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**Course Name: Nutrition and Lifespan**

**Program in which it is offered: B.Sc. Applied Psychology**

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| **Course Category: Generic Elective Schedule of Offering: Even****Course Credit Structure: 6 Course Code: PSY1232****Total Number of Hours: 90 Contact hours per week: 6****Lecture: 5 Tutorial: 1** **Last Revision Year: 2022**  |

**Course Introduction**

The course titled, ‘Nutrition and Lifespan’ introduces the students of psychology to these critical interdisciplinary domains of nutrition, diet, ill health and optimum functioning of persons, through pregnancy till old age. The students are introduced to basic concepts of nutrition and its inter-linkage to the physiological systems in the body, that enable absorption and circulation and use of micro-nutrients for optimum functioning of the body.

**Course Objective**

1. To familiarize the students with key concepts and principles in Nutrition.
2. To contextualize nutrition, growth and development in geography, agro-climatic as well as cultural and indigenous contexts
3. To appreciate the role of nutrition in ill-health and optimum functioning of the person.
4. To enable the understanding of role of nutrition in growth and development during lifespan.

**Course Outcome**

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

1. Demonstrate familiarity with key concepts and principles of nutrition.
2. Evidence competence in analyzing the role of nutrition during the Lifespan growth and development.
3. Indicate the application of the concepts and principles of nutrition and lifespan development in other professional domains such as clinical and counseling psychology, social psychology and public policy.

**PO-CO Mapping**

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|  CO/PO Mapping | CO1 | CO2 | CO3 |
| PO1 - To enhance the knowledge base of students in the subject of psychology and allied areas. | X |  |  |
| PO2- To develop the scientific inquiry and critical thinking skills of students.  | X | X | X |
| PO3- To equip students to grow as an ethically and socially responsible professional in the area of psychology.  |  | X | X |
| PO4- To develop the professional communication skills of students require them to practice psychology.  |  | X | X |
| PO5- To provide meaningful professional direction and develop life-management skills to students to enable them to lead a productive professional and personal life.  |  |  | X |
| PO6- To bring in, integrate, and strengthen the cultural rootedness and appropriateness of psychological knowledge and practice with a global outlook.  | X | X | X |

**Pedagogy**

The Course will be taught based Kolbs Learning Style approach. The components are:

1. **Experience** – Students will be exposed to the ideas and principles of community Psychology through TEDX/ other videos.
2. **Reflection:** Reflections and internalization would be done through group activities, brainstorming sessions and critical thinking group assignments.
3. **Concepts**: Conceptual frameworks will be introduced and internalized through lectures, paper and report review assignments.
4. **Active Experimentation** – Mini student projects will be given for different aspects of community psychology. These will be through various webinars, TED X video reviews and writing assignments.

**Module Session**

**Module 1: Nutrition through Lifespan (10 Lecture+5 tutorial hours)**

* Lifespan Development; age and culture appropriate development and growth, health, productivity and quality of life.
* Nutrition: Core Concepts-food combinations, diets and lifestyles, absorption and metabolism, nutrients –carbohydrates, proteins, minerals, vitamins and lipids/fat; Deficiencies and illness. Vegetarian, Non-vegetarian and Vegan diets.
* Physical Health ; Nutrients ; digestive systems, biome and absorption, immunity systems and inflammation, circulatory systems and purification(heart and kidneys), skeletal system(bone health and nutrition)
* Cognitive and Mental Health: Nutrients, Optimum functioning of the Brain and endocrine system.

**Readings**:

# Buttriss, Judith,L.;Welch, Ailsa, A.; Kearney,John,M.; Lanham, Susan,A.(2017) Public Health Nutrition, (2nd Ed.). London: Wiley-Blackwell

* Lanham, Susan,A.; MacDonal, Ian,A.;Rche, Helen,M.(2011) Nutrition and Metabolism, (2nd Ed). London: Wiley-Blackwell
* Papalia, D. E., Olds, S.W. & Feldman, R.D. (2006). Human Development (9th Ed.). New Delhi: McGraw Hill.

**Activity**: Assignment 1 (Individual): Present the conceptual overview of core concepts of nutrition –in terms of the physiological systems, nutrient combinations and impact on physical and cognitive health in terms of definitions and a mind map. **AND/OR**

Assignment 2 (Group Presentation) : Create a glossary of the terms and concepts of nutrition, create a visual semantic/ mind maps and present it.

**Module 2: Nutrition, Malnutrition and Macro-contexts (10 Lecture+5 tutorial hours)**

* Hunger, Deprivation and poverty; impact on growth and development
* Under-nutrition, Over-nutrition, body metabolism, weight, height, stunting, wasting and Obesity
* Nutrition, Diet and Lifestyles: Role of culture and agro-climatic context;
* Ayurvedic conceptualizations of Gunas and Doshas through diet, personality and lifestyles: Ritucharya and Ayurvedic Diet.
* Nutrition, Ill-health and optimum health: Applications: Lifestyle and metabolism disorders, Mental health: Anxiety, depression, food and neuro-protective effects. Debates and conclusive evidence.

**Readings**:

# Buttriss, Judith,L.;Welch, Ailsa, A.; Kearney,John,M.; Lanham, Susan,A.(2017) Public Health Nutrition, (2nd Ed.). London: Wiley-Blackwell

* Lanham, Susan,A.; MacDonal, Ian,A.;Rche, Helen,M.(2011) Nutrition and Metabolism, (2nd Ed). London: Wiley-Blackwell
* Papalia, D. E., Olds, S.W. & Feldman, R.D. (2006). Human Development (9th Ed.). New Delhi: McGraw Hill.

**Activity**: Assignment 3 : Create mind-maps of five diet and cultural variations in India and connect with the macro -structural contexts such as poverty, geography, agro-climatic contexts, tribal or other community status. **AND/OR**

Assignment 4: Trace the travel of 5 food constituents that you eat from source to the table, identifying the processes that change the nutritive value.

**Module 3: Nutrition: Conception, pregnancy, birth and lactation (10 Lecture+5 tutorial hours)**

* Lifespan growth and Development at conception and pregnancy, Diet and nutrition during pregnancy, local and cultural myths about food groups, deficiencies in the mother and demands from the growing fetus; over –nutrition;
* Growth and Development for neonates, breast feeding, nutrition requirement for the lactating mother. Gender and nutritional deficits in the mother, boy preference and nutrition of the girl infants.
* Low birth weight, Brain development, Cognitive and motor developmental delays due to nutritional deficiencies
* Local and Indigenous resources, (including Ayurvedic and folk /tribal) for nutrition and care for the lactating mother and infant.
* Applications: Early childhood development, infant development in indigenous and folk/tribal contexts.

**Readings**:

# Buttriss, Judith,L.;Welch, Ailsa, A.; Kearney,John,M.; Lanham, Susan,A.(2017) Public Health Nutrition, (2nd Ed.). London: Wiley-Blackwell

* Lanham, Susan,A.; MacDonal, Ian,A.;Rche, Helen,M.(2011) Nutrition and Metabolism, (2nd Ed). London: Wiley-Blackwell
* Papalia, D. E., Olds, S.W. & Feldman, R.D. (2006). Human Development (9th Ed.). New Delhi: McGraw Hill.

**Activity**: Assignment 5 (Group Presentation): Identify key states in India showing the malnutrition challenges, with key factors that possibly cause this.

**AND/OR**

**Activity:** Assignment 6 (Individual): Analyse the role of all the food and nutrient groups in growth and development of the infant.

**Module 4: Nutrition: Toddlerhood, Childhood, Adolescence (10 Lecture+ 5 tutorial hours)**

* Sensitive periods and nutrition; A growing infant and toddler; weight gain, motor milestones, Breast feeding, nutrition for the lactating mother; weaning from breast milk and introducing food groups. Cultural and local resources of food. Poverty, deprivation, malnutrition and impact on child development.
* Developmental delays in motor, language and cognition, early childhood interventions for better assessments and identification. Brain and Cognitive Development; key food and diet requirements;
* Deficiencies and impact on growth and development in toddlerhood and childhood: jaundice, blindness, PCM, PICA, Rickets.
* Adolescence: Food, diets and contemporary lifestyle; junk and processed foods; puberty and nutritional requirement; anemia among adolescents, obesity; body image and eating disorders.
* Sports and exercise behavior, nutrition metabolism and endocrine health. Mental Health and nutrition during adolescence.

**Readings**:

# Buttriss, Judith,L.;Welch, Ailsa, A.; Kearney,John,M.; Lanham, Susan,A.(2017) Public Health Nutrition, (2nd Ed.). London: Wiley-Blackwell

* Lanham, Susan,A.; MacDonal, Ian,A.;Rche, Helen,M.(2011) Nutrition and Metabolism, (2nd Ed). London: Wiley-Blackwell
* Papalia, D. E., Olds, S.W. & Feldman, R.D. (2006). Human Development (9th Ed.). New Delhi: McGraw Hill.

**Activity:** (Assignment 7-Individual): Identify key nutritional deficiencies that affect early childhood development/Childhood/Adolescence. List the consequences and preventive actions. **AND/OR**

(Assignment 8 –Group): Review evidence on exercise behavior and nutritional requirements during adolescence. Create a nutrition plan each for three adolescents known to you (including you)

**Module 5: Nutrition, Adolescence and Youth (10 Lecture+5 tutorial hours)**

* Adolescence: Food, diets and contemporary lifestyle; junk and processed foods; puberty and nutritional requirement; anemia among adolescents, obesity; body image and eating disorders.
* Sports and exercise behavior, nutrition metabolism and endocrine health. Mental Health and nutrition during adolescence.
* Youth and nutrition requirements; impact of poverty and deprivation; early marriage and pregnancy among young girls.

**Readings**:

* Buttriss, Judith,L.;Welch, Ailsa, A.; Kearney,John,M.; Lanham, Susan,A.(2017) Public Health Nutrition, (2nd Ed.). London: Wiley-Blackwell
* Lanham, Susan,A.; MacDonal, Ian,A.;Rche, Helen,M.(2011) Nutrition and Metabolism ,(2nd Ed). London: Wiley-Blackwell
* Papalia, D. E., Olds, S.W. & Feldman, R.D. (2006). Human Development (9th Ed.). New Delhi: McGraw Hills.

**Activity:** (Assignment –Group): Review evidence on exercise behavior and nutritional requirements during adolescence. Create a nutrition plan each for three adolescents known to you (including you).

**Module 6: Nutrition: adulthood and Old Age (10 lecture Hours+5 tutorial hours)**

* Adulthood, middle age; pregnancies and nutrition requirement among women, specific deficiencies in adulthood; metabolic disorders; sedentary lifestyles and lifestyle disorders; excess of salt and processed food and sugar in nutrition. Nutrition and illness among adults.
* Old age; Nutritional requirements and deficiencies in old; decline in health parameters, maintaining cognitive health in old age.

**Readings**:

* Buttriss, Judith,L.;Welch, Ailsa, A.; Kearney,John,M.; Lanham, Susan,A.(2017) Public Health Nutrition, (2nd Ed.). London: Wiley-Blackwell
* Lanham, Susan,A.; MacDonal, Ian,A.;Rche, Helen,M.(2011) Nutrition and Metabolism ,(2nd Ed). London: Wiley-Blackwell
* Papalia, D. E., Olds, S.W. & Feldman, R.D. (2006). Human Development (9th Ed.). New Delhi: McGraw Hills.

**Activity:** (Assignment - Group): Discuss the nutritional requirements and deficiencies

found among the elderly, with a practicing nutritionist (over phone/person), using a prescribed

questionnaire, by each team member. Collate all the individual documents and present

key findings; suggest solutions.

**Text Books**

# Buttriss, Judith,L.;Welch, Ailsa, A.; Kearney,John,M.; Lanham, Susan,A.(2017) Public Health Nutrition, (2nd Ed.). London: Wiley-Blackwell

* Lanham, Susan,A.; MacDonal, Ian,A.;Rche, Helen,M.(2011) Nutrition and Metabolism, (2nd Ed). London: Wiley-Blackwell
* Papalia, D. E., Olds, S.W. & Feldman, R.D. (2006). Human Development (9th Ed.). New Delhi: McGraw Hill.

**Reference Books**

* Berk, L. E. (2010). Child Development (9th Ed.). New Delhi: Prentice Hall.
* Feldman, R.S.& Babu.N. (2011). Discovering the Lifespan. New Delhi:Pearson.
* Papalia, D. E., Olds, S.W. & Feldman, R.D. (2006). Human Development (9th Ed.). New Delhi: McGraw Hill.

# Saraswathi, T.S. (2003). Cross-cultural perspectives in Human Development: Theory, Research and Applications. New Delhi: Sage Publications

# Zimmerman, Maureen(2012) An Introduction to Nutrition. Online publication date:2012, Creative Commons.

**CIA Components**

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| --- | --- |
| Individual Assignments | 5% |
| Group Assignments  | 5% |
| Attendance  | 5% |
| Mid-term Exam | 15% |
| End Term Exam | 70% |
| Total  | 100% |