

A.S.D Government Degree College for Women (A),Kakinada

DEPARTMENT OF HOME SCIENCE

B.Sc. Home Science -Course Outcomes 2019-20

HSc-101: Basic Nutrition

1. Students will describe the fundamentals of nutrition, the importance of good nutrition and malnutrition, along with the definition and purpose of RDA for different individuals.
2. Students will apply knowledge of RDAs to assess dietary needs based on the energy, macronutrients, vitamins, and minerals required for maintaining good health.
3. Students will analyze the role and impact of macro and micronutrients on human health, including the functions, dietary sources, and consequences of deficiencies.
4. Students will assess the determination of the energy value of food using a bomb calorimeter, and evaluate the factors affecting basal metabolic rate (BMR) and the thermic effect of food.
5. Students will develop personalized dietary plans incorporating balanced intakes of carbohydrates, lipids, proteins, vitamins, and minerals according to RDAs and specific health goals.
6. Students will integrate knowledge of essential fatty acids and dietary fiber into dietary recommendations, emphasizing their roles in optimizing health and preventing nutritional deficiencies.

HSc-102: Biochemistry

1. Students will demonstrate an understanding of the foundational concepts of biochemistry and isomerism in carbohydrates and color reactions of biomolecules.
2. Students will apply knowledge of the chemical and physical properties of biomolecules to conduct qualitative analyses utilizing standard laboratory techniques and safety procedures.
3. Students will be able to differentiate between saturated and unsaturated fatty acids, identify specific types of carbohydrates, lipids, and proteins, and understand the mechanisms of enzyme inhibition and the role of coenzymes in enzymatic reactions.
4. Students will evaluate the structural and functional roles of nucleic acids and nucleotides along with understanding the significance of nucleoproteins in cellular functions.
5. Leveraging their theoretical knowledge and practical skills, students will be able to conduct experiments to explore the biochemical properties of biomolecules to create comprehensive laboratory reports that demonstrate their findings and interpretations.
6. Students will synthesize their comprehensive understanding of biochemistry demonstrating an integrated approach to solving biochemical problems.

HSc-103: Microbiology

1. Students will grasp the fundamental concepts of microbiology and the significance of microbiology in understanding disease processes and environmental interactions in India.
2. Students will apply knowledge of bacterial physiology, nutrition, and growth conditions to identify and control microbial contamination in food, water, and soil,
3. Students will analyze the factors influencing infection and immunity to understand the dynamics of sexually transmitted diseases, food spoilage, and resistance mechanisms within the context of public health concerns
4. Students will critically evaluate the environmental microbiology of soil, water, and sewage to assess the impact of microbial activities on environmental health and sustainability in India.
5. Students will design strategies for the diagnosis, treatment, and control of bacterial, viral, and protozoal diseases
6. Students will synthesize their understanding of microbiology to develop comprehensive approaches to preventing food contamination and spoilage, managing sexually transmitted diseases, and enhancing public health initiatives

HSc-201: Human Physiology

1. Students will acquire foundational knowledge of the human body's major systems, including their anatomy, physiology,
2. Students will apply their understanding of the cardiovascular and digestive systems and the impact of these systems on overall human health.
3. Students will analyze the structure and function of the kidneys in the excretory system, and the structure and mechanisms of the respiratory system and its role in human health
4. Students will evaluate the physiological roles of the central nervous system and the autonomic nervous system, and will assess the impact of endocrine glands on growth, metabolism, and reproduction,
5. Leveraging their comprehensive understanding, students will design health management strategies that consider the physiology of reproduction, including puberty changes and the anatomy of male and female reproductive systems, to address common reproductive health issues.
6. Students will synthesize knowledge across all systems to develop a holistic understanding of human physiology to form a coherent view of how these systems interact to maintain health and homeostasis.

HSc-202: Nutritional Biochemistry

1. Students will understand the basic processes of metabolism and the pathways of carbohydrate metabolism such as glycolysis and the Krebs cycle
2. Students will apply concepts of lipid metabolism and the impact of lipid imbalances on conditions like atherosclerosis
3. Students will analyze protein metabolism in maintaining nitrogen balance
4. Students will evaluate the importance of water intake and the principles of acid-base balance in maintaining health, emphasizing the effects of deficiency
5. Students will synthesize knowledge of the interrelationships between carbohydrates, lipids, and proteins, and their collective impact on health and disease prevention
6. Students will critically assess the link between nutrition and infection, understanding how balanced diets can mitigate health risks

HSc-203: General Psychology

1. Students will grasp the definitions, branches, and methods of psychology to build a foundational knowledge base.
2. Students will apply concepts of perception and attention to analyze everyday observations and experiences.
3. Students will analyze the processes involved in learning and memory and apply memorization techniques to enhance learning outcomes.
4. Students will evaluate theories of motivation and emotion and can identify adaptive versus disruptive emotions.
5. Students will synthesize understanding of intelligence applying this knowledge to assess verbal and nonverbal intelligence tests.

HSc-301: Food Science

1. Students will understand the definitions and classifications of food, nutrition, and nutrients, recognizing the importance of a balanced diet and the role of different food groups according to the National Institute of Nutrition (NIN) guidelines relevant to the Indian context.
2. Students will apply various cooking methods assessing their effects on food and nutrient quality, to enhance culinary skills and nutritional value of meals
3. Students will analyze the structure, composition, and nutritive value of foods of vegetable origin along with the impact of processing techniques like parboiling, germination, and fermentation on their nutritional profile.

4. Students will evaluate the importance, composition, and nutritive value of animal-derived foods understanding their role in an Indian dietary context.
5. Students will synthesize knowledge on the preparation and nutritional significance of miscellaneous foods like beverages and ready-to-eat products, along with understanding food labeling, to make informed dietary choices
6. Students will critically assess the interplay between food preparation, nutritional content, and health outcomes, formulating strategies for addressing malnutrition and promoting healthy eating habits

HSc-302: Textile Fibers

1. Students will grasp essential textile terminology and the classification of textile fibers and natural, manmade, and synthetic fibers, contextualized to the Indian market.
2. Students will apply their understanding of the production, properties, use, and care of natural vegetable fibers, integrating traditional and modern practices
3. Students will analyze the characteristics and care requirements of natural protein fibers such as silk and wool, crucial to India's textile industry, focusing on their unique properties and applications.
4. Students will evaluate the production processes, properties, uses, and maintenance of manmade fibers considering their environmental impact and relevance to Indian consumers.
5. Students will synthesize concepts in yarn formation and understand the classification and practical applications of yarns in the creation of textiles for the Indian market.
6. Students will critically assess the benefits and challenges of mixtures and blends involving natural cellulose fibers, natural protein fibers, and manmade fibers, aiming for innovation in textile production suitable for India's diverse climate and cultural fabric preferences.

HSc-303: Housing for Better Family Living

1. Students will grasp the functions of a house, housing needs at different family life stages, and basic safety and pest control measures, critical for creating a secure living environment.

2. Students will apply principles of site selection, house orientation, and planning, including aspect, prospect, privacy, and sanitation, to design living spaces that meet the needs of Indian families.
3. Students will analyze various kitchen layouts (and plan efficient storage areas, optimizing space and functionality in Indian homes.
4. Students will evaluate the advantages of owning versus renting a house and assess the role of organizations like HUDCO and AP State Housing Corporation in addressing India's housing needs.
5. Students will synthesize information on the construction, mechanism, use, and care of essential household equipment, ensuring informed selection and maintenance practices.
6. Students will critically assess the application of appropriate technologies like smokeless chulah, gohar gas, solar cookers, and rural refrigerators, promoting sustainable living in Indian contexts.

HSc-401: Family Nutrition

1. Students will comprehend how socio-economic and cultural factors influence food choices, and understand the principles of meal planning
2. Students will apply specific nutritional guidelines to plan balanced diets for infants, preschool, and school-going children,
3. Students will analyze the distinct nutritional requirements of adolescent boys and girls, and adults with sedentary, moderate, and heavy work lifestyles, to optimize health outcomes.
4. Students will evaluate the nutritional challenges and requirements for the elderly, incorporating diet modifications to address common age-related health issues.
5. Students will develop nutritional strategies for expectant and lactating mothers, considering physiological changes, hormonal roles, and dietary needs to support maternal and infant health.
6. Students will critically assess the food and nutritional requirements across the human life cycle, from infancy to old age, including special conditions like pregnancy and lactation, to develop comprehensive dietary plans.

HSc-402: Fabric Construction

1. Students will comprehend the basics of weaving, including loom parts, essential operations, and types of weaves, understanding their implications for fabric quality and usage.
2. Students will apply knowledge of non-woven fabric construction methods like knitting, felting, braiding, and netting to create diverse textile products.
3. Students will analyze mechanical and chemical fabric finishes, assessing their effects on textile properties and applications for enhanced functionality.
4. Students will evaluate the significance of special purpose finishes for their impact on fabric performance and safety.
5. Students will synthesize information on the history and techniques of traditional Indian textiles, appreciating the cultural heritage and craftsmanship of India's textile industry.
6. Students will critically assess innovations in fabric construction and finishing processes, considering their sustainability and potential to meet contemporary textile needs.

HSc-403: Interior Decoration

1. Students will grasp the meaning and importance of interior design, including basic elements like line, form, shape, and principles of art such as harmony and balance.
2. Students will apply the Prang color chart and color schemes to create desired emotional effects and aesthetic harmony in interior spaces.
3. Students will analyze the role and types of accessories in interior decoration, including the use and impact of flower arrangements and furniture on the overall design.
4. Students will evaluate furnishings based on classification and fabric selection, considering factors that influence their choice for specific interior design projects.
5. Students will synthesize knowledge on table setting requisites, integrating both Western and Indian styles to enhance the dining experience within designed spaces.
6. Students will critically assess interior design projects by applying design elements, principles of art, and effective use of color, furniture, and accessories to create cohesive and aesthetically pleasing environments.

HSc-501: Human Development

1. Students will remember the key definitions and demonstrate understanding of the stages and principles of human development from prenatal periods through adolescence.

2. Students will apply principles of human development to identify and analyze factors affecting growth and development
3. Students will critically analyze the impact of heredity and environment on the physical, cognitive, social, and emotional development of individuals
4. Students will evaluate the physical and psychological adjustments throughout the lifespan
5. Students will design strategies to support the developmental needs of individuals at various stages of growth, considering the diverse factors that influence development
6. Students will apply knowledge of developmental stages to assess and address adjustment problems in adolescence within family contexts, using evidence-based practices to support emotional and cognitive development.

HSc-502: Management of Family Resources

1. Students will identify and describe the meaning, classification, and characteristics of resources, along with the comprehensive management process in home management.
2. Students will apply effective decision-making processes, differentiating between habitual and conscious decisions, to manage home activities and resources efficiently.
3. Students will analyze the significance of time and energy management in home-making
4. Students will evaluate the principles of work simplification and Mundel's classification of change for energy conservation, assessing the impact on reducing fatigue and improving home management efficiency.
5. Students will design comprehensive home management strategies that incorporate ethical considerations, work simplification principles, and effective resource utilization to enhance the quality of home life.
6. Students will apply strategies for managing peak loads and fatigue, utilizing knowledge of body mechanisms and types of fatigue to improve overall energy management in home settings.

HSc-503: Home Science Extension

1. Students will articulate the definitions, meaning, and need for Extension Education
2. Students will employ effective teaching and learning principles to design and implement learning experiences in extension education contexts.
3. Students will critically analyze the communication process, to enhance the effectiveness of Extension Education.
4. Students will assess the effectiveness of various audio-visual aids in extension teaching

5. Students will develop comprehensive teaching plans utilizing a range of audio-visual aids to facilitate engaging and effective learning environments.
6. Students will integrate Home Science principles into community development initiatives, demonstrating the role of Home Science in enhancing community well-being and development through Extension Education.

HSc-504(a): Sociology

1. Students will elucidate the relationship between Sociology and other social sciences, and describe the nature of society, culture, and the fundamental concepts of social groups and social institutions.
2. Students will apply theories of social interaction, socialization, and the roles of various agents of socialization to analyze the dynamics within families, educational institutions, and religious organizations.
3. Students will critically examine the structure and dynamics of Indian society, including the impact of industrialization on city life and the changing village system
4. Students will assess the causes and consequences of current social problems
5. Students will formulate strategies for social reform and progress, particularly in areas requiring change such as women's rights, population education, and addressing social issues like poverty and domestic violence.
6. Students will integrate concepts of social change and welfare state principles to propose solutions to the challenges posed by unplanned industrialization, urbanization, and the need for basic amenities in Indian cities.

HSc-505(a): Fabric Embellishment

1. Students will identify and describe various types of dyes and dyeing methods, including natural and synthetic dyes, and the processes involved in dyeing and printing textiles.
2. Students will apply techniques for preparing materials for dyeing and printing, execute various methods of dyeing and identify common dyeing defects.
3. Students will analyze different printing and evaluate their applications and effects on textiles.
4. Students will assess the principles of laundry care and dry cleaning, to maintain the quality of textiles.

5. Students will design textile projects incorporating traditional Indian textiles and embroideries, utilizing knowledge of motifs, stitches, and colors specific to various Indian regions.

Students will integrate knowledge of traditional Indian costumes and accessories into contemporary textile and apparel designs, considering the cultural significance and current trends in the textile industry.

HSc-506(a): Community Nutrition

1. Students will identify common adulterants in food, their harmful effects and can apply simple tests for the detection of adulterants.
2. Students demonstrate home-scale methods of food preservation like drying, pickling and using natural preservatives
3. Students will analyze the nutritional status of communities using anthropometric measures, clinical assessments, and biochemical methods to assess the nutritional needs and deficiencies.
4. Students will evaluate dietary assessment techniques and vital statistics to determine the impact of nutritional status on public health indicators
5. Students will design community-based nutritional intervention programs, incorporating national nutrition policies and programs, to address prevalent nutritional problems in India.
6. Students will integrate knowledge of nutrition education, food security, and the role of national and international organizations in alleviating malnutrition to propose solutions for improving food security and nutritional status at both household and national levels.

HSc-601: Early Childhood Care and Education

1. Students will articulate the history and significance of Early Childhood Care and Education (ECCE) and describe the different types of preschool settings.
2. Students will apply knowledge of preschool characteristics to assess and improve the physical environment, facilities, and resources necessary for an optimal learning experience in preschool settings.
3. Students will examine play behavior in children and analyze their physical, social, educational, psychological, and therapeutic values.
4. Students will evaluate the components and importance of preschool programs, including daily and long-term planning, and the impact of specific activities on child development.

5. Students will design a model preschool program that incorporates various daily activities tailored to the developmental needs of children, emphasizing the importance of holistic development.
6. Students will integrate the needs and rights of the child into the planning and operation of preschool programs and evaluate the role of national and international organizations in supporting child welfare.

HSc-602: Therapeutic Nutrition

1. Students will explain the role, responsibilities, and ethical guidelines of dietitians, including the structure and function of the Indian Dietetic Association (IDA) and the significance of diet counseling.
2. Students will demonstrate the application of enteral and parenteral feeding methods in various clinical settings and describe the characteristics of clear fluid, full fluid, soft, and regular diets.
3. Students will assess dietary needs and make modifications for patients with fevers and nutritional disorders, including undernutrition and obesity, based on etiology and nutritional requirements.
4. Students will develop dietary management plans for chronic conditions such as diabetes mellitus and kidney diseases, considering the disease's etiology, symptoms, diagnosis, and management strategies.
5. Students will design comprehensive dietary guidelines for individuals with cardiovascular diseases and cancer, focusing on the role of diet in therapy and recovery.
6. Students will integrate dietary management strategies for gastrointestinal tract diseases, and liver diseases.

HSc-603: Home Science Extension & Community Development

1. Students will understand the definition, criteria, and principles of Extension Programme Planning, including the steps for making a program and methods for identifying community needs.
2. Students will demonstrate the application of Participatory Rural Appraisal (PRA) methods and evaluation principles to assess both individual and group performances in Extension Programmes.
3. Students will analyze various Extension teaching methods, considering their classification, strengths, weaknesses, and factors influencing their selection, combination, and use.

4. Students will assess the role of voluntary organizations, both international and national, in Extension
5. Students will design comprehensive lesson plans tailored to specific groups, incorporating values and necessary components for effective Extension teaching.
6. Students will integrate knowledge of Extension Administration and Supervision, within the context of the three-tier Panchayat Raj system in India.

HSc-604(a): Family dynamics

1. Students will describe the definitions, goals of marriage, the criteria for mate selection, various marital ceremonies across different cultures, and the legal aspects related to marriage and family.
2. Students will apply knowledge of the factors influencing marital adjustments to assess the effectiveness of premarital and marital counseling in facilitating love and arranged marriages.
3. Students will examine the functions, types, and characteristics of families, including the impact of changing trends and the values necessary for enhancing family relations.
4. Students will assess the stages in the family life cycle and the impact of different parenting styles on child development.
5. Students will develop strategies for better marital adjustment and family relations, considering the importance of family life education and preparation for parenthood.
6. Students will integrate and analyze the status of women in the modern world, considering education, employment, marriage, economic responsibilities, and privileges, to propose improvements in gender equality and family dynamics.

HSc-605(a): Family Attire and Consumer Education

1. Students will identify the criteria for selecting fabrics for garments,
2. Students will apply principles of quality examination to select and compare readymade, homemade, and tailor-made garments for different age groups, considering shape, fitting, and price.
3. Students will analyze consumer buying behaviors, including the impact of budgeting, advertising, labeling, and standards on purchasing decisions.
4. Students will assess factors influencing garment prices, such as fashion trends, advertising, production costs, world conditions, and raw material availability.
5. Students will develop a comprehensive wardrobe plan, considering personal choices and fashion trends, along with strategies for the renovation of old garments.

6. Students will integrate knowledge of household textiles to select table linen and bed linen based on fabric count, size, quality, color

HSc-606(a): Household Economics

1. Students will articulate the basic terminology of economics, including the concepts of human wants, laws of consumption, consumer rights, and the Consumer Protection Act.
2. Students will apply consumer education principles to adopt wise purchasing methods, utilizing guidelines for making informed decisions and understanding consumer rights.
3. Students will examine the interrelationship between values, goals, standards, and their impact on household economics and consumer behavior.
4. Students will assess the factors influencing the standard of living and explore various ways to improve it through effective money management and budgeting strategies.
5. Students will develop comprehensive household budgets, incorporating short-term and long-term financial planning, to enhance family income and savings.
6. Students will integrate knowledge of savings and investment options to make informed decisions for family investments.