Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore
Shri Vaishnav School of Management

Choice Based Credit System (CBCS) in Light of NEP-2020
MBA – Hospital and Health Management - III SEMESTER (2021-2023)

MBAI301C ADVANCEDHUMAN VALUES AND PROFESSIONAL ETHICS

COURSE CODE	CATEGORY	COURSE NAME	TEACHING & EVALUATION SCHEME								
			THEORY			PRACTICAL		L	T	P	CREDITS
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
MBAI301C	AECC	Advanced Human Values and Professional Ethics	60	20	20	-	-	3	-	-	3

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical: **C** - Credit; **AECC-** Ability Enhancement Compulsory Course

***Teacher Assessment** shall be based on following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Objective

The objective of the course is to disseminate the theory and practice of moral code of conduct and familiarize the students with the concepts of "right" and "good" in individual, social and professional context

Examination Scheme

The internal assessment of the students' performance will be done out of 40 Marks. The semester Examination will be worth 60 Marks. The question paper and semester exam will consist of two sections A and B. Section A will carry 36 Marks and consist of five questions, out of which student will be required to attempt any three questions. Section B will comprise of one or more cases / problems worth 24 marks.

Course Outcomes

1. Help the students to understand right conduct in life.
2. To equip students with understanding of the ethical philosophies, principles, models that directly and indirectly affect personal and professional life.

COURSE CONTENT

Unit I: Inculcating Values at Workplace

1. Values: Concept, Sources, Essence
2. Classification of Values.
3. Values in Indian Culture and Management: Four False Views, Value Tree
4. Eastern and Western Values; Values for Global Managers

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Unit II: Professional Ethics

1. Ethics: Concept, Five P's of Ethical Power, Organisational Tools to Cultivate Ethics
2. Theories of Ethics: Teleological and Deontological
3. Benefits of Managing Ethics in an Organisation
4. Ethical Leadership

Unit III: Indian Ethos and Management Style

1. Indian Ethos and Workplace
2. Emerging Managerial Practices
3. Ethical Considerations in Decision Making and Indian Management Model
4. Core Strategies in Indian Wisdom and Ethical Constraints

Unit IV: Human Behavior – Indian Thoughts

1. Guna Theory
2. Sanskara Theory
3. Nishkama Karma
4. Yoga: Types, Gains; Stress and Yoga

Unit V: Spirituality and Corporate World

1. Spirituality: Concept, Paths to Spirituality
2. Instruments to achieve spirituality
3. Vedantic Approach to Spiritual and Ethical Development
4. Indian Spiritual Tradition.

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Suggested Readings

1. Kausahl, Shyam L. (2006). ***Business Ethics – Concepts, Crisis and Solutions***. New Delhi: Deep and Deep Publications Pvt. Limited
2. Murthy, C.S.V. (2012). ***Business Ethics –Text and Cases.*** Himalaya Publishing House: Mumbai
3. Chakraborty, S. K. (1999). ***Values and Ethics for Organizations***. Oxford university press
4. D.Senthil Kumar and A. SenthilRajan (2008). ***Business Ethics and Values.*** Himalaya Publishing House: Mumbai

Shri Vaishnav Vidyapeeth Vishwavidyalaya, Indore

Shri Vaishnav Institute of Technology

Master of Technology in Civil (WRE, CTM, Transportation, Geotechnical)

SEMESTER I

COURSE CODE	Category	COURSE NAME	TEACHING & EVALUATION SCHEME								
			THEORY			PRACTICAL		Th	T	P	CREDITS
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM	Teachers Assessment*				
MTMACE 101	BS	Advanced Mathematics (CE)	60	20	20	-	-	3	0	0	3

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; C - Credit.

***Teacher Assessment** shall be based on the following components: Quiz/Assignment/Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Educational Objectives (CEOs):

To introduce the students to advanced mathematics.

Course Outcomes (COs):

After the successful completion of this course students will be able to:

A. understand the concept of vector space, subspace, basis, dimensions and their properties.
B. find solution/numerical solution of PDE.
C. explain fundamental principles of probability theory.
D. understand the concept of Markov process and Queuing theory.
E. analyze and solve linear programming models of real life situations.

Syllabus

UNIT – I

Linear Algebra

Vector Space, Subspace, Basis & dimensions, Change of basis, Linear transformation, Matrix representation of Linear transformation.

UNIT – II

Numerical Solution of Partial Differential Equations:

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			THEORY			PRACTICAL		Th	T	P	CREDITS
			END SEM University Exam	Two Term Exam	Teachers Assessment	END SEM University	Teachers Assessment				
MTMACE 101	BS	Advanced Mathematics (CE)	60	20	20	-	-	3	0	0	3

Classification of second order equations, Finite difference approximation to derivatives, Elliptic equations, Solution of Laplace's equation, Solution of Poisson's equations, Parabolic equations, Solutions of Heat equations, Hyperbolic equations.

UNIT – III

Probability & Statistics:

Probability, Compound probability, Discrete random variable, Binomial and Poisson distribution, Continuous random variable, Normal distribution, Sampling distribution, Theory of hypothesis.

UNIT – IV

Stochastic Process & Queuing Theory:

Introduction of random or Stochastic processes, Markov processes, Markov chain, Queuing theory: M/M/1: ∞/∞/FCFS, M/M/1: N/∞/FCFS.

UNIT – V

Linear programming:

Introduction Linear programming problem, Matrix form of LPP, Basic solutions and Basic feasible solution, Graphical solution, Simplex method, BIG-M (penalty method) &,Two Phase methods, Duality in LPP.

Texts:

1. Higher Engg. Mathematics: B. S. Grewal, Khanna Publishers, Delhi
2. Higher Engg. Mathematics: E. Kreyzig, John Wiley & Sons (Asia) Pvt. Ltd.
3. Operation Research: S. D. Sharma, Kedar Nath and Ram Nath, Delhi.
4. Probability, Random variables & Random processes: Schaum's outlines.
5. Stochastic processes: J. Medhi, New age international publishers.
6. Calculus of finite differences and Numerica Analysis: Gupta and Malik.
7. Operation Research by Phillips & Ravindran.
8. Operation Research by TAHA.
9. Probability, Statistics & Decision in Civil Engineering by Benjamin & Cornell.

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(2021-2023)

COURSE CODE	CATE-GORY	COURSE NAME	TEACHING &EVALUATION SCHEME								
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			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
MTCE 4101	DCC	Advanced Soil Mechanics	60	20	20	30	20	2	0	2	3

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; C - Credit.
***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Educational Objectives (CEOs):

1. To impart knowledge about the engineering properties of soils with a focus on consolidation and shear strength
2. To introduce the fundamental concepts relevant to the strength behaviour of soils
3. To enable the students to understand the factors that control the strength behaviour of the soils

Course Outcomes (COs):

1. The students obtain the complete knowledge on strength of soil mass.
2. The students are able apply principles of advanced soil mechanics to civil engineering problem
3. The students can develop mathematical models for solving different problems in soil mechanics

Syllabus

UNIT I **06 Hrs.**

Compressibility of soils; consolidation theory (one, two, and three-dimensional Consolidation theories), consolidation in layered soil and consolidation for time dependent loading, determination of coefficient of consolidation (Casagrande's method and Taylor's method)

UNIT II **06 Hrs.**

Strength behavior of soils; Mohr Circle of Stress; UU, CU, CD tests, drained and un-drained behavior of sand and clay, significance of pore pressure parameters; determination of shear strength of soil; Interpretation of tri-axial test results

UNIT III **05 Hrs.**

Stress path; Drained and un-drained stress path; Stress path with respect to different initial state of the soil; Stress path for different practical situations

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UNIT IV **06 Hrs.**

Critical state soil mechanics; Critical state parameters; Critical state for normally, consolidated and over consolidated soil; Significance of Roscoe and Hvorslev state boundary surface; drained and untrained plane. Critical void ratio; effect of dilation in sands; different dilation models

UNIT V **06 Hrs.**

Elastic and plastic deformations: elastic wall; introduction to yielding and hardening; yield curve and yield surface, associated and non-associated flow rule

Text Books:

1. Das, B.M., Advanced Soil Mechanics, Taylor and Francis, 2013.
2. Murthy V. N. S., Textbook of Soil Mechanics and Foundation Engineering Geotechnical Engineering Series, CBS; 1ST edition (2018)

Reference Books:

1. Wood, D.M., Soil Behavior and Critical State Soil Mechanics, Cambridge University Press, 1990.
2. Craig, R.F., Soil Mechanics, Van Nostrand Reinhold Co. Ltd., 1987.
3. Terzaghi, K., and Peck, R.B., Soil Mechanics in Engineering Practice, John Wiley & Sons, 1967.
4. Lambe, T.W. and Whitman, R.V., Soil Mechanics, John Wiley & Sons, 1979.

List of Practical:

1. Determination of Moisture Content and Specific gravity of soil
2. Grain Size Distribution Analysis and Hydrometer Analysis
3. Atterberg Limits (Liquid Limit, Plastic limit, Shrinkage limit)
4. Visual Classification Tests
5. Vibration test for relative density of sand
6. Standard and modified proctor compaction test
7. Falling head permeability test and Constant head permeability test

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MTCE 4102	DCC	Advanced Foundation Engineering	60	20	20	0	0	2	1	0	3

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; C - Credit.
***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Educational Objectives (CEOs):
The primary objective of this course is to equip the student with the knowledge of how to explore the soil, design the foundations for different conditions and check the stability of structures.

Course Outcomes (COs):
1. Identify a suitable foundation system for a structure.
2. Evaluate the importance of raft foundation and principles of design for buildings and tower structures.
3. Analyse and design pile foundations.
4. Examine and discuss various machine foundations.
5. Analyse and design Sheet piles and cofferdams.

Syllabus:

UNIT I **07 Hrs.**
Planning of soil exploration for different projects, methods of subsurface exploration, methods of borings along with various penetration tests

UNIT II **08 Hrs.**
Shallow foundations: Requirements for satisfactory performance of foundations; Methods of estimating bearing capacity; Settlements of footings and rafts; Proportioning of foundations using field test data, IS codes

UNIT III **09 Hrs.**
Pile foundations: Methods of estimating load transfer of piles; Settlements of pile foundations, pile group capacity and settlement, negative skin friction of piles, laterally loaded piles, pile load tests, analytical estimation of load- settlement behavior of piles, proportioning of pile foundations, lateral and uplift capacity of piles.

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MTCE 4102	DCC	Advanced Foundation Engineering	60	20	20	0	0	2	1	0	3

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UNIT IV **09 Hrs.**

Well foundation: IS and IRC codal provisions, elastic theory, and ultimate resistance methods
Coffer dams: Various types, analysis, and design foundations under uplifting loads
Foundations on collapsible and expansive soil: Foundations for collapsible and expansive soil

UNIT V **08 Hrs.**

Computation of settlements (Immediate & Consolidation); Permissible settlements, allowable total and differential settlement of structures

Text Books:

1. Murthy V.N.S. Advanced Foundation Engineering Geotechnical Engineering Series, CBS (2017).
2. Varghese P.C, Foundation Engineering, Prentice Hall India Learning Private Limited (2005)

Reference Books:

1. Bowles. J.E., Foundation Analysis and Design, Tata McGraw-Hill International Edition, 5th Edn, 1997.
2. Das B.M., Shallow Foundations: Bearing capacity and settlement, CRC Press, 1999.
3. Tomlinson M.J., Pile design and construction Practice, Chapman and Hall Publication, 1994.
4. Poulos, H. G. and Davis, F. H., "Pile Foundation Analysis and Design", Wiley and Sons. 1980.

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MTCE 4103	DCC	Ground Improvement Techniques	60	20	20	0	0	2	1	0	3

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Course Educational Objectives (CEOs):
At the end of course work the student is expected to learn various techniques of in-situ ground modification using various stabilization techniques depending upon the soil characteristics

Course Outcomes (COs):
At the completion of the course the students will be able
1. To understand the different types of ground modification can be done depending upon the site condition, type and purpose of structure to be constructed.
2. To understand need of ground improvement.
3. To learn ground improvement techniques for different types of soil.

Syllabus:

UNIT I **07 Hrs.**
Introduction: Need of Ground Improvement; Different methods of Ground improvement; General Principal of Compaction, mechanics, field procedure, quality control in field.

UNIT II **08 Hrs.**
Mechanical modification: Dynamic compaction, impact loading, compaction by blasting; Vibro-compaction; Pre-compression, stone columns; Hydraulic modification; Dewatering systems, preloading and vertical drains, electro-kinetic dewatering; Chemical modification; Modification by admixtures, stabilization using industrial, wastes, grouting

UNIT III **08 Hrs.**
Ground Improvement in Cohesive Soil: Compressibility, vertical and radial consolidation, preloading methods; Types of drains, design of vertical drains, construction techniques; Stone column; Design principles, load carrying capacity, construction techniques, settlement of stone column foundation

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UNIT IV **09 Hrs.**

Ground Improvement by Grouting and Soil Reinforcement: Grouting in soil, types of grout, desirable characteristics, grouting, pressure, grouting methods; Soil Reinforcement, mechanism, types of reinforcing elements, reinforcement-soil interaction; Reinforcement of soil beneath the roads, foundation; Geosynthetics and their application

UNIT V **08 Hrs.**

Soil Stabilization: Lime stabilization- Base exchange mechanism, pozzolanic reaction, lime-soil interaction, line columns; Design of Foundation on lime columns; Cement stabilization, mechanism, amount, age and curing; Fly-ash - lime stabilization, soil bitumen stabilization

Text Books:

1. P. Purushothama Raj, Ground Improvement Techniques, Laxmi Publications; Second edition (2016).
2. Chattopadhyay and Maity, Ground Improvement Techniques, PHI Learning; Eastern Economy edition (30 June 2017)

Reference Books:

1. R. M. Korner, Design with Geosynthetics, Prentice Hall, New Jersy, 3rd edition 2002
2. G. V. Rao and G. V. S. Rao, Textbook on engineering with Geotextiles, Tata McGraw Hill

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