

Ph.D. (Naturopathy) - Coursework – Credits and Syllabus

Credits in Ph.D. – Course Work

THEORY						
Course Code	Name of the Course	Credits	Lecture/ Practical (Hrs/week)	Exam in Hrs	IA	Exam
101T	Scientific Basis of Naturopathy	2	2	3	50	50
102T	Clinical Naturopathy	3	3	3	50	50
103T	Research Methodology	4	4	3	50	50
104P	Tools and Techniques in Naturopathy Research	2	4	3	50	50
201P	Statistical Analysis and Modelling	2	4	3	50	50
202T/P	RAC Recommended -Subject	4	4	3	50	50
203T	Research Communication and Publication Ethics	3	3	3	50	50
	Total	20	24		350	350

Curriculum for Course Work

Ph.D. Naturopathy

Course Code	Name of the Course	Number of Credits	Total number of hours
PhDN101T	Scientific Basis of Naturopathy	2	30

Course Outcomes:

By the end of this course, the doctoral student will be able to:

1. Understand the scientific basis of core naturopathic principles and therapies.
2. Critically appraise evidence related to naturopathic modalities.
3. Integrate naturopathic clinical practices with current biomedical and integrative health approaches.
4. Design and evaluate research relevant to naturopathic interventions.

Unit 1: Foundations of Scientific Naturopathy

5 hrs

- Evolution from traditional healing to scientific framework
- Core principles (e.g., Toxemia theory, Vitality, Nature Cure Diet)

Unit 2 : Evidence-Based Naturopathic Practice

10 hrs

Evidence based practice of

- Hydrotherapy & Mud Therapy
- Nutritional, Dietetics and Fasting Therapy
- Acupuncture and Energy Medicine (Chromotherapy & Magnetotherapy)
- Manipulative Therapies

Unit 3: Recent Trends in Naturopathy Practice

10 hrs

- Detoxification and Elimination in Naturopathy
- Scientific perspectives on detox, gut health, microbiome, circadian regulation
- Naturopathy as Lifestyle Medicine
- Naturopathy as Preventive medicine
- Salutogenesis through Naturopathy

Unit 4: Naturopathy in Public Health and Integrative Medicine

5 hrs

- Safety, ethical considerations, integration in public health
- Role in non-communicable disease (NCD) management
- Naturopathy as part of AYUSH framework
- Naturopathy in Integrative medicine: policy and implementation

References:

- Lindlahr, H. (1919) Nature Cure: Philosophy & Practice Based on the Unity of Disease & Cure. (Vol. 1) Nature Cure Publishing Company
- Nair, PMK (2022) The scientific Naturopath: A Leap into the Evidence behind Naturopathy Philosophies. Blue Rose Publishers
- Pizzorno, JE. & Murray MT. (2020) Textbook of Natural Medicine (5th Edition). Elsevier Publication
- Pizzorno, JE. & Murray MT. (2025) The Clinicians handbook of Natural Medicine (3rd edition). Elsevier Publication
- World Health Organization (2010) Benchmarks for training in traditional / complementary and alternative medicine: benchmarks for training in naturopathy. World Health Organization
- Peer-reviewed papers on Naturopathy published in indexed journals

Course Code	Name of the Course	Number of Credits	Total number of hours
PhDN102T	Clinical Naturopathy	3	45

Course Outcomes:

At the end of this course, the student will be able to:

1. Apply advanced naturopathic clinical reasoning and diagnostic skills.
2. Integrate naturopathic therapies with modern clinical practices in managing diseases.
3. Design and assess individualized patient-centered care plans.
4. Critically analyze clinical evidence in naturopathy and generate research questions.
5. Navigate interdisciplinary referrals, safety, and ethical issues in clinical practice.

Unit 1: Clinical Philosophy in Naturopathy

5 hrs

- Therapeutic Order
- Naturopathic clinical principles and hierarchy of healing
- Clinical consultation process in naturopathy
- Pathophysiology and psychoneuroimmunology of diseases

Unit 2: Naturopathic Diagnosis and Assessment

5 hrs

- Traditional and modern diagnostic tools
- Iridology & Facial Diagnosis
- Vitality, tongue and nail diagnosis
- Integration with biomedical assessment (labs, imaging)

Unit 3: System-wise Clinical Naturopathy

20 hrs

- Gastrointestinal disorders
- Metabolic disorders
- Liver and detoxification strategies
- Respiratory, cardiovascular, and musculoskeletal disorders

- Naturopathic care for hypertension, arthritis, back pain
- Women's health, reproductive health, skin disorders
- Naturopathic approaches in infertility, PCOS, eczema
- Psychological and psychosomatic disorders

Unit 4: Applied Naturopathic Medicine

15 hrs

- Acute Emergency Management in Naturopathy
- Wellness and Preventive medicine
- Lifestyle medicine
- Functional medicine
- Geriatric medicine
- Rehabilitation medicine
- Antenatal management
- Occupational health

References:

- Saris J & Wardle J. (2019). Clinical Naturopathy: An Evidence-based Guide to Practice. Elsevier Publication
- National Institute of Naturopathy (2017) Clinical Naturopathy-Yoga (1st Edition). National Institute of Naturopathy
- Saris J & Wardle J. (2017). Clinical Naturopathy: in practice. Elsevier Publication
- Peer-reviewed publications on Naturopathy, published in indexed journals
- Real-world case documentation from Arogyadhama

Course Code	Name of the Course	Number of Credits	Total number of hours
PhDN103T	Research Methodology	4	60

Course Outcomes:

At the end of this course, the student will be able to:

1. Understand the methodology of medical and psychological research
2. Understand the basics of Statistics using medical and psychological data.
3. Learn to summarize data numerically and graphically

Unit 1: Research Methodology – Basic Principles

15 hours

1. Introduction to research methodology – definition of research, types of research, need for research related to Yoga

The research process – first steps:

- Identifying the problem.
- Reviewing literature.
- Setting research questions, objectives, and hypotheses.
- Literature review – Using PubMed, Google Scholar, Shodhganga, S-VYASA Digital library

Unit 2: Working with Data

30 hours

- Choosing the study design.
- Choosing the sampling Techniques.
- Collecting data.
- Summarizing data.
- Testing hypotheses
- Writing a report.
- Understanding two important terms: Population and Sample

- Describing your sample: Descriptive statistics
- Generalizing from sample to population: Inferential statistics
- Using statistical analysis packages for data analysis and interpretation

Unit 3: Working with Qualitative Data

15 hours

- Measurement tools: Observation, questionnaire, interviews
- Reliability: Test-Retest Reliability, Split-half reliability and Cronbach's alpha, McDonald's omega, Internal Consistency, Inter-rater Reliability
- Exercises: Calculating reliability coefficients for questionnaire data in R
- Validity: Content Validity, Criterion Validity, Construct Validity, Face Validity, Convergent and Discriminant Validity.

References:

1. Zar, J. H., & Zar. (1999). Biostatistical Analysis. Pearson Education. New Delhi
2. C R Kothari. (2009). Research Methodology: Methods and Techniques. New Age International (P) Ltd. New Delhi
3. Andy Field. (2005). Discovering statistics using SPSS/ R. SAGE Publications India Pvt Ltd, New Delhi
4. R. L. Bijlani. (2008). Medical Research: All You Wanted to Know But Did Not Know Who to Ask. Jaypee Brothers Medical Publishers Pvt. Ltd. New Delhi

Course Code	Name of the Course	Number of Credits	Total number of hours
PhDN104P	Tools and Techniques in Naturopathy Research	2	60

Course Outcomes:

At the end of the course, the student will be able to:

1. Select appropriate tools for clinical and experimental research in naturopathy.
2. Apply validated measurement techniques for assessing biological, physiological and psychological outcomes.
3. Design and pilot interventions for naturopathic therapies in research settings.
4. Document, analyze, and interpret research data using appropriate methods.

Unit 1: Psychophysiology Lab

15 hours

- Principles and data collection of Heart Rate Variability, Galvanic Skin Resistance, Spirometry, Body Composition Analysis, Gas Analysis, Exercise Physiology Testing, Autonomic Regulation Testing, Telemetric Exercise Physiology Devices.

Unit 2: Cognitive Neuroscience Lab

15 hours

- Principles of neurophysiology and data collection using EEG (Electroencephalography), functional Near Infrared Spectroscopy (fNIRS), Transcranial Doppler (TCD)

Unit3: Psychology Lab

15 hours

- Overview of major psychological perspectives (behavioral, cognitive, humanistic, etc.).
- Overview of DSM-5, with a focus on spectrum of psychological disorders
- Basics of psychological tests
- Introduction to Inquisit/PEBL software

Unit 4: Molecular Biology Lab**15 hours**

- Principles and data collection methods for DNA Isolation & Transformation, PCR, Real time PCR, Electrophoresis (DNA), Sodium Dodecyl Sulfate Gel Electrophoresis/Western Blotting Technique, Cell Culture, Colorimetry & ELISA, Flow Cytometry

References:

1. Potter, R. F., Bolls, P. (2012). Psychophysiological Measurement and Meaning: Cognitive and Emotional Processing of Media. United Kingdom: Taylor & Francis.
2. Imaging in Neuroscience: A Laboratory Manual. (2011). United States: Cold Spring Harbor Laboratory Press.
3. Miller, H. B., Witherow, D. S., Carson, S. (2011). Molecular Biology Techniques: A Classroom Laboratory Manual. Netherlands: Academic Press.
4. Buckley, C. A. (2015). Psychology Laboratory Manual: A Research-Based Introduction to Psychological Science. United States: Kendall Hunt Publishing Company.

Course Code	Name of the Course	Number of Credits	Total number of hours
PhDN201P	Statistical Analysis and Modelling	2	60

Course outcomes:

At the end of the course, the student will be able to:

1. Perform hypothesis testing using t-tests, ANOVA, and ANCOVA based on data assumptions.
2. Differentiate between parametric and non-parametric tests and check assumptions like normality using diagnostic tools (e.g., QQ plot).
3. Conduct and interpret tests for independence including Chi-square and McNemar's tests.
4. Build and interpret simple and multiple regression models with diagnostics and model fit evaluation.
5. Apply regression techniques to conduct mediation and moderation analyses using approaches like Baron-Kenny and Hayes' PROCESS framework.
6. Prepare and present statistical reports for all analyses.

Unit 1 - Tests for Means

15 hours

- Hypothesis testing
- Diagnostics - Deciding on which statistical test to use. Parametric vs. Non-parametric tests.
- Issues with normality testing. Using the QQ Plot.
- Paired samples tests, Independent samples tests
- Report writing for paired and independent samples tests
- One-Way ANOVA Introduction to ANCOVA
- Introduction to Repeated-Measures ANOVA Assumptions for ANOVA
- Non-normal data
- Report writing for ANOVA

Unit 2 -Tests for Independence

15 hours

- Chi-Square test for Goodness-of-Fit

- Chi-Square Test for Independence
- Assumptions for the chi-square tests
- McNemar's test for paired nominal data
- Report writing for Chi-square and McNemar's tests

Unit 3 - Simple Predictive Models – Regression

15 hours

- Simple linear regression - prediction
- Multiple regression – understanding model fitting and R^2 Simple diagnostics for regression models
- Interactions between predictor variables
- Report writing for Regression models

Unit 4 - Applications of Regression Modeling

15 hours

- Understanding Mediation and Moderation in Psychology studies
- The Baron-Kenny approach
- Mediation using regression
- Understanding interaction terms in a regression model Moderation using regression
- Report writing for mediation, moderation. Examples from Hayes' book.

References:

1. Bowers, D. (2008) Medical Statistics from Scratch - An Introduction for Health Professionals. Wiley-Interscience.
2. Matthews, DE & Farewell, VT. (2007) Using and Understanding Medical Statistics. S Karger Ag.
3. Coolican, H. (2024) Research Methods and Statistics in Psychology (8th Edition). Taylor & Francis
4. Knussen, C. (2013) Introduction to Research Methods and Statistics in Psychology. Pearson Education Limited

5. Hayes, A. (2013) Introduction to Mediation, Moderation, and Conditional Process Analysis, A Regression-Based Approach. Guilford Press

Course Code	Name of the Course	Number of Credits	Total number of hours
PhDN202P/T	RAC Recommended Subject	4	60

Course Code	Name of the Course	Number of Credits	Total number of hours
PhDN203T	Research Communication And Publication Ethics	3	45

Course Outcomes:

At the end of the course, the student will be able to:

1. Select appropriate tools for clinical and experimental research in naturopathy.
2. Apply validated measurement techniques for assessing biological, physiological and psychological outcomes.
3. Design and pilot interventions for naturopathic therapies in research settings.
4. Document, analyze, and interpret research data using appropriate methods.

Unit 1- Publication Ethics

15 hours

- Publication ethics: definition, introduction and importance
- Best practices I standards setting initiatives and guidelines: COPE, WAME, etc.
- Conflicts of interest
- Publication misconduct: definition, concept, problems that lead to unethical behavior and vice versa, types
- Violation of publication ethics, authorship and contributor ship
- Identification of publication misconduct, complaints and appeals
- Predatory publishers and journals

Unit 2 -Practice

15 hours

Open Access Publishing

- Open access publications and initiatives

- SHERP A/ROMEO online resource to check publisher copyright & self-archiving policies
- Software tool to identify predatory publications developed by SPPU
- Journal finder I journal suggestion tools viz. JANE, Elsevier Journal Finder, Springer Journal Suggester, etc.

Publication Misconduct A. Group Discussions

- Subject specific ethical issues, FFP, authorship
- Conflicts of interest
- Complaints and appeals: examples and fraud from India and abroad

Unit 3- Software tools

10 hours

Use of plagiarism software like Turnitin, Urkund and other open-source software tools

Unit 4 - Research Metrics

5 hours

- Indexing databases
- Citation databases: Web of Science, Scopus, etc.
- Impact Factor of journal as per Journal Citation Report, SNIP, SJR, IPP, Cite Score
- Metrics: h-index, g index, i10 index, altmetrics

References:

1. Bird, A. (2006). Philosophy of Science. Routledge.
2. Macintyre, A. (1967) A Short History of Ethics. London.
3. Chaddah, P. (2018) Ethics in Competitive Research: Do not get scooped; do not get plagiarized.
4. Resnik, D. B. (2011). On Being a Scientist: A Guide to Responsible Conduct in Research: Third Edition. What is ethics in research & why is it important. National Academies Press.