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SHRI VISHWAKARMA SKILL UNIVERSITY

(A STATE GOVT SKILL UNIVERSITY ESTABLISHED BY GOVT OF HARYANA)

Name of the Skill Faculty: Skill Faculty of Applied Science & Humanities

**Name of the Programme/Course: Ph. D Programme under
Skill Department of Applied Science & Humanities**

Ph.D Course Work

Batch: 2020-21 (onwards)

**Syllabusfor
Ph.D Programme Batch (2020-
21) onwards**

PSYCHOLOGY

Course No. PSY 1001

Course Credits: 03

Max. Marks: 100

Course Objective:

1. Develop a strong research background and understanding of the scientific foundation of psychology.
2. Develop a knowledge base of human behavior across the broad areas of psychology.
3. Become aware of the applications of psychology in the professions associated with psychology.

Course Outcomes:

On the completion of Program scholar will:

1. Demonstrate knowledge of the major theoretical approaches and findings in psychology
 2. Know the research methods used in psychology, apply their knowledge in research design, and data analysis
 3. Critically assess information related to the study of behavior and mental processes, and use the critical assessment in forming conclusions and arguments.
 4. Develop tolerance for ambiguity and opinions that differ from their own.
 5. Use technology for studying concepts and conducting research.
 6. Communicate their ideas effectively in writing and orally.
 7. Prepare a plan for how to use their undergraduate knowledge in the future as they prepare for graduate school or an occupation.
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GENERAL PSYCHOLOGY

Perception, Learning, Memory & Forgetting, Intelligence, Motivation, Emotion, Systems and Theories in Psychology, Personality theories: Trait (Biological) and Type Theories.

COGNITIVE PSYCHOLOGY

Historical Background, Attention and Perception, Learning and Language Disorder, Thinking and Language Formation.

SOCIAL PSYCHOLOGY

Attitude and Attitude Change, Pro-social Behaviour, Social Issues, Applied Social Psychology.

PSYCHOPATHOLOGY

Classification and Theoretical Models, Diagnosis and Prognosis, Mood and Anxiety Disorder, Major Clinical Disorders.

PSYCHOTHERAPY

Psychoanalytic Therapies, Humanistic Therapies, Behavioural and Cognitive Behaviour Therapy, Other Important Therapies.

CLINICAL & COUNSELING PSYCHOLOGY

Development of clinical Psychology as a profession, Diagnosis and assessment, Counselling Approach, Current Issues in Counselling.

Note: Being the comprehensive syllabus in psychology (elective), the teaching will be introductory so the teacher and examiner will take care of it.

Suggested Readings:

1. H. Goldenberg, 1983, Contemporary clinical psychology (2nd Ed.) New York: Brooks & Cole.
2. C. Barker, N. Pristang, R. Elliott, 2002, Research methods in clinical psychology: An introduction to students and practitioners. NJ, USA: John Wiley & Sons.
3. K. C. Galotti, 2008, Cognitive psychology: Perception, attention and memory. New Delhi: Cengage.
4. E. B. Goldstein, 2008, Cognitive psychology, (2nd Ed.). Belmont: Wadsworth.
5. M.G. Aamodt, 2001, Industrial and Organizational psychology. New Delhi: Wardsworth
6. F. Luthans, 2010, Organizational behaviour (12th Ed.). New York: McGraw Hill.
7. P. Murray, D. Poole, G. Jones, 2006, Contemporary issues in management and organizational behaviour. Sydney: Cengage.
8. S. P. Robbins, Judge, 2010, Organizational behaviour. New York: Prentice Hall.
9. Dimatteo, M. R., & Martin, L. R. 2002, Health psychology. Boston: Allyn & Bacon.
10. Marks, D., Murray, M., Evans, B., Willig, C., Woodall, C., & Sykes, C. M. 2005, Health psychology: Theory, research and practice. London: Sage.
11. C. Feltham, I. Horton, 2006, The SAGE Handbook of counselling and psychotherapy. New Delhi: Sage Publications
12. also, C.J., & Fretz, B.R. 1995, Counselling psychology. Bangalore: Prism Books Pvt. Ltd.
13. Patri, V.R. 2008, Conselling psychology. New Delhi: Authors Press.
14. Welfel, E.R. 2010, Ethics in counselling & Psychotherapy Belmont: Brooks/Cole
15. Woolfe, R., Dryden, W., & Strawbridge, S. 2003, Handbook of counselling psychology (2nd Ed.). London: Sage Publication Ltd.

Instructional Strategies

- 1. Lecture
- 2. Discussion
- 3. Presentation
- 4. Case Study
- 5. Seminar/presentation by student
- 6. Assignment and projects
- 7. Demonstration
- 8. Learning by doing

Evaluative Strategies

Presentation	Knowledge of the subject	Presentation skills	Visual Aids	Body language and confidence
Case-studies	Understanding of the case	Presentation skills	Appropriateness of reply	Interpretation and Justification
Assignment	Content/ subject matter	Structure of the response	Presentation	Conclusion
Open book test	Subject matter identified	Structure and organisation of the response	Comprehension skills	Appropriateness of the response
Surprise test	Subject matter identified	Structure and organisation of the response	Comprehension skills	Appropriateness of the response
Quiz	promptness to response	Appropriateness of the response	Application of knowledge	Communication and confidence
Report	Problem Identification/Content/ subject matter	Quality of Literature survey and Objective finalisation	Methodology	Data collection, analysis, interpretation and discussion
Project	Problem Identification/Content/ subject matter	Quality of Literature survey and Objective finalisation	Methodology	Data collection, analysis, interpretation and discussion

Note: Internal assessment will be conducted as per examination ordinance of SVSU.

PUBLIC POLICY & GOVERNANCE

Course No. POL 1001

Course Credit: 03(3-0-0)
Max. Marks: 100(30I+70E)

Course Objective

The main objective of this course is to provide an opportunity to the student to learn the basic areas of public policy on the largest gamut of its canvas. the present course is also aimed to provide an in-depth understanding of the basic tenets and trends of Governance.

Course Outcomes:

The research scholar will be able to do the followings:

1. Understand and exhibit professional knowledge to implement government policies.
2. Understand the concept of planning to achieve development goals.
3. Use technical /analytical skills in designing and developing skill policy.
4. Develop critical thinking about skill policy issues and able to conduct professional analysis of skill development processes.
5. To understand and use skill framework for meeting objectives of skill development.

Unit- 1 Policy: Introduction: a) Nature, Scope and Importance of Public Policy b) Evolution of Public Policy and Policy Sciences c) Public Policy and Public Administration. Governance: Introduction a) Definitions, Issues and Controversies b) Reinventing Government c) Reforming Institutions: The State, Market and Public domain.

Unit- 2 Approaches to Public Policy Analysis a) The Process Approach b) The Logical Positivist Approach c) The Phenomenological Approach d) The Participatory Approach and Normative Approach. State and Governance a) Origin and types of State b) Democratic State and Democratic Administration c) Neo-Liberalism and Rolling Back State d) Governance as Government.

Unit- 3 Theories and Process of Public Policy Making a) Theories and Models of Policy Making b) Perspectives of Policy Making Process c) Institutions of Policy Making. Citizen and Governance a) Rule of Law and Human Rights b) Accountability c) Participation d) Representation.

Unit- 4 Policy Implementation and Evaluation a) Concept of Policy Implementation b) Techniques of Policy Implementation c) Concept of Policy Evaluation d) Constraints of Public Policy Evaluation. Techniques of Governance a) Openness and Transparency b) Citizen Charter c) Social Audit.

Unit- 5 Globalization and Public Policy a) Global Policy Process b) Transnational Actors: Impact on Public Policy Making c) Impact of Globalization on Policy Making. Emerging Trends a) Public and Private Governance: An Overview b) Market, Civil Society c) Information and Communication Technology.

Suggested Readings

1. Andrews, Matt. (2010) "Good Government Means Different Things in Different Countries." *Governance: An International Journal of Policy, Administration, and Institutions* 23:1:7-35.
2. Arguden, Yilmaz (2011), *Keys to Governance: Strategic Leadership for Quality of Life*, Macmillan, Hampshire.
3. Arndt Christiane and Charles Oman (2006), *Uses and Abuses of Governance Indicators*, OECD, Paris.
4. Avasthi & Maheshwari (2012), *Public Administration*, Lakshminarayan Agarwal, Agra
5. Bell, S., and Hindmoor, A. (2009) *Rethinking Governance: The Centrality of the State in Modern Society*, Cambridge: Cambridge University
6. Bevir, Mark, ed. (2010) *The Sage Handbook of Governance*. Thousand Oaks, CA: Sage Publications.
7. Bhattacharya, Mohit (2013), *New Horizons of Public Administration*, Jawahar Publishers, New Delhi.
8. Bovaird, Tony and Elke Löffler, eds. (2009) *Public Management and Governance Second Edition*. London:
9. Donald Menzel and Harvey White (eds) (2011). *The State of Public Administration: Issues, Challenges and Opportunities*, New York,
10. Hajer and Hendrik Wagenaar. Cambridge, UK: Cambridge University Press.
11. National Educational Policy (NEP) 2020
12. National Skill Qualification Framework (NSQF) document gazetted notification 2013.
13. Skill Gap Studies of Various Sectors.

Instructional Strategies

1. Lecture
2. Discussion
3. Presentation
4. Case Study
5. Seminar/presentation by student
6. Assignment and projects
7. Demonstration
8. Learning by doing

Evaluative Strategies

Presentation	Knowledge of the subject	Presentation skills	Visual Aids	Body language and confidence
Case-studies	Understanding of the case	Presentation skills	Appropriateness of reply	Interpretation and Justification
Assignment	Content/ subject matter	Structure of the response	Presentation	Conclusion
Open book test	Subject matter identified	Structure and organisation of the response	Comprehension skills	Appropriateness of the response
Surprise test	Subject matter identified	Structure and organisation of the response	Comprehension skills	Appropriateness of the response
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Note: Internal assessment will be conducted as per examination ordinance of SVSU.

ADVANCED NUMERICS IN PARTIAL DIFFERENTIAL EQUATIONS (PDEs)

Course Credit: 03(3-0-0)

Course No. MTH 1001

Max. Marks: 100(30I+70E)

Course Objective

The main objective of this course is to provide an opportunity to the student to learn the basics of various numerical methods and its applications to elliptical, parabolic, hyperbolic problems and problems related to computational fluid dynamics (CFD).

Course Outcomes

The research scholar will be able to:

1. Understand the basics of numerical methods viz. FDM, FEM, FVM
2. Understand and solve the elliptical boundary value problems
3. Understand and solve the parabolic boundary value problems
4. Understand and solve the hyperbolic boundary value problems

Unit-1 Review of Numerical methods for partial differential equations: Finite Difference Method, Finite Element Method, Finite Volume Method, polynomial and non-polynomial splines.

Unit-2 Elliptical boundary value problems: Convection-diffusion problem in 2- and 3-dimensions, Variable Mesh, fourth order Method for Poisson's equation, mixed boundary value problems, Iterative methods, stability and convergence analysis, Biharmonic problems, Navier-Stokes equations, applications to CFD problems.

Unit-3 Parabolic equations: multidimensional heat conduction equations, two-level explicit and implicit methods, Time-dependent diffusion convection equations, consistency, convergence and stability analysis, ADI methods, time-dependent biharmonic problems, Burgers' equations, Navier-Stokes equations, Application to CFD problems, Finite volume methods

Unit-4 Hyperbolic equations: three-level explicit and implicit methods for Telegraphic equations, consistency and Von-Neumann method for stability analysis; Fourth order methods for wave equation, ADI methods for 2D and 3D wave equations; Conservation laws, Explicit and implicit methods for first order hyperbolic equations and their stability analysis.

Note: Numerical solutions of discretized equations through MATLAB

Suggested readings

1. J.C. Strickwerda, Finite Difference Schemes & Partial Differential Equations, SIAM publications, 2004.
2. J.W.Thomas, Numerical Partial Differential Equations: Finite Difference Methods, Springer and Verlag, Berlin, 1998.
3. J.W.Thomas, Numerical Partial Differential Equations: Conservation Laws and Elliptic Equations, Springer and Verlag, Berlin, 1999.
4. M.K. Jain, Numerical solutions of Partial Differential Equations: FDM and FEM, New Age, 2017
5. An Introduction to Computational Fluid Dynamics: The Finite Volume Method by H. Versteeg, W. Malalasekera
6. Numerical Heat Transfer and Fluid Flow by S.K Patankar

Instructional Strategies

1. Lecture
2. Discussion
3. Presentation
4. Case Study
5. Seminar/presentation by student
6. Assignment and projects
7. Demonstration
8. Learning by doing

Evaluative Strategies

Presentation	Knowledge of the subject	Presentation skills	Visual Aids	Body language and confidence
Case-studies	Understanding of the case	Presentation skills	Appropriateness of reply	Interpretation and Justification
Assignment	Content/ subject matter	Structure of the response	Presentation	Conclusion
Open book test	Subject matter identified	Structure and organisation of the response	Comprehension skills	Appropriateness of the response
Surprise test	Subject matter identified	Structure and organisation of the response	Comprehension skills	Appropriateness of the response
Quiz	promptness to response	Appropriateness of the response	Application of knowledge	Communication and confidence
Report	Problem Identification/Content/ subject matter	Quality of Literature survey and Objective finalisation	Methodology	Data collection, analysis, interpretation and discussion
Project	Problem Identification/Content/ subject matter	Quality of Literature survey and Objective finalisation	Methodology	Data collection, analysis, interpretation and discussion

Note: Internal assessment will be conducted as per examination ordinance of SVSU.

Instructional Strategies

1. Lecture
2. Discussion
3. Presentation
4. Case Study
5. Seminar/presentation by student
6. Assignment and projects
7. Demonstration
8. Learning by doing.

Evaluative Strategies:

Evaluative Strategies				
Mode of Evaluation	Parameter of evaluation			
Presentation / Seminar	Knowledge of the subject	Presentation skills	Visual Aids	Body language and confidence
Case-studies	Understanding of the case	Presentation skills	Appropriateness of reply	Interpretation and Justification
Assignment	Content/ subject matter	Structure of the response	Presentation	Conclusion
Open book test	Subject identified matter	Structure and organization of the response	Comprehension skills	Appropriateness of the response
Written / Surprise test	Subject identified matter	Structure and organization of the response	Comprehension skills	Appropriateness of the response
Quiz/ MC	promptness to response	Appropriateness of the response	Application of knowledge	Communication and confidence
Report	Problem Identification/Content/ subject matter	Quality of Literature survey and Objective finalization	Methodology	Data collection, analysis, interpretation and discussion
Project	Problem Identification/Content/ subject matter	Quality of Literature survey and Objective finalization	Methodology	Data collection, analysis, interpretation and discussion

Note: For internal assessment, instructions mentioned in the university ordinance should be followed.