CONTEMPORARY ISSUES & TRENDS IN COMPUTER STUDIES & DATA ANALYSIS

Course Code: EDBET358 **Credit Hours: 3**

Course Description

The broad purpose of this course is to develop students' knowledge, skills, and abilities as technology educationist. In particular, this course aims to develop at high level of understanding and a critical analytic perspective across a diverse range of trends and issues in Computer Studies & Data Analysis by focusing on conceptual, theoretical and substantive research findings found in the academic research literature in the field.

Learning Outcomes

Upon completion of this course, the students:

1. Will develop knowledge and skills that enable the student to evaluate, critique, and ultimately contribute to the scholarly literature in Computer Studies & Data Analysis.
2. Should have improved their written and verbal communication and analytical skills and feel comfortable discussing theoretical and methodological issues in a scholarly manner.
3. Will gain an appreciation of the development of knowledge in a range of topic areas.
4. will learn about the institutions, systems, and practices found in academic as well as research process in Computer Studies & Data Analysis

Contents

1 Education as a Complex Enterprise

- 1.1 Diversity of aims and approaches in education.
- 1.2 Variety of philosophical approaches to education.
- 1.3 Education in different periods and societies

2 Technology Education

- 2.1 Technical School: origin, aims and Learning Outcomes
- 2.2 Role of madrassah in 21st century
- 2.3 System of education in Technical School
- 2.4 Technological reforms in Pakistan

3 Universal Literacy

- 3.1 Literacy and individual rights
- 3.2 Factors affecting program for universal literacy: medium of instruction
- 3.3 Formal and Non formal education: Advantages and disadvantages

4 Gender Disparity

- 4.1 Concept of gender equality
- 4.2 Factors affecting the status and role of women
- 4.3 Steps towards reducing gender disparity.

5 Population Education:

- 5.1 Concept of Population Education.
- 5.2 Factors affecting Population Education
- 5.3 Impact of Population Growth on National Development.
- 5.4 Roles and responsibilities of family, school, mosque and community in population education.
- 5.5 Steps towards population planning and welfare.

6 Environmental Awareness
- 6.1 Types of pollution
- 6.2 Causes of pollution
- 6.3 Environmental education

7 Privatization of Technical Education
- 7.1 Government resources and multiple demands
- 7.2 Need of private sector education
- 7.3 Challenges of quality education

8 Information in Technical Education
- 8.1 New concept of information explosion
- 8.2 Expanding learning resources
- 8.3 Information and communication technology (ICT) literacy
- 8.4 Technology in education

Having studied these contents, the students will reflect over following trends and issues in specific context of Technical Education

Issues in Technical Education
- 26 Technological contents and religious conflicts
- 27 Globalization of Technical Education
- 28 Practical assessment in Technical education
- 29 One size fits all? Comparative effectiveness of various methodologies in teaching science
- 30 Problems of Science education in Pakistan
- 31 Technical Education in Pakistan across national educational policies and plans
- 32 Teacher education in Pakistan
- 33 Declining attitude of students towards Technical Education
- 34 Gender disparity in Technical Education
- 35 Regional disparity in Technical Education
- 36 Should science curriculum be diversified?
- 37 Medium of Instruction for Technical Education. An exploratory approach
- 38 Demands of 21st century and our Technical Education curriculum. An analytical approach.
- 39 Our Technical Education textbooks: source of knowledge or source of misconceptions

Trends in Technological Education
- 40 Scientific literacy: goal of Technical Education in 21st century
- 41 Trend in international Math and Scientific Studies (TIMSS): Introduction & Major findings in Science domain
- 42 Program for International Students Assessment (PISA): Introduction & Major findings in arts & Experimental crafts & domain
- 43 Constructivism in Technical Education: Theoretical background
- 44 Constructivism in Technical Education: Practices in classroom and challenges
- 45 Constructivism in Technical Education: Assessment practices and challenges
- 46 Use of concept mapping technique in teaching technology

57. Scientific Inquiry
58. The role of Technical Education in environmental literacy
59. Science, Technology , Society (STS) connections
60. Curricular reforms in Technical Education
61. ICT in Technical Education
62. Technical teacher recruitment standards: A comparative approach
63. Modern Assessment practices in technology disciplines
64. Introduction to major research journals in Technical Education
65. Role of argumentation in Technical Education
66. Standards for 21st century Computer laboratory
67. Career opportunities with Computer Studies & Data Analysis
68. Technical Education at higher education level: an introduction to degree programs offered in Technical Education round the world
69. Use of low cost no cost material in Technical Education

Assessment and Examinations

The students will be assessed according to the following criteria.

Examination	Marks Distribution
Sessional work	25 %
Mid Semester	35%
Final Semester	40%

Suggested Readings

Branch, J., Collins, M.,& Sotnick-Yogev, E. (2018). *Contemporary Issues in Digital Marketing: New Paradigms, Perspectives, and Practices.* Farington: Independent Publishers Group.

De Vries, M. J. (2018).*Teaching about Technology: An Introduction to the Philosophy of Technology for Non-philosophers (Contemporary Issues in Technology Education).* Netherlands: Springer.

Haltak, J. (1990). *Investing in the Future, Setting Educational Priorities in the DevelopingWorld.* Paris, UNESCO: McGraw-Hill Kogakusha.

Indira, M. (2003). *Changing Demands of Technical and Vocational Education.* New Delhi: Annual Publication.

Govt. of Pakistan. (2003). *Education for All.* Islamabad: Ministry of Education Curriculum Wing.

Robert, M., Baird, R., Mays, R. & Stuart, E. R. (Eds.) (2000). *Cyberethics: Social & Moral Issues in the Computer Age*. New York: Promethus Books.

UNESCO, Pakistan. (2004). Quality of education in Pakistan. Islamabad: UNESCO.