m-learning,Blended learning,u-learning.

Unit:3:Intelligence and e-competence

Intelligence:meaning,definition,concept-Types:Emotional,social and e-teaching competence-The**o**ries:multiple intelligence,artificial intelligence-Intelligence testing:meaning,definition-Intelligence test:Individual and Group intelligence-Online IQ testing.

Unit:4:Metacognition

Metacognition-meaning,definition-cognitive process:sensation,perception,attention,logical thinking,problem solving,reasoning,memory,concept formation,language processing-

metacognitive orientationfor e-learners-metacognitive elements of e-learning and instruction,Piaget-the prodigy.

Unit:5:Learning and changing behaviour

Learning:Definition,nature-characteristics of learning,perspectives of e-learning-Theories of learning: classical and operant conditioning.Gagne's nine events of instruction,Guthrie's continuity learning -Information processing-Donald Norman,Information Acquisition,meaningful reception learning-Ausubel-educational implications of theories of learning.

REFERENCES

1.Quinn Vigina Nichols(1985)'Applying psychology',Internatinal student Edition,Singapore.

2.Mangal.S.K(2006)'Advanced educational psychology' PHI Learning private Ltd,New Delhi.

3.Sharas.R.A (2006)'Psychology of teaching-learning process',Surya publisher,Meerut.

4.Daniel holeman (1995) 'Emotional intelligence' Bantam trade paperback Edition,USA.

5.Gardner.H(1999) Intelligence Reframed:Multiple intelligences for the 21st century,New york.

6.Dhandapani.S(2008) 'Advanced educational psychology' Anmol publications Pvt Ltd,New Delhi.

7.Srivastava.D.S (2007) Education:Understanding the learner,ISHA Books,Delhi.

8.Talawar.M.S (2009) 'Advanced Educational psychology', Centrum Press, New Delhi.

9.Chaudhari.P.T(2007) 'Online Education and Training' Shree Nivas publications,Jaipur.

EL2:Educational Technology and Instructional Designing

Course objectives

After completion of this course the student will be able to:

1.develop basic knowledge of the principles and practices of Educational Technology and also about the history and development of Educational Technology in India and abroad

2.familiarise with the different media and methods currently employed for instruction

3.develop the ability for critical appraisal of the instructional media, materials and aids in terms of their individual merits and advantages for optimizing learning

4.familiarise with the instructional uses of Information and Communication Technology(ICT)and

5.familiarise with the emerging trends and advances in Educational Technology

6.develop basic knowledge of Instructional design

7.apply different types of instructional designs

8.acquire the knowledge of different instructional design models

Unit 1: Nature and Scope

Educational Technology: concept, Definition, Objectives and Types – Technology in Education and Technology of Education, systems approach and systems analysis in education – Approaches – Hardware and Software.

Unit 2:

Instructional Technology: Meaning, Definition and Scope – Physical science concept and Behavioral science concept – Historical review of the development of Instructional Technology. Major institutions of educational technology in India - CIET, AVRC, EMRC, IGNOU, SIET, consortium for Educational Communication (CEC).

Unit 3: Theoretical Basis of Educational Technology and Auto-Instruction

Techno- pedagogy: Application of the principles and theories of learning relevant to Educational Technology with special reference to Individualized Instruction. Multi-Media approach.

Principles of and procedures for Individualized Instruction, Programmed learning and self-instructional module. Computer Assisted Instruction and Computer Based Instruction – computer mediated teaching- making effective use of computer

Development of multimedia package – various phases: foundational research phase, design/development phase, formative and summative evaluation phase.

Unit 4: Instructional Design Techniques

Instructional Design: Definition, Meaning, Need, scope – Stages of Instructional Design: information processing, learning events and learning outcomes: concepts and meaning – Instructional designs: Objective-based, skill-based, competency based, learning style based and combination of teaching strategies and instructional designs. Instructional Technology for large groups: psycho-dynamics of group learning/ lecture method, seminar, symposium, panel discussion, team teaching, project method and workshop – Instructional technology – small groups, group discussions, simulation approach, role playing, buzz group technique, brainstorming, case discussions and assignments.

Unit 5: Instuctional Design models

Instructional Design models: ADDIE, DICK & CARRY, Gagne's nine type of instruction, David Merill design.

Suggested Readings

Rajasekar,S. (2004). Computer Education & Educational Computing, Neelkamal Publications. Pvt.Ltd. New Delhi.

Sampath et.al.(1981). Introduction to Educational Technology, Sterling Publishers Pvt.Ltd

Sharma,K.D. and Sharma, D.V.(1993). Open Learning Systems in India, Allied Publishers Ltd.,New Delhi.

Kumar,K.L.(1996). Educational Technology, New Age International Pvt.Ltd. Publishers. New Delhi.

Venkatesh, N.(1996). Educational Technology, New Delhi: APH Publishing Corporation.

Paper III (Course Code: EL3): e-Resources and Web 2.0 Technology

After completion of this course, the student will be able to:

- acquire the knowledge of what, why and how of e-resources and translate the knowledge of e-resources in to constructivism.
- demonstrate the different forms of digital information in the appropriate context.
- analyze the significant functions and uses of different initiatives of e-resources
- differentiate web 1.0 and web 2.0 technologies in terms of their features, functions and trends
- appreciate the immense value of services and tools of web 2.0 technology by exploiting them

Unit 1 Introduction to e-Resources

e-Resources: What, Why, How, need, issues, challenges and uses: Psychological testing, Virtual laboratories, Online tutoring, Remedial teaching and Evaluation- Pedagogical Equation-Types of e-resources: online and offline-e-resources and constructivism.

Unit 2 Dissemination of e-resources

Forms of Digital Info: E-mail, group mail, Search engines, Metasearch engines podcasting, Power point presentations, Static websites, simulations, e-learning, Weblogs, Webquests, Gateways and portals, Full text Databases –Tele-conferencing-Video-conferencing – Their Implications

Unit 3 Initiatives of e-Resources

Initiatives in India with their implications: UGC-CEC,UGC-INFLIBNET, UGC-INFONET, ERNET, DELNET, HELNET, INDEST, NPTEL, CIET,CSIR e-journal consortium, Tamil Virtual University, RIS, DOAJ – Other initiatives with implications: ERIC, JAVA applets, MOODLE, A-Tutor, WEBCT-Online Thesis Library-Citation Index: Web of Sciences and Scopus

Unit 4 Basics of Web 2.0 Technology

Web 1.0 Technology: Definition, Meaning and Characteristics- Web 2.0 Technology: Definition, Meaning and Characteristics- Difference between Web 1.0 and Web 2.0 Technology—Web 2.0: Features, Functions and Trends.

Unit 5 Web 2.0 services and tools

Web 2.0 services : Blogs, Wikis, Tagging, Social book marking, Audio blogging, webcasting, Multimedia sharing—Tools: HTML, XML, Blogger, Wordpress, Myspace, Youtube, Metacafe, Del.icio.us, Digg, Furl, Social media: Facebook, Skype, Twitter and Flickr-Their implications

Practicum: Creation of e-mail, group mail, Blogs, webquests, Multimedia, applets, HTML files, XML files, word press.

References:

1. Duffy, T. M.and D.H. Jonassen, (1992) Constructivism: New implications for instructional Technology, in constructivism and the technology of instruction: A CONVERSATION, T.M. Duffy and D.H. Jonassen,(Editors). Lawrence Erlbaum Associates; Hillsdale,NJ.

2. Kluge, Stacy; Riley, Liz. (2008) Teaching in virtual words: Opportunities and challenges. Issues in Information Science and Information Technology Vol 5,127-135.

3. Media Grid: Immersive Education, http:// immersiveeducating.org. New Media Consortium,2007.

4. Oblinger,D G and Oblinger,J.L (2005). Educating the net generation. Retrieved January 6, 2010 from http:/www.educause.edu/educating thenegen

5. Pence, Harry E, (2007). The homeless professor in second Life, Journal of Educational Technology System Vol.36 (2) 171-177, 2007-2008.

6. Ramganesh and Srinivasaragavan E(2010). e-Resources in Higher Education, Bharathidasan University Publication Division, Tiruchirappalli.

6. Warlck, D F.(2005a) Classroom blogging: a teacher's guide to the blogosphere. Raleigh, NC: the landmark project.

EDUCATIONAL MULTIMEDIA AND E-CONTENT DEVELOPMENT (EL 4)

Objectives:

After going through the course, the students will be able to

- understand the concept, need and significance of multimedia in the context of education
- appreciate the potentials of instructional multimedia
- apply the principles and models of multimedia design and development
- identify, select, and create digital media files with the correct file type for multimedia creation
- create and edit digital images, audio, and video
- develop proficiency in using multimedia tools and techniques
- combine multiple representations including text, images, audio, animation, and video to craft instructional messages for optimal learning
- understand the dynamics of e-content development and
- evaluate multimedia content for instructional effectiveness.

Unit I

Introduction to Media – Media Modalities – Multimedia: Concept, Meaning and Definitions –Features of Multimedia: Multimodality, Interactivity, Immersion, Interactivity, Hypertextuality/ hyperlinkedness, Narrativity – Multimedia, rich media, hypermedia and new media – Multimedia in the context of education – Educational Multimedia – Origin and Development – Educational Potentials of Multimedia – Multimedia Learning – Analysis of Educational Multimedia in different subjects - Initiatives at International and National levels

Unit II

Instructional Multimedia Design and Development : Principles, Models and Guidelines – Design Vs Development – Nature of Designing Process – Scripting for Instructional Multimedia - Stages of Development Process - Needs Assessment - Front-end Analysis: Audience analysis , Technology analysis, Situation analysis, Extant data analysis, Media analysis, Task analysis, Critical incident analysis, Objectives analysis, Cost analysis – Design – Prototype - Development – Implementation – Evaluation

Unit III (Practical)

Elements of Multimedia – Working with Text, Still Images, Sound, Video, Graphics and Animation – Text in Multimedia: Factors in textual communication, Combining with Graphics– Image in Multimedia: Digital Images, File Formats, Scanning and Digitizing, Image Editing - Audio in Multimedia: File Formats, Digital Recording, Mixing, Sound Editing - Video in Multimedia: File Formats, Digital Video, Recording and Capturing, Video Compression, Video Editing – Graphics in Multimedia: Types of Graphics, Graphics Formats, Scanning and Digitizing – Animation in Multimedia: 2D and 3D Animation, Key Frames, Tweening, Software Tools, Animation File Formats – Interactivity – Interactive Multimedia creation through the use of authoring tools.

Unit IV

E-content Development – Meaning, Need and Significance – Types and Forms of e-Content – Short Learning Objects – Modules: Components – Stages of e-Content Development and steps involved – Scripting for e-Content – Learning Object Repositories – E-content Development initiatives in India: NPTEL, NME-ICT – Role of UGC-CEC and EMMRC's – Funding for E-content Development.

Unit V

Evaluation of multimedia learning materials: Need and Significance – Evaluation Vs Monitoring – Principles of Instructional Multimedia Evaluation – Usability-Usefulness Continuum – Models, Techniques and Tools for Multimedia Evaluation – Parameters of Quality Assurance in e-Content – Standards and Benchmarking for Quality e-Content.

References

Mayer, R. E. (2001). Multimedia Learning. Cambridge: Cambridge University Press.

Mayer, R. (2005). The Cambridge Handbook of Multimedia Learning. New York: Cambridge University Press.

Counts E.L. (2003) Multimedia Design and Production for Students and Teachers. Boston: Allyn and Bacon.

Heinich, R., Molenda, M., Russell, J. & Smaldino, S. (1999).Instructional Media & Technologies for Learning. 6th.edition. New York: Merrill - Prentice Hall

Volker, R., & Simonson, M. (1989) Media for Teachers: an introductory course in media for students in teacher education. 5th. Ed. Dubuque: Kendall/Hunt Publishing.

Ruth Colvin Clark and Richard E. Mayer (2003). *E-Learning and the Science of Instruction: Proven Guidelines for Consumers and Designers of Multimedia Learning. Pfeiffer*

Beetham, Helen, and Rhona Sharpe (2007). Rethinking Pedagogy for a Digital age: Designing and Delivering E-Learning. 1st ed. London: Routledge.

Usha Reddi and Sanjaya Mishra (2003). Educational Multimedia : A Handbook for Teacher–Developers. New Delhi : Commonwealth Educational Media Centre for Asia.

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