SKILL ENHANCEMENT COURSE(SEC)

SEMESTER-V

(Effective from Session 2025-26)

(Batch: 2025-2028)

SAMBALPUR UNIVERSITY

JYOTI-VIHAR, BURLA, SAMBALPUR, ODISHA-768019

SKILL ENHANCEMENT COURSE(SEC)

SEMESTER-V

YOGA IN EVERYDAY LIFE

Credits: 3 Lecture: 45 Hour Full mark: 100

Subject Teacher: The classes will be assigned to the teacher/faculty competent to teach the course by the Principal.

Introduction:

Yoga an ancient practice originating in India has emerged as a beacon of hope & holistic wellbeing for millions around the globe. Beyond being a physical exercise, yoga is a way of life that life that touches every aspect of human life.

Course Outcome:

- It is a comprehensive system that nurtures physical health, mental clarity, emotional balance & spiritual growth.
- By embracing Yoga practitioners develop a greater appreciation for the environment & cultivate practices that promote sustainability and healthy living.

Unit-I

1. The definition & Essence of Yoga.
2. Patanjali's Astanga Yoga marga.

Learning Outcome: -

I. Understand the basic concepts of self (Body, Mind & Spirit) & enhance their self-awareness skill.

2. It demonstrate the basic skills associated with Yoga activities including strength & flexibility, balance & co-ordination.

Unit-II

1. Difference between Yoga Asana & physical exercise.
2. Importance of Yoga in daily life, Therapeutic values of Yoga & Yoga & Health.

Learning Outcome: -

1. It demonstrates on understanding on health related fitness components as well as sound nutritional practices on related to health & physical performance.
2. It explains how holistic focus of Yoga therapy encourages the integration of mind, body & spirit.

Text Books: -

1. The Yoga Sutra of Patanjali.
2. Light on Yoga:- By B.K.S I Yengar.

Reference: -

1. Patanjalis's Yoga Sutra- Swami Vivekananda.
2. Synthesis of Yoga- Sri Aurobindo

BASICS OF MUSEUM AND ARCHIVES

Credits: 3 **Lecture: 45 Hour** **Full mark: 100**

Subject Teacher: The classes will be assigned to the teacher/faculty competent to teach the course by the Principal.

Course Objectives:

 To introduce students to the institutions of Archives and Museums as a site of knowledge.

 To aid students to understand the making of the primary sources for the study of history.

 To help students understand and appreciate the different kinds of archives and museum and then new structuring in the digital era.

Course Outcomes:

 Students would learn about the many uses of archives and museums as a site of historical and social knowledge.

 They would be trained to use archives and understand the process of classification and cataloguing of the records.

Unit I: Definition of Archives and Museum: types - digital, virtual, crafts, media; difference between archives, museum, and library

This unit defines Archives and Museum. It also elaborates on the types of archives and museums which includes digital, virtual, crafts, media. It also tells the difference between archives, museum, and library.

Unit II: History of development of archives and museums in India with one case study each

This unit examines the history of development of archives and museums in India with one case study each.

Unit III: Collection, documentation, preservation

This unit elaborates upon distinct characteristics of collection. It also examines the concerns which govern its documentation and preservation.

Unit IV: Museum presentation and exhibition

This unit familiarizes students with the way in which museums are organised and managed. It also examines the considerations that govern the way exhibitions in museums are managed.

Learning Outcome

Unit I: Students will learn about archives and museums; their types, and their advances.

Unit II: Students will grasp the historical development of archives and museums by collectively studying one case study each. They will understand and be able to discuss their significance.

Unit III: Students will understand and closely witness the processes of archiving and preservation in museums. How records and artifacts and collected, classified, and preserved.

Unit IV: In the last unit students will be acquainted to the process of presentation and exhibition of artifacts.

Suggested Readings

- *Singh, Kavita. (2003). "Museum is National: The Nation as Narrated by the National Museum New Delhi". in Geeti Sen (Ed.). India: A National Culture. New Delhi:Sage.*
- *Bhattacharya, Sabyasachi. (2018). Archiving the Raj: History of Archival Policy of the Govt. of India with Selected Documents 1858- 1947. Delhi: Oxford University Press*
- *Agrawal, O. P. (2007). Essentials of Conservation and Museology. Delhi: Sundeep.*
- *Kathpalia, Y. P. (1973). Conservation and Restoration of Archive Material. Paris: UNESCO.*
- *Mathur, Saloni. (2000). "Living Ethnological Exhibits: The Case of 1886". Cultural Anthropology vol. 15 no.4, pp. 492-524.*
- *Breckenridge, Carol. (1989). "Aesthetics and Politics of Colonial Collecting*: India at World *Fairs." Comparative Studies in Society and History vol. 31 no.2, pp. 195-216*

Reference Readings

- *Ambrose, Timothy & Crispin Paine. (1993). Museum Basics. London: Routledge.*
- *Choudhary, R. D. (1988). Museums of India and their Maladies. Calcutta: Agam Prakashan.*
- *Mathur, Saloni. India by Design: Colonial History and Cultural Display. Berkeley: University of California.*
- *Nair, S. N. (2011). Bio-Deterioration of Museum Materials. Calcutta: Agam Prakashan.*
- *Sengupta, S. (2004). Experiencing History through Archives. Delhi: MunshiramManoharlal.*

Internet Resources

1. Internet Archives https://archive.org/

2. Partition Archives https://in.1947partitionarchive.org/

3. National Museum https://nationalmuseumindia.gov.in/en

Activities to Do

1. Students are expected to collect and catalogue some primary sources by downloading them from internet or getting them photocopied from a local archive or a library.

2. Students are expected to collect and record the details of various museums in their state and others**.**

WORKING WITH COMMUNITIES

Credits: 3 **Lecture: 45 Hour** **Full mark: 100**

Subject Teacher: The classes will be assigned to the teacher/faculty competent to teach the course by the Principal.

Objectives: the objective is to develop understanding among the students regarding basic concepts and different perspectives of community and to understand the critical elements of community organization practice. Finally, to advance the critical understanding of the models and strategies for community organization and community dynamics.

UNIT 1. INTRODUCTION

- Meaning and Definition of Social Groups and Community.
- The perspective of community- geographical and functional community
- Functions of Community
- Historical Development of Community Work.

UNIT 2. STRATEGIES IN COMMUNITY ORGANIZATION

- Strategies and Techniques in Community Organization
- Role of Community Organizer Unit 3. COMMUNITY DYNAMICS
- Understanding community power structure.
- Empowerment and capacity building through communities.
- People's participation
- Community Organization with rural and urban communities.
- Community Organization with Vulnerable Communities

READINGS

1. Khinduka, S.K. & Coughlin, Bernard 1965 Social Work in India, New Delhi: Kitab Mahal.
2. Gangrade, K.D. 1971 Community Organization in India, Mumbai: Popular Prakashan.
3. Cox Fred 1987 Community Organization, Michigan: F.E. Peacock Publishers.
4. Dhama, O.P. & Bhatnagar, O.P. 1994 Education and Communication for Development New Delhi: Oxford & IBG Pub. CO. Pvt. Ltd.
5. Milson Fred 1973 An Introduction to Community Work, Routledge & Kegan Paul, New Delhi: London OXFORD & IBH Publishing co. Pvt. Ltd.
6. Riss, Murray & Lappin, Ben 1967 Community Organization: Theory, Principles and Practice, New York: Harper & Row
7. Somesh Kumar 2002 Methods for Community Participation: A complete guide for practitioners, New Delhi: Sage Publication (Vistaar).

8. Korten, David C. 1980 Community Organization and Rural Development: A Learning Process Approach, Public Administration Review, Vol. 40 No. 5.
9. Siddiqui, H.Y. 1997 Community Organization in India. New Delhi: Harnam.
10. Milson Fred 1973 An Introduction to Community Work, Routledge & Regan Paul, New Delhi: London OXFORD & IBH Publishing Co. Pvt. Ltd.

FUNDAMENTALS OF DATA SCIENCE AND DATA MANAGEMENT

Credits: 3 **Lecture: 45 Hour** **Full mark: 100**

Subject Teacher: The classes will be assigned to the teacher/faculty competent to teach the course by the Principal.

Course Objectives

The course aims to:

1. To understand the Basics of Data Science:
2. To explore Data Collection and Pre-processing Techniques:
3. To learn Fundamentals of Data Analysis:
4. To master Data Visualization and Communication:
5. To gain Proficiency in Data Management:
6. To develop Skills in Machine Learning and Predictive Modeling:
7. To apply Data Science Techniques to Real-World Problems:

Course Outcomes

After completion of the course, learners will be able to:

CO1: Define the key concepts and principles of data science and data management.

CO2: Collect, clean, and pre-process data for analysis using appropriate techniques.

CO3: Analyze data using statistical methods and interpret the results effectively.

CO4: Create informative and visually appealing data visualizations to communicate insights.

CO5: Demonstrate proficiency in managing data and ensuring its integrity, security, and privacy.

CO6: Apply machine learning algorithms to build predictive models and evaluate their performance.

CO7: Solve real-world problems using data science techniques and present findings in a clear and concise manner.

Unit 1: Foundations of Data Science

Introduction to Data Science, Definition and Scope of Data Science, Historical Overview and Evolution, Applications and Real-World Examples, Understanding Data, Types of Data: Structured, Semi Structured, and Unstructured, Data Sources and Collection Methods, Data Quality and Pre-processing Techniques, Introduction to Programming for Data Science, Basics of Python Programming Language, Data Structures and Control Flow, Introduction to Libraries such as Pandas and NumPy for Data Manipulation, Statistics for Data Science.

Unit 2: Data Analysis and Visualization

Exploratory Data Analysis (EDA), Data Visualization Techniques: Matplotlib, Seaborn, Summary Statistics and Data Visualization, Identifying Patterns and Relationships in Data, Data Munging and Data Wrangling, Cleaning and Pre-processing Data, Handling Missing Values and Outliers, Data Transformation and Feature Engineering, Data Dashboards and Storytelling, Principles of Effective Data Visualization, Tools for Creating Interactive Dashboards: Tableau, Power BI, Communicating Insights from Data through Storytelling

Unit 3: Machine Learning Fundamentals

Introduction to Machine Learning, Supervised vs. Unsupervised Learning, Regression and Classification Techniques, Model Evaluation and Selection Criteria, Deep Learning Basics, Introduction to Neural Networks, Deep Learning Architectures: CNNs, RNNs, Applications of Deep Learning in Commerce and Business

Unit 4: Advanced Topics in Data Science

Big Data and Distributed Computing, Introduction to Big Data Technologies: Hadoop, Spark, Handling Large Volumes of Data: Batch vs. Real-Time Processing, Scalable Data Storage and Processing Solutions, Data Ethics and Privacy, Ethical Considerations in Data Collection and Usage, GDPR and Data Privacy Regulations, Strategies for Ensuring Data Security and Compliance.

QUANTITATIVE AND LOGICAL THINKING

Credits: 3 **Lecture: 45 Hour** **Full mark: 100**

Subject Teacher: The classes will be assigned to the teacher/faculty competent to teach the course by the Principal.

Course Objectives

1. To select and apply appropriate methods to solve real world problems;
2. To interpret quantitative model and understand a variety of methods of communicating them;
3. To improve decision making skills, problem solving skills and setting goals.

Course Outcomes

After completion of the course, learners will be able to

CO1: To apply appropriate methods to solve real world problems,

CO2: To understand various methods to solve the difficulties and communicating thereafter, CO3: To draw conclusion and / or make decisions based on analysis and critique of quantitative information using proportional reasoning.

Unit –I:

Whole numbers, Integers, Rational and irrational numbers, Fractions, Square roots and Cube roots, Surds and Indices, Problems on Numbers, Divisibility; Steps of Long Division Method for Finding Square Roots.

Unit –II:

Basic concepts, Different formulae of Percentage, Profit and Loss, Discount, Simple interest, Ratio and Proportion, Mixture, Time and Work, Pipes and Cisterns, Basic concepts of Time, Distance and Speed; relationship among them

Unit –III:

Concept of Angles, Different Polygons like triangles, rectangle, square, right-angled triangle, Pythagorean Theorem, Perimeter and Area of Triangles, Rectangles, Circles.

Unit-IV:

Analogy basing on kinds of relationships, Simple Analogy; Pattern and Series of Numbers, Letters,

Figures. Coding-Decoding of Numbers, Letters, Symbols (Figures), Blood Relations. Logical Statements –

Two premise argument, more than two premise argument using connectives; Venn Diagrams, Mirror Images, Problems on Cubes and Dices.

Suggested Readings

- *Skill Enhancement Compulsory Course-II – Quantitative and Logical Thinking (Special Course) – Odisha*
- *State Higher Education Council, Bhubaneswar (The recommended Books are to be decided by the Board of Studies)*

PROGRAMMING WITH MATHEMATICS

Credits: 3 **Lecture: 45 Hour** **Full mark: 100**

Subject Teacher: The classes will be assigned to the teacher/faculty competent to teach the course by the Principal.

Objective: The objective of this course is to aware the students for Mathematica language and the programing as well as to create a learning platform to apply for complex mathematical problems.

Learning Outcomes: After completion of this course, the students will be able to:

COI: understand basic principles of programming language, plotting mathematical functions and solving algebraic equations.

C02: learn the technique to find the solutions of ODE and PDE equations.

C03: learn the numerical computation for differentiation and integration.

UNIT-I

User interface, Mathematica language and syntax, functions manipulation, plotting mathematical functions and data. plotting 2D, 3D functions and manipulation, solving algebraic equation: root finding, transcendental equation.

UNIT-II

Solving ordinary differential equation (ODE), solving partial differential equation (PDE).

UNIT-III

Vectors and matrices, limits, integration and differentiation, numerical computation, symbolic manipulation.