UNIVERSITY OF DELHI



Department of Home Science Faculty of Science

Peer Reviewed Post Graduate Programmes Course Credit Structure-CBCS 2019

The Department of Home Science offers the following Post Graduate Programmes:

Masters Programmes in -

M.Sc. Food & Nutrition

M.Sc. Human Development & Childhood Studies

M.Sc. Development Communication & Extension

M.Sc. Resource Management & Design Application

M.Sc. Fabric & Apparel Science

Post Graduate Diploma Programmes in-

Post Graduate Diploma in Dietetics & Public Health Nutrition

Post Graduate Diploma in Health and Social Gerontology

Post Graduate Diploma in Health And Social Gerontology Department of Home Science University of Delhi

Peer Reviewed Course Credit Structure-CBCS 2018

POST GRADUATE DIPLOMA IN HEALTH AND SOCIAL GERONTOLOGY

The Department of Home Science offers a post graduate vdiploma in Health and Social Gerontology. With the increasing focus on elderly in national policy and program planning, there is a greater demand for trained professionals to work in areas of training, research and welfare of older persons. With more funding from the Government, greater numbers of non governmental agencies and community based organizations will work with senior citizens and hence need trained personnel in this area. Increasing number of hospitals are getting geriatric wards and clinics. Besides geriatric wards in hospitals, old age homes and similar institutions, newer models of old age care are emerging in India. Residential care tailored to needs of the senior citizens, assisted living and day care facilities are increasingly being offered by the private sector. Specialised leisure, travel and entertainment, hospitality, food and infrastructure services catering to older adults are also emerging as potential business models.

Learning Outcomes:

Gerontology is an upcoming and growing area; thus after completing the Post graduate

Diploma in Health and Social Gerontology, the participants will be able to:

- 1. Engage in direct services for older adults like old age homes, residential and day care facilities, rehabilitation services in the government and private sector
- 2. Initiate and sustain research, training, welfare programmes and services for Older Adults
- 3. Be active members of inter-disciplinary teams working with Older Adults in hospitals, institutions and the community
- 4. Supervise and train field functionaries especially paraprofessionals and volunteers
- 5. Actively contribute to the work of NGOs, CBOs, both national and international working in this area.
- 6. Initiate enterpreneurial ventures in care of elderly

Semester I

		Schicster 1		
Course	Name	Theory Credits	Practical Credits	Total credits
Core 1 HSGCC101	Sociology and Psychology of Aging	4	2	6
Core 2 HSGCC102	Physiological and Clinical Aspects of Aging	4	2	6
Core 3 HSGCC103	Aging and the Built Environment	4	2	6
Core 4 HSGCC104	Policies, Programmes and Services for Older Adults	4	-	4
Elective HSGEC11	A. Management and Rehabilitation of Older Adults With Special Needs OR B. Collective Action, Advocacy, Networking for Older Persons	4	-	4
				26

Semester II

Course	Name	Theory	Practical	Total credits
Course	1,4220	Credits	Credits	100010100
		G1 0411 5	0104105	
Core 5		,		
HSGCC205	Basics of Research Methods,	4	-	4
	Statistics and Scientific Writing			
Core 6			_	_
HSGCC206	Nutrition and Aging	4	2	6
Core 7	0 1 1 1 1 1 1 1	,	2	
HSGCC207	Organization and Management	4	2	6
	of Institutions and Services for			
	older adults			
Elective				
HSGEC21	A. Health Promotion in Older	4	2	6
	Persons OR			
	B. Counseling and Family			
	therapy for elderly			
	unerapy for elderry			
Core 8	Paris at / Fig. 11 Plans and			2
HSGCC208	Project/ Field Placement	2		2
				24

HSGCC101: SOCIOLOGY AND PSYCHOLOGY OF AGING THEORY

Duration: 3 hours

Maximum marks: 100

Course Objective:

The psychosocial changes an individual experiences in the process of Aging have a strong impact on his/her overall sense of health and well-being. The way an Older Adult perceives himself/herself influences the way in which he/she regards the Aging process. The student will understand that each individual has a unique personality as also differing life circumstances and hence there are a variety of ways of adapting to old age.

Course LearningOutcomes:

The student will be able to -

1. Understand the nature of psychosocial changes an individual undergoes with advancing age Gain an insight about the implications of this aspect of Aging on an individual, the family and the society

CONTENTS
PERIODS

UNIT I: Psycho Social Aspects of Aging

10

- Developmental Stages of Late Adulthood
- Developmental tasks
- Physical and Physiological Changes
- Theories of Aging: Activity theory, Disengagement theory, Modernizing theory
- Relevance of theories to working with Older Adults

UNIT II: Socio-emotional Changes

- Theoretical perspectives: Erikson's theory; Levinson's theory
- Role of family: Changing family and kinship structure; Role expectations; transitions in roles and relationships; generation gap; intergenerational relationships
- Self Concept and Self esteem: Changing scenario in the Indian Context and Changing in self and coping strategies
- Parenting and Grand parenting: Role of the elderly; Role of Children; Role of grandchildren
- Retirement: Preparation for retirement; Issues in re-employment; Readjustment and redefining roles

UNIT III: Vulnerability in the Older Adult

• Marginalization due to class, caste, gender, migration, occupation and disability

UNIT IV: Death and Dying

10

10

• Bereavement; stages of bereavement; coping strategies; loneliness; preparation for death

UNIT V: Gerontological Counseling

8

- Basic principles
- Concept, Meaning, scope and Applications
- Assessment in Family Therapy: Family Tree, Time Lines and Genograms

Suggested Readings:

- 1. Sasser, J. and Moody, H. (2018). *Gerontology: The basics*. Routledge.
- 2. Quadagno, J, S. (2017). *Aging and the life course: An introduction to Social Gerontology* (7th Ed). McGrawHill College.
- 3. Linda K. George and Kenneth F. Ferraro (2016) Handbook of Ageing and Social Sciences, Eighth Edition. Elsevier

Teaching Plan:

- Week 1: Developmental Stages of Late Adulthood and Developmental tasks
- Week 2: Physical and Physiological Changes
- Week 3: Theories of Aging: Activity theory, Disengagement theory, Modernizing theory
- Week 4: Relevance of theories to working with Older Adults
- Week 5: Theoretical perspectives: Erikson's theory; Levinson's theory
- Week 6: Role of family: Changing family and kinship structure, generation gap and intergenerational relationships
- Week 7: Self Concept and Self esteem: Changing in self and coping strategies
- **Week 8**: Parenting, Grand parenting: Role of the elderly and Children; retirement: issues, readjustment and redefining roles
- Week 9: Marginalization and vulnerability in older adults due to class, caste, gender, migration, occupation and disability
- Week 10: Bereavement; stages of bereavement, coping and preparing for death
- Week 11: Basic principles, concept, meaning, scope and applications of gerontological counseling
- Week 12: Assessment in Family Therapy: Family Tree, Time Lines and Genograms

Facilitating the achievement of Course Learning Outcomes

Unit No.	Course Learning	Teaching and Learning	Assessment Tasks
	Outcomes	Activity	
1.	Develop an understanding	Discussion, PowerPoint	, ,
	of the process of ageing	presentations on the	Assignment
	and the psycho-social	process of ageing	
	aspects of ageing		
2.	Acquire an understanding	Classroom discussions,	Class quiz
	of the socio-emotional	Power Point presentations,	
	changes in the older adults	and practice sessions	
3.	1	Power Point presentation,	
	of vulnerabilities of older	reading research and	students and class
	adults	discussion on case studies	assignments
4.	Acquire knowledge related	Power Point presentations,	Presentations by
	to Gerontological	Discussion, Informative	students on specific
	Counseling and family	videos	issues and class quiz
	therapy.		

HSGCC101: SOCIOLOGY AND PSYCHOLOGY OF AGING PRACTICAL

Duration: 3 hours Maximum marks: 50

Teaching Periods: 4/week (1 practical)

Teaching Load: 12 Practical /semester

Course Objective:

The student will be able to acknowledge needs and concerns of the elderly. They will be able to appreciate individual differences and accordingly, work with them effectively.

Course Learning Outcomes:

The student will be able to -

Comprehend and use the various research methods to study elderly.

Gain an insight into the process of effective counselling and assessment.

CONTENTS
PERIODS

UNIT I. Methods of studying the elderly

2

- Interview method, constructing and conducting interview
- Questionnaire method, constructing and conducting questionnaires
- Case study, FGD

UNIT II. Case study

- Case study method and techniques used Discussing sample case studies
- Identifying and interacting with a subject Conducting and analyzing a case study

UNIT III. Caregiver Interventions

3

- Interview/questionnaire with family of elderly Understanding Geriatric medical care
- Interviewing care givers to understand their role, issue, concerns and coping

UNIT IV. Counseling: Assessment in Family Therapy

3

- Basic principles of counseling
- Assessment in Family Therapy
- Family Tree, Time Lines and Genograms
- Interacting with elderly and their families/caregivers

Suggested Readings:

- 1. Sasser, J. and Moody, H. (2018). *Gerontology: The basics*. Routledge.
- 2. Quadagno, J, S. (2017). *Aging and the life course: An introduction to Social Gerontology* (7th Ed). McGrawHill College.

HSGCC102: PHYSIOLOGICAL AND CLINICAL GERONTOLOGY THEORY

Duration: 3 hours

Teaching Period: 4/ week Maximum marks: 100

Teaching Load: 48 periods/ semester

Course Objectives:

The course aims to provide to provide a foundation of the fundamental concepts and terminology of Aging and age related diseases. It helps to develop conceptual clarity about the nature of anatomical and physiological changes an individual undergoes with advancing age. The course provides an insight about the implications of these on the functional ability, clinical profile and quality of life of an Aging individual. It promotes critical thinking about aging research and anti-Aging interventions in laboratory animals and humans which may slow down the Aging process

Course Learning Outcomes:

Student will be able to -

Understand fundamental concepts and terminology of Aging and age related diseases. Explain how human organ systems function and how they become dysregulated with advancing age.

Gain an insight about the implications of Aging on the functional ability, clinical profile and quality of life of an Aging individual.

Promote critical thinking about aging research and anti-aging interventions which may slow down the Aging process.

CONTENT

UNIT I: Concept of Aging

8

- Concept of Healthy Aging
- Biological theories of Aging
- Distinction between Normal and Pathological Patterns of Aging Factors affecting Healthy Aging

UNIT II: Assessment of Aging

4

- Concept and Components of 'Activities of Daily Living' (ADL) and 'Quality of Life' (QOL); 'Quality of Life Index' (QOLI): Health-related Quality of Life (HRQoL), Quality Adjusted Life Years (QUALY) and Disability Adjusted Life Years (DALY).
- Geriatric assessment- need, Components, tools and techniques of: anthropometric assessment, biochemical assessment, functional ability and physical health assessment and clinical assessment.

UNIT III: Process of Aging

- Causes and Consequences of Aging
- Cardiovascular and respiratory Aging
- Renal and Reproductive Aging
- Gastrointestinal Aging
- Cerebro-vascular Aging
- Sensory Aging

UNIT IV: Clinical aspects of Aging

24

Degenerative disorders: etiology, pathophysiology, clinical and biochemical manifestations, treatment and prevention

- Disability: Hearing and Vision Impairment, Dental and Speech impairment
- Orthopaedic disorders Arthritis and Osteoporosis
- Diabetes
- Hypertension and Coronary artery disease
- Terminal Illnesses: Renal failure, Cancer
- Psycho-neurological disorders: Depression, Anxiety, Dementia, Parkinson's disease, Alzheimer's Disease.
- Hormonal Changes: Menopause and Andropause
- Aging research, Anti-Aging interventions, Anti-Aging Drugs and Surgical procedures.

Suggested Readings:

- 1. Berkman, B.(2006) *Handbook of Social Work in Health and Aging*. New York: Oxford University Press
- 2. Mezey, M.D. (2001) *The Encyclopaedia of Elder Care*, New York: Springer Publications.
- 3. Moody, H. (2000) Aging: Concepts and Controversies, California: Sage Publications
- 4. Murray, C.J. Salomon, J.A.Mathers, C.D. (2002). *Summary measures of population health: concepts, ethics, measurement and applications.* Geneva: World Health Organization.
- 5. Sharma O.P. (2008) *Geriatric Care A Textbook of Geriatrics and Gerontology*, New Delhi, Viva Publications.
- 6. Sharma, O.P. (2015) *Principles and Practice of Geriatric Medicine*, New Delhi: Viva Books Private Ltd.
- 7. Lindquist, L.A. (2018) *New Directions in Geriatric Medicine: Concepts, Trends, and Evidence-Based Practice*, Springer International Publishing Switzerland, 2016.
- 8. Gallo JJ, Bogner HR, Fulmer T, Paveza GJ (2006). Handbook of Geriatric Assessment. Jones and Brtlett publishers, USA
- 9. Pilotto A, Martin FC (2018). *Comprehensive Geriatric Assessment*. Springer International Publishing AG.

Teaching Plan:

- Week 1: Concept of Healthy Ageing, Biological theories of ageing
- Week 2: Distinction between Normal and Pathological Patterns of Ageing, Factors affecting Healthy Ageing
- Week 3: Concept and Components of 'Activities of Daily Living' (ADL) and 'Quality of Life' (QOL); 'Quality of Life Index' (QOLI): Health-related Quality of Life (HRQoL), Quality Adjusted Life Years (QUALY) and Disability Adjusted Life Years (DALY). Geriatric assessment- need, components, tools and techniques of: anthropometric assessment, biochemical assessment, functional ability and physical health assessment and clinical assessment.
- Week 4: Causes and Consequences of ageing, Cardiovascular and respiratory ageing
- Week 5: Renal and Reproductive ageing, Gastrointestinal ageing

Week 6: Cerebro-vascular ageing, Sensory ageing

Week 7:Degenerative disorders: etiology, pathophysiology, clinical and biochemical manifestations, treatment and prevention: Disability- Hearing and Vision Impairment, Dental and speech impairment; Orthopaedic disorders- Arthritis and Osteoporosis

Week 8: Diabetes, Hypertension and Coronary artery disease

Week 9: Terminal Illnesses: Renal failure, Cancer; Psycho-neurological disorders: Depression, Anxiety, Dementia, Parkinson's disease, Alzheimer's Disease.

Week 10: Hormonal Changes: Menopause and Andropause

Week11: Ageing research, anti-ageing interventions and Healthy Living: Lifestyle modification, Fitness and Activity, Physical Exercise, Yoga and Meditation

Week 12: Calorie restriction, Weight Reduction, anti-ageing Drugs and Surgical procedures

Facilitating the achievement of Course Learning Outcomes

Unit No.	Course Learning Outcomes	Teaching and Learning Activity	Assessment Tasks
I	Gain insight about Concept of ageing	Reading of research on Concept of ageing	Presentation of various research papers on ageing
II	Learn the method of Assessment of ageing	PowerPoint presentations and Videos of methods of assessment	
III	Promote critical thinking and understanding the Process of Ageing	Group discussion on Process of Ageing	Short Assignment
IV	Appreciate the importance of Clinical aspects of ageing	Power point presentation of clinical presentations of ageing	Project on clinical manifestations of ageing

HSGCC102: PHYSIOLOGICAL AND CLINICAL GERONTOLOGY PRACTICAL

Duration: 3 hours Maximum marks: 50

Teaching Periods: 4/week (1 practical)

Teaching Load: 12 Practical /semester

Course Objectives:

To develop conceptual clarity about the nature of anatomical and physiological changes an individual undergoes with advancing age and its implications on the functional ability, clinical profile and quality of life of an Aging individual. It promote critical thinking about aging research and anti-Aging interventions in laboratory animals and humans which may slow down the Aging process

Course Learning Outcomes:

Student will be able to-

Use and interpret Geriatric assessment tools and techniques Understand fundamental concepts and terminology of Aging and age related diseases.

Gain an insight about the implications, care and management ofdegenerative disorders:

CONTENTS PERIODS

UNIT I: Geriatric assessment:

3

- Use and interpretation of tools and techniques
- Functional ability and physical health assessment Clinical assessment
- Anthropometric assessment Biochemical assessment

UNIT II: Use and interpretation of Functional ability and physical health Assessment

3

- Activities of Daily Living' (ADL)
- Quality of Life' (QOL)
- Quality of Life Index (QOLI)
- Health-related Quality of Life (HRQoL)
- Quality Adjusted Life Years (QUALY)
- Disability Adjusted Life Years (DALY)

UNIT III: Interpretation of degenerative disorders: care and management

6

- Disability: Hearing and Vision Impairment, Dental and Speech impairment
- Orthopaedic disorders: Arthritis and Osteoporosis
- Diabetes
- Hypertension and Coronary artery disease
- Terminal Illnesses: Renal failure and Cancers
- Psycho-neurological disorders: Depression, Anxiety, Dementia, Parkinson's disease and Alzheimer's disease.

Suggested Readings:

- 1. Lindquist, L.A. (2018). *New Directions in Geriatric Medicine: Concepts, Trends, and Evidence-Based Practice*, Springer International Publishing Switzerland, 2016.
- 2. Gallo JJ, Bogner HR, Fulmer T, Paveza GJ (2006). *Handbook of Geriatric Assessment. Jones and Brtlett publishers, USA*
- 3. Pilotto A, Martin FC (2018). *Comprehensive Geriatric Assessment*. Springer International Publishing AG.

HSGCC103: AGING AND THE BUILT ENVIRONMENT THEORY

Duration: 3 hours Maximum marks: 100

Teaching Period: 4/ week

Teaching Load: 48 periods/ semester

Course Objectives:

This course will address the different aspects of the living environment of older adults. The students will learn about the impact of the physical environment (Natural & Built environment) on the aged, regional planning, urban planning, housing types and its effects on aged, effects of different relocations and institutionalization.

Course Learning Outcomes:

After doing this course the students will be able to -

Develop an understanding of the different aspects of the living environment (Natural & Built environment) of older adults Learn about the impact of the physical environment on the aged Gain an understanding about regional, urban planning and housing for elderly. Acquire skills to minimize environmental hazards and ensure a barrier free environment in the home for older adults Gain knowledge about the requirements of adaptable housing, old age homes, day care centres and other facilities for older persons

CONTENTS
PERIODS

UNIT 1: Physical Environment for Aged

20

Physical environment (Natural and Built) for the older adults. Understanding age-related changes, special requirements, different components (Landscape, building, lighting, fixtures, furniture etc), hazards.

Adaptable housing – need and advantages in contemporary age.

UNIT II: Housing for Aged

10

- Major areas of the dwelling units for older adults. Housing for older adults and the environment, Building types, Housing and neighborhood problems.
- Architectural features for assistance- Signs, Perceptual access, Architectural differentiation, planned configuration. Prevention of falls and accidents.

UNIT III: Coordination and Community Settings

8

- Building Interventions Accessibility, Communication, Coordination, Housing improvements
- Minimizing hazards. Planning safe housing and community settings for older persons
- Barrier free environment at homes, public places

UNIT 1V: Transportation Planning and Institutionalization

10

Transportation planning for older adults - Road junctions, Lanes & Roundabouts

- Need for safe old age homes, community dwellings, day care centres for older adults Prevention of dependency and institutionalization
- Educating older persons on personal safety
- Relocations types and advantages

Suggested Readings:

- 1. Martha C.Nussbaum (2018) Aging Thoughtfully, OUP USA Publishers
- 2. Helen K. Kerschner & Nina M. Silverstein (2018): *Introduction to Senior transportation*. Routledge.
- 3. Matthias Hollwich and Bruce Mau Design Inc(2016). *New Aging: Live smarter now to live smarter for better*. Penguins Books, New York
- 4. Wacker, R. R. and Roberto K. A. (2008). 3rded) *Community Resources for Older Adults Programmes and Services in an era of Change*. Sage Publications.

Teaching Plan:

- **Week 1:** Introduction to the Subject, Study of Natural and Built Environment components for older persons, Special requirements
- Week 2: Urban Planning and Housing for Elderly, Housing types, Need of Adaptable Housing for elderly
- **Week 3:** Architectural features for assistance (e.g. Signs ,Perceptual access etc.), Prevention of falls and accidents.
- **Week 4:** Understanding skills for minimizing environmental hazards, Old age homes and Day Care centres, Facilities for older adults
- **Week 5:** Building Interventions Accessibility, Communication, Coordination etc., Housing Improvements.
- Week 6: Customized designs of fittings and fixtures for elderly, Linking special needs with housing for elderly. Assignment Preparation and Test
- Week 7: Study of different climates in the country, Climatic effects on elderly, Macro and Micro Climatic effects.
- **Week 8:** Renovations of Residences for adopting adverse climatic change, Barrier free environment at homes and public places.
- Week 9: Components of housing (e.g. Living Rooms, Washrooms, Kitchens and Stairs for elderly), special provisions for elderly
- **Week 10:** Transportation planning for older adults, Road junctions etc. Need for safe walkways and lanes.
- **Week 11:** Prevention of dependency and institutionalization, Educating older persons on personal safety.

Week 12: Different types of Relocations and their advantages, Assignment Preparation and Test, Revision

Facilitating the achievement of Course Learning Outcomes

Unit No.	Course Learning	Teaching and	Assessment Tasks
	Outcomes	Learning Activity	
1.	Understand the different	Discussion,	Class Quiz
		PowerPoint	
	environment of older	presentations, Case	
	adults	studies	
2.		Reading different case	Class assignment
	51	studies, Power Point	
	aged, adaptable housing	presentations , Video	
	and its advantages	presentations	
3.	Appreciate importance of	Power Point	Presentations by students
	Coordination and	presentations,	on need of coordination
	Community Settings	Discussion of present	
		age systems	
4.	Understand safe	Power Point	Assignment on
	Transportation Planning	-	connectivity via Node
	and Institutionalization	Discussions with	points and Assignment
	for aged	Videos on BRT, FOB	•
		•	shortcomings in current
		Case study of V8	transportation system for
		transportation system	aged

HSGCC103: AGING AND THE BUILT ENVIRONMENT PRACTICAL

Duration: 3 hours Maximum marks: 50

Course Objectives:

This course will expose the students to different living conditions of older adults. The students will physically realize the effects of the physical environment on the aged while carrying out different activities . Students will also get a chance to understand town planning , housing types and its effects on aged by using different transportation modes .

Course Learning Outcomes:

After completion of the course the students will be able to -

Acquire skills on understanding of the different aspects of the living environment of older adults .

Acquire skills to understand age related issues with older adults by physically visiting their dwelling units.

Plan and assist Town planners with their valuable suggestions while planning and housing for elderly.

Acquire skills to understand environmental hazards and suitably work for older adults

CONTENTS PERIODS

1. Residential Colony survey to understand different components (Landscape	& building
components)	2
2. Residential Colony survey to understand Urban & Regional planning (Land	l use &
Zoning)	4
3. Preparation of suitable questionnaire to understand age related issues	1
4. Preparation of a case study explaining adaptable housing for aged	1
5. Residential Colony survey to understand use of adaptive technologies, rang	ing from
walkers, hearing aids, etc. and to check Falls and Safety-proof of homes	3
6. Survey to check existing transportation issues with older adults	1

Suggested Readings:

- 1. Linda K. George and Kenneth F. Ferraro (2016) *Handbook of Ageing and social sciences Eighth Edition*. Elsevier.
- 2 . Charles Musselwhite (2017). *Transport* , *Travel and Later Life Vol 10* . Emerald Publishing Limited.
- 3. Henry Cisneros (2012). *Independent For Life: Homes and Neighbourhoods for an Ageing America*. University of Texas Press.
- 4. Wacker R.R., Roberto K.A (2008) . *Community Resources for Older Adults Programmes and Services in an era of Change*. Sage Publications

HSGCC104: POLICIES, PROGRAMMES AND SERVICES FOR OLDER ADULTS THEORY

Duration: 3 hours

Maximum marks: 100

Course Objectives:

This Course will expose the students to national and international policies and provisions related to the older adults. It will also familiarize the students to the various programmes and services for the elderly that are provided by the public, private as well as the NGO sector.

Course Learning Outcomes:

Student will be able to:

Get familiar with the National and International policies designed for Older Adults.

Appraise the programmes and services set up for older adults.

Develop an understanding about the role of various agencies and individuals in elderly care.

CONTENTS PERIODS

UNIT I: International policies and provisions for Older Adults

12

- UN Principles for Older Persons (1991) Proclamation on Aging
- Madrid Declaration (2001)
- Universal Declaration of Human Rights (UDHR, 1948)
- Integrated Care for Older People (ICOPE Guidelines, WHO 2017)

UNIT II: Constitutional provisions and policies for Older Adults in India

8

- Persons with Disabilities (equal opportunities, protection of rights and full participation) Act (1995)
- National Policy on Older Persons (1999)
- The Maintenance and Welfare of Parents and Senior Citizens Act (2007)

UNIT III: Programmes and Services for the Older Adults

- Programmes/ Schemes for Welfare, Shelter and Housing, Health and Disability, Pension and Retirement, Legal Aid, etc.
- Services for old age care long and short-term stay, day care, dementia care, respite care, home based services like meals on wheels, home caregiving etc.

UNIT IV: Role of various agencies and individuals in elderly care

- 12
- Ministry of Social Justice and Empowerment, Government of India Non Governmental Organisations, Community Based Organisations, Senior Citizens Associations, Religious and philanthropic institutions Family
- Volunteers role, rights and responsibilities

Suggested Readings:

- 1. Chakraborti, R.D. (2004) *Greying of India: Population Aging in the context of Asia*, New Delhi: Sage Publications.
- 2. Desai, M., Siva Raju, S. (Eds). (2000) *Gerontological Social Work in India*, New Delhi: B.R. Publication.
- 3. Government of India (1999) National Policy for Older Persons.
- 4. HelpAge India (2016) Senior Citizen's Guide. Revised Edition.
- 5. IrudayaRajan, S. (Ed) (2008) *Social security for the elderly: Experiences from South Asia*. New Delhi: Routledge Publication, New Delhi.
- 6. IrudayaRajan, S., Balagopal, G. (Eds.) (2017) *Elderly care in India Societal and State responses*, Springer Singapore.
- 7. IrudayaRajan, S., Mishra U.S., Sharma, P.S. (1999) *India's Elderly: Burden or Challenge*, New Delhi: Sage Publications.
- 8. Mayer, P.P, Dickinson, E.J., Sandler, M. (Eds) (1997) *Quality Care for elderly people*, London: Chapman and Hall.
- 9. Modi, I. (Ed) (2001) Aging and Human Development, Jaipur: Rawat Publications.
- 10. Muttagi, P.K. (1997) *Aging Issues and Old Age Care-A Global perspective*, New Delhi: Classical Publishing Company.
- 11. Tattwamasi, P.S., Tyagi, R. (2015) Caring for the elderly: Social gerontology in the Indian context, Sage India.
- 12. UN (2004) Policy Responses to Population Decline and Aging: Special issue, New York.
- 13. Wacker, R.R., Roberto, K.A. (2014) *Community Resources for Older Adults Programmes and Services in an era of Change*. 4th ed. Sage publications, Inc.

Internet websites/ readings:

http://socialjustice.nic.in/writereaddata/UploadFile/Annexure-X635996104030434742.pdf

(The Maintenance and Welfare of Parents and Senior Citizens Act, 2007).

<u>http://www.ohchr.org/EN/ProfessionalInterest/Pages/OlderPersons.aspx</u> (United Nations Principles for Older Persons)

http://www.ohchr.org/EN/UDHR/Pages/UDHRIndex.aspx(Universal Declaration of Human Rights).

http://www.who.int/Aging/publications/guidelines-icope/en/ (ICOPE guidelines)

Websites of UNDP, WHO and Ministry of social Justice and Empwerment, GOI

Teaching Plan:

Week 1:Introduction to the Course

International policies and provisions for older persons in the United Nations

- UN Principles for Older Persons (1991)

Week 2 UN Principles for Older Persons (1991)...continued

Proclamation on Aging and the Global Targets for Aging

Week 3	Vienna Declaration
	Madrid Declaration (2001)
	Universal Declaration of Human Rights (1948)
Week 4 Week 5	Integrated Care for Older People (ICOPE Guidelines, WHO 2017) National Policy on Older Persons (1999)
Week 6	Persons with Disabilities (equal opportunities, protection of rights and full
	participation) Act (1995)
	The Maintenance and Welfare of Parents and Senior Citizens Act (2007)
Week 7	Programmes/ Schemes for Welfare, Shelter and Housing, Health and
	Disability for elderly
Week 8	Programmes/ Schemes for Pension and Retirement, Legal Aid, etc. for elderly
Week 9	Services for old age care - long and short-term stay, day care, dementia
Week 9	Services for old age care - long and short-term stay, day care, dementia care, respite care, home based services like meals on wheels, home
Week 9	
Week 9 Week 10	care, respite care, home based services like meals on wheels, home
	care, respite care, home based services like meals on wheels, home caregiving etc.
	care, respite care, home based services like meals on wheels, home caregiving etc. Services for old age care - home based services like meals on wheels, home
Week 10	care, respite care, home based services like meals on wheels, home caregiving etc. Services for old age care - home based services like meals on wheels, home caregiving etc.
Week 10	care, respite care, home based services like meals on wheels, home caregiving etc. Services for old age care - home based services like meals on wheels, home caregiving etc. Role of Ministry of Social Justice and Empowerment, Government of India
Week 10	care, respite care, home based services like meals on wheels, home caregiving etc. Services for old age care - home based services like meals on wheels, home caregiving etc. Role of Ministry of Social Justice and Empowerment, Government of India in elderly care
Week 10	care, respite care, home based services like meals on wheels, home caregiving etc. Services for old age care - home based services like meals on wheels, home caregiving etc. Role of Ministry of Social Justice and Empowerment, Government of India in elderly care Role of Non Governmental Organisations, Community Based
Week 10	care, respite care, home based services like meals on wheels, home caregiving etc. Services for old age care - home based services like meals on wheels, home caregiving etc. Role of Ministry of Social Justice and Empowerment, Government of India in elderly care Role of Non Governmental Organisations, Community Based Organisations, Senior Citizens Associations, Religious and philanthropic

Facilitating the achievement of Course Learning Outcomes

Unit	Course Learning Outcomes	Teaching and	Assessment Tasks
No.		Learning Activity	
I and II	Get familiar with the National and International policies designed for Older Adults.	Lecture-cum- Discussion	Assignment on critical review of International and National Policies for elderly
III	Appraise the programmes and services set up for older adults.	Lecture-cum- Discussion (using videos/ short films on programmes and services), Talks by experts	Assignment/ Student Presentations on programmes and services for elderly
IV	Develop an understanding about the role of various agencies and individuals in elderly care.	Lecture-cum- Discussion (using videos/ short films on various agencies), Talks by experts	Assignment/ Student Presentations on role of various agencies/ individuals in elderly care

HSGEC11A: MANAGEMENT AND REHABILITATION OF OLDER ADULTS WITH SPECIAL NEEDS

THEORY

Maximum marks: 100

Duration: 3 hours

Teaching Period: 4/ week

Teaching Load: 48 periods/ semester

Course Objectives:

This course will address specific sections amongst the elderly who require special understanding and attention. In our country the significant groups who comprise these amongst the elderly are women, rural and tribal elderly, socially and economically deprived groups, and victims of abuse and neglect. The special needs of older adults with medical problems like dementia, Alzheimer's disease, Parkinson's disease, terminally ill, bedridden elderly will also be dealt with. It will also focus on aspects related with management and rehabilitation.

Course Learning Outcomes:

The student will be able to -

Develop a perspective on the marginalization of groups such as women, rural and tribal elderly and others mentioned above

Acquire a conceptual understanding of abuse, neglect and exploitation of older persons Acquire knowledge and skills to deal with older adults with special needs due to illness/disease

Acquire an understanding of aspects related with management and rehabilitation of the elderly

CONTENTS
PERIODS

UNIT I: Historical Perspective

8

• Overview of Socio-economic development and its impact on various elderly groups Socio-economically diverse groups of Elderly: Urban; rural; tribal; destitute; etc.

UNIT II: Elder abuse

12

- Conceptual understanding of Elder Abuse Types of Elder Abuse
- Characteristics of victims based on gender, marital status, health, chronological age, substance abuse, living arrangements, psychological factors, problem behavior, dependence isolation, etc.
- Social and mental health consequences of maltreatment Interventions at the preventive level and therapeutic level

UNIT III:Elderly women

6

- Demographic profile
- Physical and mental health for older Women Economic security
- Widowhood and coping

UNIT IV: Mental health issues

12

- Understanding mental health and well being
- Understanding specific mental health issues: Depression; Anxiety; Loneliness; Alzheimer's, Parkinsons and age related dementias
- Managing and rehabilitation of elderly with mental health issues

UNIT V: Rehabilitation of Older adults with disabilities

- Physical health and constraints; coping mechanisms
- Rehabilitation
- Concepts and History of Rehabilitation

UNIT VI: Goals of Rehabilitation

- Principles of Rehabilitation Assessment, Goals, Priorities and Monitoring Progress Rehabilitation in Old age Special features in relation to aging, multiple pathology,
- Policies, Expectation, Carers,
- Social and Financial Rehabilitation
- Rehabilitation as Team work Team leadership, Therapist, Physiotherapy, Occupational Therapy, Social Worker, Physician and Nursing personnel
- Organisation and Effectiveness of Rehabilitation services Community Services,
 Geriatric Unit, Day hospital, Day Care Centre, Long Stay Care Institution role of rehabilitation in the above services
- Empowering for retirement

Suggested Readings:

- 1. Tattwamasi, P. and Tyagi, R. (2015). *Caring for the Elderly: Social Gerontology in the Indian Context*. SAGE publications India.
- 2. Chadha, N. K. (2012). Issues and trends in rehabilitation research.
- 3. Mary Joy Quinn, Susan K Tomita (1997). *Elder Abuse and Neglect: Causes, Diagnosis, and Interventional Strategies*. Springer Publishing Company.
- 4. Kauffman TL, Scott R, Barr O, Moran ML (2014) *Comprehensive Guide to Geriatric Rehabilitation.* Churchill Livingstone Elsevier.

Teaching Plan:

- Week 1: Historical Perspective
- **Week 2:** Overview of Socio-economic development and its impact on various elderly groups, Socio-economically diverse groups of Elderly: Urban; rural; tribal; destitute; etc.
- Week 3: Conceptual understanding of Elder Abuse, Types of Elder Abuse
- **Week 4:** Characteristics of victims based on gender, marital status, health, chronological age, substance abuse, living arrangements, psychological factors, problem behavior, dependence isolation, etc.
- Week 5: Social and mental health consequences of maltreatment, Interventions at the preventive level and therapeutic level
- Week 6: Elderly women: Demographic profile, Physical and mental health for older women
- Week 7: Elderly Women: Economic security, Widowhood and coping
- Week 8: Mental health issues: Understanding mental health and well being, Understanding specific mental health issues: Depression; Anxiety; Loneliness; Alzheimer's and dementias
- Week 9: Managing and rehabilitation of elderly with mental health issues
- Week 10: Older adults with developmental disabilities: Physical health and constraints,
- Week 11: Physical constraints and coping mechanisms
- Week 12: Rehabilitation, Empowering for retirement

Facilitating the achievement of Course Learning Outcomes

Unit No.	Course Learning	Teaching and Learning	Assessment Tasks
	Outcomes	Activity	
1.	Develop a perspective on the marginalization of groups such as women, rural and tribal elderly and others mentioned above	Discussion, PowerPoint presentations, demonstrations related to marginalized groups with special needs	Class Quiz, Assignment
2.	Acquire a conceptual understanding of abuse, neglect and exploitation of older persons	Classroom discussions, Power Point presentations, demonstrations through case studies	Class quiz
3.	Acquire knowledge and skills to deal with older adults with special needs due to illness/disease	Classroom discussions, Power Point presentation, discussion on case studies	Presentations by students and class quiz
4.	Acquire an understanding of aspects related with management and rehabilitation of the elderly	Power Point presentations, Discussion, Informative videos showing rehabilitation strategies	Presentations by students and class quiz

HSGEC11B: COLLECTIVE ACTION, ADVOCACY, NETWORKING FOR OLDER PERSONS

THEORY

Duration: 3 hours

Teaching Period: 4/ week Maximum marks: 100

Teaching Load: 48 periods/ semester

Course Objective

This Course will focus on the dynamics of working with Groups and Communities. It will sensitize students to the need for advocacy and networking and equip them with skills for community engagement.

Course Learning Outcomes

The student will be able to -Understand the concept of Advocacy Understand Networking and Collective Action

Appreciate the significance of Collective Action such as Group and Community intervention and Advocacy and Networking in the context of Older Adults

Acquire the requisite skills for effective Collective Action, Advocacy and Networking.

CONTENTS
PERIODS

UNIT 1: What Is Advocacy?

12

- Issues, Goals, and Objectives: Building the Foundation
- Target Audiences: Identifying Support and Opposition
- Messages: Informing, Persuading, and Moving to Action
- Data Collection: Bridging the Gap
- Fundraising: Mobilizing Resources
- Implementation: Developing an Action Plan Monitoring and Evaluation

UNIT II: What Are Advocacy Networks; Collective Action

18

- Nature and Scope of Collective Action
- Types of Collective Action (Groups, intra- and inter-Community mobilization) Group
- dynamics and processes as indicators of group development.
- Effective Communication: Understanding One Another
- Cooperation Not Competition: Building a Team
- Decision Making: Reaching Group Consensus
- Mission Statements: Creating a Common Purpose
- Putting It All Together: Managing the Network

UNIT III: Implementation: Developing an Action Plan

18

- Skills for advocating the integration of Older Adults in society and creating spaces for active ageing to occur
- Developing and sustaining Self Help Groups with a special emphasis on Older Women
- Value System of an ageing individual; Cultural attitudes held by the elder as well as society at large;
- Networking with Organisations of Citizens' Groups and those working with Citizens' Associations.
- Recreation and Constructive Use of Leisure Time.

SugestedReadings:

- 1. Schutz, A. and Sandy, M. G. (2011). *Collective Action for Social Change: An Introduction to Community Organizing*. Palgrave MC Millan
- 2. Gutman, G. and Spencer, C. (2010). *Aging, Ageism and Abuse: Moving from awareness to action*. Elsevier Insights
- 3. Huber R, Nelson H W, Netting FE, Borders KW (2008). *Elder Advocacy: Essential Knowledge and Skills across Settings*. Thomson, Brookes Cole, USA

Teaching Plan:

- Week 1:What Is Advocacy? Issues, Goals, and Objectives: Building the Foundation, Target Audiences: Identifying Support and Opposition
- **Week 2:** Messages: Informing, Persuading, and Moving to Action; Data Collection: Bridging the Gap; Fundraising: Mobilizing Resources
- Week 3: Implementation: Developing an Action Plan, Monitoring and Evaluation
- **Week 4:** Nature and Scope of Collective Action: Types of Collective Action (Groups, Intra- and Inter-Community mobilization); Group dynamics and processes as indicators of group development.
- **Week 5:** Effective Communication: Understanding one another, Cooperation not Competition: Building a Team
- Week 6: Decision Making: Reaching Group Consensus, Mission Statements: Creating a Common Purpose
- Week 7: Putting It All Together: Managing the Network
- Week 8: Skills for advocating the integration of Older Adults in society and creating spaces for active ageing to occur
- Week 9: Developing and sustaining Self Help Groups with a special emphasis on Older Women
- **Week 10:** Value System of an ageing individual; Cultural attitudes held by the elder as well as society at large
- Week 11: Networking with Organisations of Citizens' Groups and those working with Citizens' Associations
- Week 12: Recreation and Constructive Use of Leisure Time

Facilitating the achievement of Course Learning Outcomes

Unit No.	Course Learning Outcomes	Teaching and Learning Activity	Assessment Tasks
1.	Understand the concept of Advocacy	Discussion, PowerPoint presentations	Class Quiz, Assignment
2.	Understand Networking and Collective Action	Classroom discussions, Power Point presentation, case studies	Assignment, Class quiz, case study presentations
3.	Appreciate the significance of Collective Action such as Group and Community intervention and Advocacy and Networking in the context of Older Adults	Classroom discussions, Power Point presentation, case studies	Presentations by students and class quiz
4.	Acquire the requisite skills for effective Collective Action, Advocacy and Networking	Power Point presentations, Discussion	Presentations by students and class quiz

HSGCC205:: BASICS OF RESEARCH METHODS, STATISTICS AND SCIENTIFIC WRITING THEORY

Duration: 3 hours

Teaching Period: 4/ week Maximum marks: 100

Teaching Load: 48 periods/ semester

Course Objectives:

This Course will expose the student to an understanding of research methodsadopted in gerontological research and the basic statistical methods to be applied. It will also equip the students with competencies in scientific writing. The students will be exposed to the use of computer software in research.

Course Outcomes:

The Course will equip the students with:

Understanding and developing skills in planning research designs in gerontological research Ability to apply statistical techniques to research data for analyzing and interpreting data meaningfully.

Develop competencies in scientific writing skills

CONTENT

PERIODS

UNIT I: Quantitative and Qualitative Research in Gerontology

18

- Overview, meaning and purpose
- Quantitative Research types, design, tools and techniques for data collection
- Qualitative Research types, tools and techniques for data collection, qualitative data analysis and interpretation.
- Rapid Assessment Procedures Participatory Action Research

UNIT II: Scientific Writing Methods

- Formulation of research problem- Reviewing the literature, selecting a research problem, formulation of research objectives, constructing hypothesis
- Research Reports- Various components and structure, Referencing and citation styles
- Ethical issues in research

UNIT III: Data analysis and Interpretation

Conceptual understanding of statistical measures, testing of hypothesis, Normal distribution

20

- Measurement of central tendency, measures of variation, Frequency distribution, histogram, frequency polygons
- Descriptive statistical measures: Selection and application
- Inferential statistical measure: Selection and application Computer data analysis

Suggested Reading:

- 1. Best, J.W. and Kahn, J.V. (2007) Research in Education, 10th Edition. Pearson Publications.
- 2. Cook, T.D. and Reinchardt CS (1979) *Qualitative and Quantitative Methods in Evaluation Research*, Beverly Hills, CA, Sage Publications.
- 3. Cresswell, J. (2009) *Research Design Qualitative and Quantitative and Mixed Method Approaches, 3rd Edition,* Thousand Oaks, Sage Publications.
- 4. Flick, U. (2009) *An Introduction to Qualitative Research*, 4th edition. Thousand Oaks, CA, Sage Publications Ltd.
- 5. Garrett, H.E. (1971) Statistics in Psychology and Education, David Haley and Co.
- 6. Green, J. and Thorogood, N. (2009) *Qualitative methods for Health Research*. 2nd edition, Sage Publications Ltd.
- 7. Gupta, S.P. (2002) Statistical methods, New Delhi, Sultan Chand.
- 8. Johnson, R.A. and Tsui, K.W. (1998) *Statistical Reasoning and Methods, 1st Edition*, New York, John Wiley.
- 9. Kothari, C.R. (2004) *Research Methodology –Methods and Techniques*, 2_{nd} *Edition*, New Delhi, New Age international Publishers.
- 10. Mcintyre, A. (2007) Participatory Action Research, Sage publications.
- 11. King, B.M. and Minium, E.W. (2008) Statistical Reasoning in Behavioral Sciences. 5th Edition, John Wiley and Sons Limited.
- 12. Silverman, D. and Marvasti, A. (2008) *Doing Qualitative Research A Comprehensive Guide*, 1st Edition, Sage publications Limited.
- 13. Kumar, R. (2011) Research Methodology: A Step-By-Step Guide for Beginners, Sage Publications Ltd.

Teaching Plan:

- Week 1: Overview, meaning and purpose of quantitative and qualitative research in Gerontology
- Week 2: Quantitative Research types, design, tools and techniques for data collection
- **Week 3:** Qualitative Research types, tools and techniques for data collection, qualitative data analysis and interpretation.
- Week 4: Rapid Assessment Procedures and Participatory Action Research
- Week 5: Formulation of research problem- Reviewing the literature, selecting a research problem, formulation of research objectives, constructing hypothesis Week 6: Research Reports- Various components and structure
- Week 7: Referencing and citation styles, Ethical issues in research
- Week 8:Conceptual understanding of statistical measures, testing of hypothesis, Normal distribution
- Week 9: Measurement of central tendency, measures of variation
- Week 10: Frequency distribution, histogram, frequency polygons
- Week 11: Descriptive statistical measures: Selection and application

Week 12: Inferential statistical measure: Selection and application, Computer data analysis

Facilitating the achievement of Course Learning Outcomes

Unit No.	Course Learning Outcomes	Teaching and Learning	Assessment Tasks
1.	Understanding of research Designs adopted in gerontological research	Lecture-cum- Discussion, Sharing of research designs from research studies in literature	Quiz, Assignment
2.	Skills in planning research studies	Lecture, group discussions, sharing research studies from literature	Assignment
3.	Ability to apply statistical techniques to research data for analyzing and interpreting data meaningfully.	Lecture- cum- discussion	Quiz, assignments
4.	Competencies in scientific writing skills	Lecture- cum- discussion,	Assignments
5.	Understanding of the role of statistics and computer applications in research	Lecture- cum- discussion, demonstration	Assignments

HSGCC206: NUTRITION AND AGING

THEORY

Duration: 3 hours

Maximum marks: 100

Teaching Period: 4/ week

Teaching Load: 48 periods/ semester

Course objectives:

This Course will expose the students to an understanding of the changing nutritional needs with aging, the needs and wants in the food practices of the elderly, frailty in the elderly, the various disorders in which diet has a key role in alleviation, nutritional assessment of the elderly, drug use and food interaction

Course Learning Outcomes

On completion of the course the students will be able to:

- Acquire a conceptual understanding of the fundamentals of good nutrition for older adults
- Have knowledge of nutritional management of disease conditions common among older adults
- Understand the various tools and techniques of nutritional screening and assessment of elderly
- Have enhanced skills to plan diets for elderly and suggest lifestyle modifications for healthy Aging
- Be able to provide diet counseling for management of various disease conditions

CONTENTS	PERIODS
 UNIT I: Nutrition for the Elderly Introduction to nutrition, food and nutrients – Carbohydrates, Proteins, Lipids, Vitamins, Minerals Nutritional requirements of adults and elderly – how dietary needs change with Dietary guidelines for adults and elderly. 	7 h aging
 UNIT II: Nutritional Care process Nutritional Care Process: An Overview Nutritional Screening and Assessment of thpe elderly - tools and techniques D Counseling Therapeutic modifications of the normal diet and enteral feeding 	7 iet
 UNIT III: Promoting Healthy Aging Nutrition guidance and lifestyle modification for healthy Aging. Dealing with Frailty and Nutritional Deficiencies Diet, Nutrient & Drug Interactions. Diet supplements – use and abuse Role of functional foods in aging 	6
 UNIT IV: Nutrition in Disease Gastrointestinal disorders –Flatulence, Constipation, GERD, Diarrhoea Weight Imbalances – Obesity & Underweight Diseases of Heart and Blood Vessels - Hypertension, Dyslipidemias, Diabetes Mellitus Renal Disorders: Nephritis, Chronic Kidney Disease 	16
LINIT Valuatitional management of	12

UNIT V:Nutritional management of

- Musculoskeletal and Rheumatic Disorders Osteoporosis, Arthritis
- Neurological Disorders Dementia, Parkinsons Disease, Alzheimers Disease
- Cancers Terminally Ill

Suggested Readings

- 1. Davis, J. and Sherer, K. (1994) *Applied Nutrition and Diet Therapy for Nurses*. 2nd Edition. W. B. Saunders Co.
- 2. Escott-Stump, S. (1998) *Nutrition and Diagnosis Related Care*. 4th Edition Williams and Wilkins.
- 3. Garrow, J.S., James, W.P.T. and Ralph, A. (2000) *Human Nutrition and Dietetic*. 10th Edition. Churchill Livingstone.
- 4. Mahan, L. K. and Escott Stump. S. (2004) *Krause's Food Nutrition and Diet Therapy* 11th Edition W.B. Saunders Ltd.
- 5. Shils, M.E., Shike, M., Ross, A.C., Cabalero B., Cousins R.J. (2006) *Modern Nutrition in Health and Disease*. 10th Edition. U.S.A: Lippincott, William and Wilkins.
- 6. Srivastava R.K., Tewari B.K., Aggarwal Y. (2008) Current Nutrition Therapy Guidelines in Clinical Practice: A Handbook for physicians, dietitiana and nurses. New Delhi: DGHS, GOI.
- 7. Williams, S.R. (1993) *Nutrition and Diet Therapy*. 7th Edition, Times Mirror Mosby College Publishing. New Edition.
- 8. Khanna K, Gupta S, Seth R, Passi SJ, Mahna R, Puri S (2016) *Textbook of Nutrition and Dietetics*. Elite Publishers, New Delhi

Teaching Plan

- Week 1: Introduction to nutrition, food and nutrients Carbohydrates, Proteins, Lipids, Vitamins, Minerals
- **Week 2:** Nutritional requirements of adults and elderly how dietary needs change with aging, Dietary guidelines for adults and elderly.
- **Week 3:** Nutritional Care Process: An Overview, Nutritional Screening and Assessment of the elderly tools and techniques
- Week 4: Diet Counseling, Therapeutic modifications of the normal diet and enteral feeding
- **Week 5:** Nutrition guidance and lifestyle modification for healthy Aging., Dealing with Frailty and Nutritional Deficiencies
- **Week 6:** Diet, Nutrient & Drug Interactions. Diet supplements use and abuse, Role of functional foods in aging
- Week 7: Nutrition in Disease: Gastrointestinal disorders –Flatulence, Constipation, GERD, Diarrhoea
- **Week 8:** Nutrition in Disease: Weight Imbalances Obesity & Underweight, Diabetes Mellitus
- Week 9: Nutrition in Disease: Diseases of Heart and Blood Vessels Hypertension, Dyslipidemias
- Week 10: Nutrition in Disease: Renal Disorders: Nephritis, Chronic Kidney Disease
- Week 11: Nutritional management of : Musculoskeletal and Rheumatic Disorders Osteoporosis, Arthritis, Neurological Disorders Dementia, Parkinsons Disease, Alzheimers Disease
- Week 12: Nutritional management of: Cancers, Terminally Ill

Facilitating the achievement of Course Learning outcomes

Unit No	Course Learning outcomes	Teaching and	Assessment Tasks
		Learning Activity	
1.	Acquire a conceptual	Discussion,	Assignment
	understanding of the	PowerPoint	
	fundamentals of good nutrition	presentations	
	for older adults		
2.	Have knowledge of nutritional	Discussion	Quiz, Assignment
	management of disease		
	conditions common among older		
	adults		
3.	Understand the various tools and	Demonstration,	Presentations, Quiz
	techniques of nutritional	Discussion,	
	screening and assessment of	PowerPoint	
	elderly	presentations, Videos	
4.	Have enhanced skills to plan diets	Discussion, Practical	Assignment
	for elderly and suggest lifestyle	planning of diets,	
	modifications for healthy Aging	visits to institutions	
		of the aged	
5.	Be able to provide diet counseling	Discussion, case	Presentations
_	for management of various	studies, field work	
	disease conditions		

HSGCC206: NUTRITION AND AGING PRACTICAL

Duration: 3 hours Maximum marks: 50

Teaching Periods: 4/week (1 practical) Teaching Load: 12 Practical /semester

Course Objectives:

This Course will expose the students to the various disorders in which diet has a key role, develop an insight into planning diets for elderly, be aware of the various nutritional supplements and functional foods available in the market, realize the importance of lifestyle modifications for healthy Aging

Course Learning Outcomes:

On completion of the course the students will be able to: Have skills to plan diets for elderly for various disease conditions Be able to impart diet counseling and prepare aids for management of various disorders Plan and conduct nutrition guidance and lifestyle modification programmes for healthy Aging

CONTENTS	RIODS
 Market survey for nutritional supplements/ functional foods 	1
 Planning and preparation of diets and dishes for the following: 	6
Soft diet	
Diarrhoea and Constipation	
Obesity and Underweight	
Hypertension and Dyslipidemia	
Type 2 Diabetes	
 Diet counseling and preparation of aids. 	2
 Planning and conduct of nutrition guidance and lifestyle modification programmes 	3

Suggested Readings:

- 1. Khanna, K., Gupta, S., Seth, R., Passi, S.J., Mahna, R., Puri, S. (2016) *Textbook of Nutrition and Dietetics. Elite Publishers*, New Delhi
- 2. Mahan, L. K. and Escott Stump, S. (2004) *Krause's Food Nutrition and Diet Ther*apy 11th Edition W.B. Saunders Ltd.
- 3. Shils, M.E., Shike, M., Ross, A.C., Cabalero, B., Cousins, R.J. (2006) *Modern Nutrition in Health and Disease*. 10th Edition. U.S.A: Lippincott, William and Wilkins.
- 4. Srivastava, R.K., Tewari, B.K., Aggarwal, Y. (2008) *Current Nutrition Therapy Guidelines in Clinical Practice: A Handbook for physicians, dietitians and nurses*. New Delhi: DGHS, GOI.
- 5. Longvah, T., Ananthan, R., Bhaskaracharya, K., Venkaiah, K. (2017) *Indian Food Composition Tables*. NIN, ICMR, MoHFW.

HSGCC207: ORGANIZATION AND MANAGEMENT OF INSTITUTIONS AND SERVICES FOR OLDER ADULTS

THEORY

Duration: 3 hours

Maximum marks: 100

Teaching Period: 4/ week

Teaching Load: 48 periods/ semester

Course Objectives:

This course will address specific issues related with setting up, organization and management of Institutions and Services for Older Adults. This would require special understanding and an attention to detail regarding the requirements that the older adult could have. In our country as there is a movement from the joint to the nuclear family it may require a focus on setting up and managing institutions for the elderly. In doing so, the special requirements of the elderly would need to be concentrated on. The course will also focus on aspects related with both understanding management putting management concepts into practice.

Course Learning Outcomes:

The student will -

Develop an understanding of the needs and types of institutions and services for older adults. Acquire a conceptual understanding of establishing these institutions and services Acquire knowledge and skills related with management of institutions and services for older adults.

Acquire an understanding of aspects related with evaluation, maintenance and improvement of institutions and services for the older adult.

CONTENTS PERIODS

UNIT I: Institutions and Services for Older Adults

4

• Need, Types, Role of State, voluntary and corporate sector

UNIT II: Establishment of Institutions for Older Adults

- Introduction to Management Process
- Establishment of Institutions and Services for the elderly
 - Need assessment, setting goals and objectives, deciding strategies/ services, resource planning and organization, planning for implementation, monitoring and evaluation, stakeholder participation

 Land and Building, Equipment, Staff, Registration, legal status, constitution, financial resources, Basic services (boarding and lodging, hygiene and sanitation, food and nutrition, medical facilities, entertainment and engagement facilities), safety and security, maintenance and daily upkeep

UNIT III: Management of Institutions and Services for Older Adults

12

- Financial Management
- Human Resource Management
 - Managing the managers
 - Managing the clients
- Facility/ Service and Equipment Management
 - Boarding and Lodging
 - Hygiene and Sanitation
 - Food and Nutrition
 - Medical Facilities
 - Entertainment and Engagement

UNIT IV: Evaluation, Maintenance and Improvement of Institutions and Older Adults Services for

- Evaluation
 - Appraisal of existing equipment and services
- Maintenance
 - Management of wear and tear and obsolescence from daily use
 - On the job training and refresher courses for staff
 - Team building activities
- Improvement
 - New skill development for staff
 - Upgrading and expansion
 - Downgrading and replacement of services/equipment

Suggested Readings:

- 1. Coley, S. M. and Scheinberg, C. A. (2016). *Proposal writing: Effective Grantsmanship for Funding*. 5thedition, Sage Publications.
- 2. Nayar, P. K. B. (2016). Manual on Old Age Homes. *Prepared for Department of Social Justice*, The Government of Kerala.
- 3. Kettner, P. M., Moroney, R. M. and Martin, L. L. (2016). *Designing and Managing Programs: An effectiveness-based approach*. 5thedition. Sage Publications.

Teaching Plan:

- **Week 1:** Institutions and Services for Older Adults Need, Types, Role of State, voluntary and corporate sector
- Week 2: Establishment of Institutions for Older Adults: Introduction to Management Process

- **Week 3:** Establishment of Institutions and Services for the elderly: Need assessment, setting goals and objectives, deciding strategies/ services
- Week 4: Resource planning and organization, planning for implementation, monitoring and evaluation, stakeholder participation
- Week 5: Land and Building, Equipment, Staff, Registration, legal status, constitution, financial resources
- **Week 6:** Basic services (boarding and lodging, hygiene and sanitation, food and nutrition, medical facilities, entertainment and engagement facilities), safety and security, maintenance and daily upkeep
- Week 7: Management of Institutions and Services for Older Adults: Financial Management
- Week 8: Human Resource Management: Managing the managers, Managing the clients
- **Week 9**: Facility/ Service and Equipment Management: Boarding and Lodging, Hygiene and Sanitation, Food and Nutrition, Medical Facilities, Entertainment and Engagement
- Week 10: Evaluation: Appraisal of existing equipment and services
- Week 11: Maintenance: Management of wear and tear and obsolescence from daily use, on the job training and refresher courses for staff, Team building activities
- Week 12: Improvement: New skill development for staff, Upgrading and expansion, Downgrading and replacement of services/equipment

Facilitating the achievement of Course Learning Outcomes

Unit No.	Course Learning Outcomes	Teaching and Learning Activity	Assessment Tasks
1.	Develop an understanding of the needs and types of institutions and services for older adults.	Discussion, PowerPoint presentations and case studies	Class Quiz, Assignment
2.	Acquire a conceptual understanding of establishing these institutions and services	Classroom discussions, Power Point presentations, demonstrations through case studies	Assignment, Class quiz, case study presentations
3.	Acquire knowledge and skills related with management of institutions and services for older adults.	Classroom discussions, Power Point presentation, discussion on case studies, visits to institutions	Presentations by students and class quiz, presentations on visits
4.	Acquire an understanding of aspects related with evaluation, maintenance and improvement of institutions and services for the older adult.	Power Point presentations, Discussion, visits to institutions	Presentations by students and class quiz, presentations on visits.

HSGCC207: ORGANIZATION AND MANAGEMENT OF INSTITUTIONS AND SERVICES FOR OLDER ADULTS PRACTICAL

Duration: 3 hours Maximum marks: 50

Teaching Periods: 4/week (1 practical)

Teaching Load: 12 Practical /semester

CONTENTS PERIODS

1. Planning of services for elderly in different institutionalized settings

9

Assessment of needs – review of secondary data and collection of primary data Preparation of a suitable action plan

Implementation of the action plan

2. Development of suitable aids for publicity and resource generation for institutions and services for the elderly 3

Suggested Readings:

- 1. Coley, S. M. and Scheinberg, C. A. (2016). *Proposal writing: Effective Grantsmanship for Funding*. 5 the dition, Sage Publications.
- 2. Nayar, P. K. B. (2016). Manual on Old Age Homes. *Prepared for Department of Social Justice*, The Government of Kerala.
- 3. Kettner, P. M., Moroney, R. M. and Martin, L. L. (2016). *Designing and Managing Programs: An effectiveness-based approach*. 5thedition. Sage Publications.

HSGEC21A: HEALTH PROMOTION AND AGING

THEORY

Duration: 3 hours Maximum marks: 100

Teaching Period: 4/ week

Teaching Load: 48 periods/ semester

Course Objectives:

The course aims to develop an understanding of the health issues of older adults. It promotes critical thinking to gain knowledge on best practices for interventions that target health behaviors, on the individual, group, and community level. It also helps to acquire skills for health promotion among the older persons

Course Learning Outcomes:

Student will be able to -

Develop an understanding of the health issues of older adults.

Understand the link between health behaviors and morbidity/ mortality.

Gain knowledge about interventions that target health behaviors.

CONTENTS
PERIODS

UNIT I: Concept of Health Promotion in old age

10

- General principles of Health Education and Promotion.
- Causes of morbidity and mortality in old age
- Characteristic features of disease in old age.
- Health Promotion A life course approach
- Gerontechnology

UNIT II: Promotion of Physical Health in old age

14

- Preventive Strategies: Vaccination, Non-pharmacological and pharmacological measures Prevention of Falls and Accidents
- Lifestyle modification and Therapeutic Interventions: Fitness and Activity, Physical Exercise, Physiotherapy, Yoga, Exercise, Meditation, Weight Reduction, Calorie restriction.
- Laughter club, Respite care
- Hormone replacement therapy
- Safer use of Medicines: Drug selection and Dosage, Drugs -Drug interaction, Drug-Disease interaction.
- Anti Aging medicines

UNIT III: Promotion of Mental Health in old age

- Conflict resolution and intervention skills, Stress and stress management
- Self esteem, Building up self esteem and self image, Art-based therapy

UNIT IV: Rehabilitation in old age

16

- Medical rehabilitation and disability
- Organisation of rehabilitation services.
- Prevention of Dependency and Institutionalisation Preparation for death and dying Dealing with bereavement Care of the Chronically ill
- Care of patients with terminal illness Palliative care and Hospice

Suggested Readings:

- 1. Burnard, P. (1994) Counseling Skills for Health Professionals, London: Chapman and Hall.
- 2. Gerald, G. (2001) Theory and Practice of Counseling and Psychotherapy California: Wadsworth.
- 3. Mezey, M.D. (2001) *The Encyclopaedia of Elder Care*, New York: Springer Publications.
- 4. Prakash, I.J. (2007) Strategies for an Active Old Age, Bangalore: Bangalore University.
- 5. Sharma, O.P. (2008) *Geriatric Care A Textbook of Geriatrics and Gerontology*, New Delhi: Viva Publications.
- 6. WHO Regional Office for Western Pacific (2003) *Aging and Health A Health Promotion Approach for Developing Countries* WHO.
- 7. Kauffman TL, Scott R, Barr O, Moran ML (2014) *Comprehensive Guide to Geriatric Rehabilitation.* Churchill Livingstone Elsevier.
- 8. Frost, R., Belk, C., Jovicic, A., Ricciardi, F., Kharicha, K., Gardner, B., Iliffe S., Goodman, C., Manthorpe, J., Drennan, V. M. and Walters, K (2017) *Health promotion interventions for community-dwelling older people with mild or pre-frailty: a systematic review and meta-analysis*, BMC Geriatrics 17:157; DOI 10.1186/s12877-017-0547-8,

Teaching Plan:

- **Week 1:** General principles of Health Education and Promotion, Causes of morbidity and mortality in old age
- **Week 2:** Characteristic features of disease in old age, Health Promotion A life course approach
- **Week 3:** Gerontechnology, Preventive Strategies: Vaccination, Non-pharmacological and pharmacological measures
- Week 4: Prevention of Falls and Accidents, Therapeutic Interventions: Physiotherapy, Yoga, Exercise. Meditation
- Week 5: Laughter club, Respite care, Hormone replacement therapy
- **Week 6:** Safer use of Medicines: Drug selection and Dosage, Drugs -Drug interaction, Drug-Disease interaction, Anti ageing medicines
- Week 7: Conflict resolution and intervention skills, Stress and stress management
- Week 8: Self esteem, Building up self esteem and self image, Art-based therapy.
- Week 9: Medical rehabilitation and disability, Organization of rehabilitation services.
- Week 10: Prevention of Dependency and Institutionalization, Preparation for death and dying
- Week11: Dealing with bereavement, Care of the Chronically ill
- Week 12: Care of patients with terminal illness, Palliative care and Hospice

Facilitating the achievement of Course Learning Outcomes

Unit No.	Course Learning Outcomes	Teaching and Learning	Assessment Tasks
		Activity	
I	Gain insight about	Reading of research	Presentation of
	Concept of Health	on Concept of Health	various research
	Promotion in old		
	age	Promotion in old age	papers on Health
			Promotion in old
			age
II	Learn the methods of	PowerPoint presentations	Project on
	Promotion of Physical Health	and Videos of methods	Promotion of
	in old age	of Promotion of	Physical Health in
		Physical Health in old	old age
		age	
III	Promote critical thinking	Group discussion on	Short Assignment
	and understanding the	Promotion of Mental	on Promotion of
	Promotion of Mental Health	Health in old age	Mental Health in
	in old age		old age
IV	Appreciate the importance of	Power point	Quiz on
	Rehabilitation in old		
	age	presentation	Rehabilitation in old
		onRehabilitation in old	age
		age	

HSGEC21A: HEALTH PROMOTION AND AGING PRACTICAL

Duration: 3 hours Maximum marks: 50

Teaching Periods: 4/week (1 practical) Teaching Load: 12 Practical /semester

Course Objectives:

The course aims to develop a conceptual understanding of the health promotion issues of older adults. It helps to acquire skills and best practices for health promotion among the older persons

Course Learning Outcomes:

Student will be able to -

Develop a conceptual understanding of the health issues of older adults.

Understand the link between health behaviors and morbidity/ mortality.

Gain knowledge and acquire skills for health promotion among the older persons

CONTENTS PERIODS

UNIT I: Concept of Health Promotion in old age

3

- Use and interpretation of tools and techniques of Health Promotion Maintenance of good health and its relation to successful living
- Importance, use and procedure and practice of personal hygiene

UNIT II: Promotion of Physical Health in old age

3

- Lifestyle modifications and Immunization in elderly
- Safe and comfortable environment for elderly: Prevention of fall Identification
- and recommendations for health promotion

UNIT III: Promotion of Mental Health in old age

3

- Questionnaires and psychiatric rating scales Stress management
- Complementary and alternative therapy

UNIT IV: Rehabilitation in old age

3

- Medical Rehabilitation approaches and systems
- Community Based Disability Prevention and Rehabilitation Palliative care / long-term care of terminally ill

Suggested Readings:

- 1. Haber, D. (2010) *Health Promotion and Aging: Practical Applications for Health Professionals*, 5th Revised edition, Springer Publishing Company, ISBN: 978 08 26 105981, 082610598X
- 2. Berkman, B. (2006) *Handbook of Social Work in Health and Aging*. New York: Oxford University Press.
- 5. Kauffman TL, Scott R, Barr O, Moran ML (2014) *Comprehensive Guide to Geriatric Rehabilitation*. Churchill Livingstone Elsevier.
- 6. Mezey, M.D. (2001) The Encyclopaedia of Elder Care, New York: Springer Publications.
- 7. Murray, C.J., Salomon, J. A., Mathers, C. D. (2002) *Summary measures of population health: concepts, ethics, measurement and applications.* Geneva: World Health Organization.
- 8. Lindquist L.A. (2018) *New Directions in Geriatric Medicine: Concepts, Trends, and Evidence-Based Practice*, Springer International Publishing Switzerland, 2016.

UNIT II: Promotion of Physical Health in old age

- Lifestyle modifications and Immunization in elderly
- Safe and comfortable environment for elderly: Prevention of fall Identification and recommendations for health promotion

UNIT III: Promotion of Mental Health in old age

3

3

- Questionnaires and psychiatric rating scales Stress management
- Complementary and alternative therapy

UNIT IV: Rehabilitation in old age

3

- Medical Rehabilitation approaches and systems
- Community Based Disability Prevention and Rehabilitation Palliative care / long-term care of terminally ill

Suggested Readings:

- 1. Haber, D. (2010) *Health Promotion and Aging: Practical Applications for Health Professionals*, 5th Revised edition, Springer Publishing Company, ISBN: 978 08 26 105981, 082610598X
- 2. Berkman, B. (2006) *Handbook of Social Work in Health and Aging*. New York: Oxford University Press.
- 3. Kauffman TL, Scott R, Barr O, Moran ML (2014) *Comprehensive Guide to Geriatric Rehabilitation*. Churchill Livingstone Elsevier.
- 4. Mezey, M.D. (2001) *The Encyclopaedia of Elder Care*, New York: Springer Publications.
- 5. Murray, C.J., Salomon, J. A., Mathers, C. D. (2002) *Summary measures of population health: concepts, ethics, measurement and applications.* Geneva: World Health Organization.
- 6. Lindquist L.A. (2018) *New Directions in Geriatric Medicine: Concepts, Trends, and Evidence-Based Practice*, Springer International Publishing Switzerland, 2016.

HSGEC21B: HEALTH PROMOTION AND AGING

THEORY

Duration: 3 hours

Teaching Period: 4/ week

Maximum marks: 100

Teaching Load: 48 periods/ semester

Course Objectives:

Increased numbers of older people and a continued lengthening of the life span signal the need to expand counseling services to the older adult. Older adults are healthier and better educated than ever before, concerned about the quality of life as well as the length of it. This course will familiarize the student with the concept and the principles of counseling that are essential for counseling for the elderly.

Course Learning Outcomes:

The student will -

Develop an understanding of the concept and principles of Counseling.

Acquire an understanding of basic Counseling skills.

Acquire knowledge related with family therapy

Acquire an understanding of Counseling related with mental health issues.

CONTENTS

PERIODS

UNIT I: Concept of Counseling

10

- Meaning, scope and Applications
- Individual Counseling
- Family Counseling

UNIT II: Principles of Counseling

- Steps in Counseling
- Models for counseling

UNIT III: Basic Counseling Skills

10

- Listening and responding techniques
- Counsellor skills and qualities
- Ethics in Counseling

UNIT IV: Family Therapy

10

- Concept, Meaning, scope and Applications
- Assessment in Family Therapy: Family Tree, Time Lines and Genograms
- Family Functions: Functions and characteristics of healthy families, dysfunctional families
- Family Therapy as a process

UNIT V: Counseling of Mental Health issues

10

- Depression
 - Dementia
 - Delirium

Suggested Readings:

- 1. Gladding, S. T. (2017). *Counseling: A Comprehensive Profession*. 8th Edition. Pearson Education.
- 2. Sriram, S. (ed.) (2016). Counseling in India: Reflections on the Process Textbook of Human. Springer.
- 3. Bhola, P. andRaguram, A. (ed.) (2016). *Ethical Issues in Counseling and Psychotherapy Practice: Walking the Line*. Springer
- 4. Esposito, J. and Hattem, A. (2015). *Introduction to Family Counseling: A Case Study Approach*. SAGE Publications.

Teaching Plan:

- Week 1: Concept of Counseling- Meaning, scope and Applications
- Week 2: Individual Counseling
- Week 3: Family Counseling
- Week 4: Principles of Counseling -Steps in Counseling
- Week 5: Models for counseling
- Week 6: Basic Counseling Skills -Listening and responding techniques
- Week 7: Counsellor skills and qualities and ethics in Counseling
- **Week 8**: Family Therapy Concept, Meaning, scope and Applications; Assessment in Family Therapy: Family Tree, Time Lines and Genograms
- **Week 9**: Family Functions: Functions and characteristics of healthy families, dysfunctional families; Family Therapy as a process
- Week 10: Counseling of Mental Health issues -Depression
- Week 11: Counseling of Mental Health issues Dementia
- Week 12: Counseling of Mental Health issues Delirium

Facilitating the achievement of Course Learning Outcomes

Unit No.	Course Learning	Teaching and Learning	Assessment Tasks
	Outcomes	Activity	
1.	Develop an understanding of the concept and principles of Counseling	Discussion, PowerPoint presentations, demonstrations related to principles of Counseling and techniques	Class Quiz, Assignment
2.	Acquire an understanding of basic Counseling skills	Classroom discussions, Power Point presentations, demonstrations and practice sessions	Class quiz
3.	Acquire knowledge related with family therapy	Power Point presentation, discussion on case studies	Presentations by Students and class quiz
4.	Acquire an understanding of Counseling related with mental health issues.	Power Point presentations, Discussion, Informative videos on specific mental health issues	Presentations by Students on specific mental health issues and class quiz

HSGEC21B: HEALTH PROMOTION AND AGING PRACTICAL

Duration: 3 hours Maximum marks: 50

Teaching Periods: 4/week (1 practical)

Teaching Load: 12 Practical /semester

Course Objectives:

The course aims to develop a conceptual understanding of the principles of counseling that are essential for counseling for the elderly. It will help the student to acquire skills and best practices to address the psycho-social needs of elderly.

Course Learning Outcomes:

Student will be able to -

Acquire an understanding of basic Counseling skills. Acquire knowledge of methods and ways of assessment related with family therapy

CONTENTS PERIODS

UNIT I: Developing basic counseling skills

4

- Basic principles of counseling Types of counseling
- Checklist characteristics of a good counselor Identifying the problems

UNIT II. Methods of Counseling, family therapy

4

- Methods of counseling
- Techniques used in family therapy
- Case profile of an older adult to understand their issues and concerns and course-ofaction to be followed to counsel them

UNIT III. Assessment in Family Therapy: Family Tree, Time Lines and Genograms 4

- Assessment in Family Therapy
- Family Tree, Time Lines, Genograms and Venn diagram
- Interacting with elderly and their families/caregivers

Suggested Readings:

- 1. Geldard, K., Geldard, D. and <u>Yin Foo</u>, R. (2018). *Counselling Children: A Practical Introduction*. 5th Ed. Sage Publications. ISBN-10: 1446256545
- 2. Kelly, K. (2017). *Basic Counselling Skills: A Student Guide*. Counsellor Tutor Ltd. ISBN-10: 0995769613
- 3. Gladding, S. T. (2017). *Counseling: A Comprehensive Profession*. 8th Edition. Pearson Education.
- 4. Sriram, S. (ed.) (2016). Counseling in India: Reflections on the Process Textbook of Human. Springer.
- 5. Bhola, P. andRaguram, A. (ed.) (2016). *Ethical Issues in Counseling and Psychotherapy Practice: Walking the Line*. Springer
- 6. Esposito, J. and Hattem, A. (2015). *Introduction to Family Counseling: A Case Study Approach*. SAGE Publications.

HSGCC208:PROJECT/FIELD PLACEMENT

Credits: 2Hours: 24 Maximum Marks: 50

The student will undertake project work in an area related to the course work of the Programme. This enables students to appreciate the importance of being responsible to the changing needs of Older Adults and the environment they live in. At the same time insights can be developed about the organizational components and functions necessary for effective managements and service delivery.

OR

Students will be assigned to one or more organizations working with Older Adults. These will range from residential/non-residential; home-based rehabilitation and community-based interventions to networks/associations of senior citizens. The student will be assigned to a faculty guide. The task will be facilitated through a relevant guideline developed for this purpose.

The student will be expected to submit a report at the end of the project or field placement. No examination, continuous evaluation will be done.