

UNIVERSITY OF MYSORE

Department of Studies in Food Science and Nutrition

Manasagangotri, Mysuru-570006

Syllabus

**PH.D. COURSE WORK IN HUMAN DEVELOPMENT AND
FAMILY STUDIES**

University of Mysore

Department of studies in Food Science and Nutrition , Manasagangotri, Mysuru

PH.D. COURSE WORK IN HUMAN DEVELOPMENT.

Program Outcomes

1. Helps the researcher to critically apply the knowledge to address the research problems in their discipline
2. Enable to pursue discipline centric research as well as to develop new perspective/intellectual independence of dealing within research problems
3. Exhibit the analytical/ methodological skills needed to evaluate and conduct research
4. Exhibit skills of communication - both oral and written communication to publish and present research work, demonstrate a detailed knowledge of their areas of specialization.
5. To understand and address the growth and developmental issues, emotional and behavioural problems across the life span

Paper 1: Advanced Research Methodology in Human Development.

Course outcome

1. Facilitates the students to understand the concepts and procedures/steps to be followed in different research types and design, methodologies, ethical issues
2. Enable the students to have solid foundations of knowledge of biostatistics, to develop skills to choose and apply appropriate statistical methods for analysing the data and to interpret statistical findings correctly.
3. To acquire the skills of organize and conduct research, skills of writing a report or thesis

Pedagogy

- Instructional Conversation
- Constructivism
- Workshop and Hand-on-experience of statistical methods and analysis

Syllabus of Advanced Research Methodology in Human Development

Unit -1	<ol style="list-style-type: none">a. Research Methodology: Meaning and Objectives of research; Types of research [Descriptive vs. Analytical, Applied vs. Fundamental, Quantitative vs. Qualitative, Conceptual vs. Empirical, Field setting vs. laboratory, clinical vs. diagnostic, Exploratory vs. Formalized]; Research Approaches [Qualitative approach and Quantitative approach] Significance of research; Basic concepts about the research and scientific method; Research processb. Defining the Research problem: Meaning of research problem; Selecting the research problem; Techniques involved in Defining problemc. Research Designs: Meaning, need, features of a good design, concepts relating to research design, Different research designs – Exploratory research studies, descriptive and diagnostic research studies, Longitudinal, cross-sectional and sequential studies; Hypothesis-testing research studies; Basic principles of Experimental designs; Important experimental designs; Evaluation and Interventional designs
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Unit 2	<p>a. Sampling Design: Steps in sample design; criteria of selecting a sampling procedure; Characteristics of a good sampling design; Types of sample designs [Non-probability sampling and Probability sampling]; Complex Random Sampling Designs [Systematic sampling, Stratified sampling, Cluster sampling, Area sampling, Multi-stage sampling, Sequential sampling]</p> <p>b. Measurement and Scaling Techniques: Measurement in research, measuring scales, sources of error in measurement, test of sound measurement- validity, reliability, practicality; meaning of scaling, scale classification bases, important scaling techniques - rating scales, scale construction techniques-arbitrary scales, differential scales, Likert -type scales, cumulative scales, factor scales, multidimensional scaling</p>
Unit 3	<p>a. Methods of Data Collection: Collection of primary data in surveys and descriptive research - Observation, Interview, Questionnaire, schedules, Case study, and Collection of secondary data and characteristics to be noticed before using secondary data</p> <p>b. Ethical Issues in Research: Benefits of the Research, Responsibility, Rights of the Research Participant, Physical and Psychological Risks, Deception, Reducing Risk and/or Minimizing Harm, Informed Consent, Privacy, Summary of Results; Ethical Issues regarding Copyright.</p>
Unit 4	<p>a. Discipline Centric Research methods and Techniques</p> <p>b. Methods in Studying Growth and Somatic status – Anthropometry, body composition, Physical/Clinical examination, Dental maturation, Age at menarche/ Spermarche, Use of growth reference,</p> <p>c. Methods in Studying Development and Behaviour - Descriptive studies; Ethnographic studies; Epidemiological studies; Program Evaluation studies: Genetic studies – Twin study, Pedigree, Genome analysis; Clinical studies – Developmental and Neuro-Cognitive Assessment, Interventional studies and Therapy; Laboratory studies – Behavioural, Electrophysiological and Brain imaging research.</p> <p>d. Use of Computer in Research</p>
Unit 5:	<p>a. Statistical Methods 1: (Concept only) - Review of basic statistics; Descriptive statistics. Normal distribution and its properties, Methods of correlation and regression (simple and multiple), Statistical Inference-testing of hypothesis, parametric tests-testing the significance between two means; independent two sample t-test and paired sample t-tests.</p> <p>b. Statistical Methods 2: (Concept only) - Analysis of Variance (ANOVA), Types, basic model, One way and Two way ANOVA, Need for post hoc tests, repeated measures ANOVA, Multivariate techniques: Principle component analysis, Discriminant analysis, Cluster analysis, Multivariate analysis of variance (MANOVA). Nonparametric tests; Consequences of failure of assumptions underlying parametric tests, Man-Whitney U tests, Kruskal - wallis test, Wilcoxon signed rank test, Friedman’s test. Analysis of qualitative data; Chi-square test for independence, measures association-contingency coefficient and Cramer’s, measures of agreement-Kappa coefficient.</p> <p>c. Computer application in analysis of data.</p>
Unit 6	<p>a. Interpretation: Meaning, Techniques, and precautions in interpretation</p> <p>b. Scientific writing: Significance and steps in scientific writing, Review of literature, Authenticity of reviews, Layout of the research report writing, Types of Reports, Mechanics of writing a research report, Precautions for writing research reports: Writing the research articles and project proposal</p>

1. Facilitate the researchers to have a foundations of knowledge of research approach, *methodologies used in earlier studies* on selected research topic
2. Enable the students to identify the current issues or gaps in the research areas so that duplication can be prevented.
3. Help the researchers to justify their research within the context of existing literature
4. Enable the researchers to learn the skills of assessment of the current condition/situation of research on topic and to identify need for additional research to understand the research topic.

Padegogy

- Collaborative learning
- Constructivism
- Activity- Comprehensive review of approaches to researching and evaluating pedagogy in general and how these approaches may be applied in a subject-specific context.