

National Education Policy-2020

Common Minimum Syllabus for Uttarakhand State Universities and Colleges

**Fourth Year Undergraduate Programme Bachelor of Science (Home Science)
Syllabus**

**DEPARTMENT OF HOME SCIENCE
SURAJMAL AGARWAL PRIVATE KANYA MAHAVIDYALAYA**

**Kichha, Udham Singh Nagar Uttarakhand
(Affiliated to Kumaun University, Nainital, Uttarakhand)**

EXPERT COMMITTEE

S.NO.	NAME	DESIGNATION	DEPARTMENT	AFFILIATION
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2.	Dr. Chhavi Arya	Expert, Associate Professor	Department of Home Science, D.S.B Campus	Kumaun University, Nainital
3.	Dr. Meena Batham	Expert, Associate Professor	Department of Fabric and Apparel Science, Institute of Home Economics, Delh	Delhi University
4.	Dr. Mukta Singh	Expert, Head	Department of Home Science, M.M.V.	B.H.U., Uttar Pradesh
5.	Dr. Manisha Ghalot	Expert, Head	Deptt. of Apparel & Textile Science	GBPUA&T, Pantnagar
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8.	Mr. Satish Kandpal	Registrar	Gyanarathi College, Kashipur	Kumaun University, Nainital

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List of papers (DSC, DSE, GE,) with semester wise titles for “Home Science” Programme specific outcomes (PSOs) (Undergraduate Programme) Programme specific outcomes (PSOs) (Honours Degree)

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Course Title- Research Methodology

Course Title- Marriage and Family Dynamics

Course Title- Early Childhood Education

Course Title- Introduction to Extension Education

Course Title- Principles of Food Preservation

Semester VIII

Course Title- Apparel Designing

Course Title- Food Safety and Quality Control

Course Title- Textile Industry and Trade

Course Title- Retailing and Merchandizing in Textile and Apparel

Course Title- Management of Childcare Centre and Nursery School

Course Title- Household Equipment and Appropriate Technology

List of Papers (DSC, DSE, GE, VAC, SEC) with Semester Wise Titles for 'Home Science'					
Year	Semester	Course	Paper Title	Theory/ Practical	Credits
Bachelor of Home Science (Honours with Research)					
FOURTH YEAR	VII	DSC-19	Food Service Management	Practical	4
		DSE-5	Research Methodology	Theory	4
		DSE-6	Marriage and Family Dynamics	Theory	4
		DSE-7	Introduction to Extension Education	Theory	4
		OR			
		DSE-5	Research Methodology	Theory	4
		DSE-6	Marriage and Family Dynamics	Theory	4
		GE-7	Early Childhood Education	Theory	4
		OR			
		DSE-5	Research Methodology	Theory	4
		GE-7	Early Childhood Education	Theory	4
		GE-8	Principles of food preservation	Theory+Practical	3+1
		Dissertation	Dissertation on Major or Minor/Academic project/Entrepreneur ship		6
	VIII	DSC-20	Apparel Designing	Practical	4
		DSE-8	Food Safety and Quality control	Theory+ Practical	2+2
		DSE-9 DSE-10	Textile Industry and Trade Management of Childcare Centre and Nursery School	Theory Theory+Pr actical	4 2+2

		DSE-8	Food Safety and Quality control	Theory+ Practical	2+2
		DSE-9	Textile Industry and Trade	Theory	4
		GE-9	Retailing and Merchandizing in Textile and Apparel	Theory	4
		DSE-8	Food Safety and Quality control	Theory+ Practical	2+2
		GE-9	Retailing and Merchandizing in Textile and Apparel	Theory	4
		GE-10	Household equipment and appropriate technology	Theory+Practical	3+1
		Dissertation	Dissertation on Major or Minor/Academic project/Entrepreneurship		6

Note: Students can opt courses of GE and DSE other than the above list, as per their interest from the courses pool offered by universities/ colleges.

Hospitals, Nursing Homes, Military, Prisons, Schools and Churches. By Douglas R. Brown and Shri Henkel. Atlantic Publishing Group Inc.

- Managing Food and Nutrition Services for Culinary, Hospitality, and Nutrition Professions. By Sari Edelstein, editor. Jones and Bartlett Learning, publisher.
- Catering Management. Mohini Sethi and Surjeet Malhan. Revised second edition. New Age international Limited Publishers.

Suggested Continuous Evaluation Methods: Seminar/ Presentation on any topic of the above syllabus •
Test with multiple choice questions/ short and long answer questions • Attendance

Semester-VII
Bachelor of Home Science (Honours with Research/Academic projects/ Entrepreneurship)

DSE- 5 Research Methodology

No. of Hours-60

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course Title	Credits	Credit distribution of the course			Eligibility Criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
DSE-5 Research Methodology	4	4	0	0	Passed class XII with science, Arts and commerce	Nil
Bachelor of Home Science (Honours with Research/Academic projects/ Entrepreneurship)						
Programme: Bachelor of Home Science (Honours with Research/Academic projects/ Entrepreneurship)		Year: Fourth			Semester:Seventh Paper: DSE-5	
Subject- Home Science						
Course- DSE-5		Course Title: Research Methodology				
Course Outcomes: The students at the completion of the course will be able to: <ul style="list-style-type: none">To learn about the concept of trainingTo enhance the students about different training methods and their use						
Credits: 4		Discipline Specific Elective				
Max. Marks: As per Univ. rules		Min. Passing Marks: As per Univ. rules				
Unit	Topics					No.of hours
Unit I	Research Methodology: An Introduction, Meaning of Research, Objectives of Research, Types of Research, Research Approaches, Significance of Research, Research Process.					12
Unit II	Sampling Design: meaning and definition of sampling, Steps in Sampling Design, Criteria of Selecting a Sampling Procedure, Characteristics of a Good Sample Design, Different Types of Sample Designs, probability sampling and non- probability sampling. Hypotheses, types of hypothesis, variables and types of variables.					12

Unit III	Methods and tools of data collection: Collection of Primary Data, Observation Method, Interview Method, Collection of Data through Questionnaires, Collection of Data through Schedules, Difference between Questionnaires and Schedules, Collection of Secondary Data,	12
Unit IV	.Data processing methods, Graphical Representation of data, General guidelines for presenting data, tables, graphs and illustrations, Interpretation and generalization and analysis of data.	12
Unit V	Scientific reporting, points to be considered in report writing, Footnotes, Bibliographic citation, Citation style, Preparation of an abstract	12

Suggested Readings:

- C. R. Kothari, Gaurav Garg, 2014 Research Methodology Method and Techniques, (IIIrd edition), New age International Publishers.
- C R. kothari research methodology methods and techniques Wiley eastern.limited
- Bandarker, P.L. and Wilknsn T.S. 2000, Methodology and Techniques of Social Research, Himalaya Publishing House, Mumbai.
- Bhatnagar, GL. 1990: Research Methods and Measurements in Academy, New Delhi.
- Dooly, D, 1995, Strageies for interpreting Qualitative data: sage Publication California

Suggested digital platform

- **Chrome**extension://efaidnbmnnnibpcajpcglclefindmkaj/https://southcampus.uok.edu.in/files/link/
- downloadlink/rm%20u1%20p1.pdf
- **chrome**extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.uou.ac.in/sites/default/files/
- slm/BHM-503T.pdf
- **chrome**extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.uou.ac.in/sites/default/files/
- slm/BHM-503T.pdf

Suggested Continuous Evaluation Methods: Seminar/ Presentation on any topic of the above syllabus ☐ Test with multiple choice questions/ short and long answer questions ☐ Attendance

Semester-VII
Bachelor of Home Science (Honours with Research/Academic projects/ Entrepreneurship)

DSE-6 Marriage and family dynamics

No. of Hours-60

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course Title	Credits	Credit distribution of the course			Eligibility Criteria	Pre-requisiteof the course (if any)
		Lecture	Tutorial	Practical/ Practice		
DSE-6 Marriageand family dynamics	4	4	0	0	Passed class XII with science, Arts and commerce	Nil
Bachelor of Home Science (Honours with Research/Academic projects/ Entrepreneurship)						
Programme: Bachelor of Home Science (Honours with Research/Academic projects/ Entrepreneurship)		Year: Fourth			Semester:Seventh Paper: DSE-6	
Subject- Home Science						
Course- DSE-6		Course Title: Marriage and family dynamics				
Course outcomes: The Student at the completion of the course will be able: <ul style="list-style-type: none">To provide students with an overview of changing families in changing times.To help students examine the issues related to close interpersonal relationships in the family.						
Credits: 4		Discipline Specific Elective				
Max. Marks: As per Univ. rules		Min. Passing Marks: As per Univ. rules				
Unit	Topics					No.of hours
Unit I	Marriage concept and meaning: <ul style="list-style-type: none">Readiness of marriage-physiological, social, psychological and otherspremarital guidance and counseling					10
Unit II	Family: <ul style="list-style-type: none">Definition, function, composition and type					10
	<ul style="list-style-type: none">Family life cycles					

Unit IV	Break up of family: <ul style="list-style-type: none"> • Divorce • Separation • single parenthood • death of a partner, Crisis in family life: <ul style="list-style-type: none"> • prolonged illness • death • suicide • mental illness • unemployment 	15
Unit V	Family planning motivation and responsibility- <ul style="list-style-type: none"> • Planning parenthood-spacing between children • Size of the family 	15
Unit VI	Legal aspects: : <ul style="list-style-type: none"> • laws regarding marriage 	10

Suggested Readings:

1. Introduction to family life education. Dr. Subhakanta Mahapatra. SOITS, IGNOU.
2. Lemme, B. (2006) Patterns of changes in family relationship. Pregnancy and infant in the family. Families with pre-school and school age child and adolescent. Development in adulthood (4th ed.). New York, NY: Pearson.
3. Gottman, J., & Silver, N. (2015). The seven principles for making marriage work. New York, NY: Harmony.
4. Lamanna, M. A., Riedmann, A., & Stewart, S. (2015). Marriages, families, and relationships: Making choices in a diverse society (12th ed.). Belmont, CA: Wadsworth, Cengage Learning.
5. Olson, D. H., DeFrain, J. & Skogrand, L. (2013). Marriage and families: Intimacy, diversity, and strengths (8th ed.). New York, NY: McGraw-Hill Education.

Suggested Digital Platform:

- https://onlinecourses.nptel.ac.in/noc22_ag03/preview

Suggested Continuous Evaluation Methods: Seminar/ Presentation on any topic of the above syllabus ☐ Test with multiple choice questions/ short and long answer questions ☐
Attendance

Semester-VII
Bachelor of Home Science (Honours with Research/Academic projects/ Entrepreneurship)
GE- 7 Early Childhood Education (Theory)

No. of Hours-60

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course Title	Credits	Credit distribution of the course			Eligibility Criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
GE-7 Early Childhood Education	4	4	0	0	Passed class XII with science, Arts and commerce	Nil
Bachelor of Home Science (Honours with Research/Academic projects/ Entrepreneurship)						
Programme: Bachelor of Home Science (Honours with Research/Academic projects/ Entrepreneurship)		Year: Fourth			Semester: Seventh Paper: GE-7	
Subject- Home Science						
Course- GE-7		Course Title: Early Childhood Education				
<div>➤ To develop an understanding regarding the significance of early childhood years.</div> <div>➤ To equip the students to plan and conduct Early Childhood care and Education, Programme</div>						
Credits: 4		Generic Elective				
Max. Marks: As per Univ. rules		Min. Passing Marks: As per Univ. rules				
Unit	Topics					No. of hours
I	Early Childhood Period and education: <ul style="list-style-type: none">• Characteristics of early childhood period• Significance of early childhood period• Early Childhood Education: Meaning, Concept and significance• Need for ECE					3
II	Origin of early childhood education in India and abroad: <ul style="list-style-type: none">• Status of ECE - Pre independence period• Status of ECE during Post independence Period:					5
III	Different types of Pre School programmes: <ul style="list-style-type: none">• Montessori,• Kindergarten,					5
	<ul style="list-style-type: none">• Nursery,• Pre-Basic,• Balwadi					
IV	Early Childhood Education Center: <ul style="list-style-type: none">• Need for ECE centers• Objectives of Early Childhood Education center• ECE center Basic requirements					5

V	Western philosophers and their contributions for ECCE: <ul style="list-style-type: none"> • Contributions of John Amos Comenius • Contributions of Jean Jacques Rousseau • Contributions of Henry Pestalozzi • Contributions of Maria Montessori 	8
VI	Contributions of Indian Philosophers to Early Childhood Education: <ul style="list-style-type: none"> • Contributions of Mahatma Gandhi • Contributions of Rabindranath Tagore • Contributions of Tarabai Modak 	8
VII	Curriculum planning in ECE Programme: <ul style="list-style-type: none"> • Types of planning • Steps in Curriculum Planning • Characteristics of curriculum planning • Factors influencing Curriculum Planning in ECE: Child related, Parent related, Center/ School related 	8
VIII	The play-way method for ECE: <ul style="list-style-type: none"> • Origin of the Term Play-Way • Selection of Play-Way Activities • Various types of Play-Way Activities • Principles of Play-Way • Advantages of Play-Way • Application of Play-Way Attitudes in progressive methods of teaching 	8
IX	Play Activities in the ECE center: <ul style="list-style-type: none"> • Nature of Play, • Purpose and functions of play • Types and purpose of different play activities 	5
X	The Qualities of an ECE Teacher: <ul style="list-style-type: none"> • Important characteristics of an early childhood teacher • Teachers' role in promoting learning 	3
XI	Records and Reports maintained in ECE center	2

References

- Bhatia&Bhatia(1995).TheoryandprinciplesofEducation,DoabaHouse,Delhi.
- Brews,J.A.1998IntroductiontoearlychildhoodEducation3rdEd.Boton: Ahyn&Bacaon.
- Murlidharan,R.[1996].Guide to nursery school teacher .New Delhi NCERT.
- Pankajam,G.[1994]Preschool Education .Ambala: India Pub.

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Semester-VII
Bachelor in Home Science (Honours with Research)
DISCIPLINE SPECIFIC ELECTIVE (DSE-7)- Introduction to Extension Education
No. of Hours-60
CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course Title	Credits	Credit distribution of the course			Eligibility Criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/Practice		
	DSE-7 Introduction to Extension Education	4	4	0	0	Passed class XII with science, Arts and commerce
Bachelor in Home Science (Honours with Research)						
Programme/Class: Bachelor in Home Science (Honours with Research)		Year: Fourth		Semester: Seventh Paper: DSE-7		
Subject: Home Science						
Course : DSE-7		Course title: Introduction to Extension Education				
Course Outcomes: After studying this course, the students will be able to: <ul style="list-style-type: none">To understand the concept, philosophy, principles and objectives of extension education and its contribution.To learn and understand about the different development programmes						
Credits: 4			Discipline Specific Course			
Max. Marks: As per Univ. Rules			Mini. Passing Marls: As per Univ. Rules			
Unit	Topics					No. of Hours
Unit I	Origin and concept of extension education, objectives, functions of extension education, Principles of extension education					10
Unit II	Pre-Independence Extension and Rural Development Programmes: Gurgaon project, Sri Niketan Experiment, Marthandam Project, Sarvoday Programme.					10

Unit III	Post-Independence Extension and Rural Development Programmes: Itawa Pilot Project (1948), Nilokheri Experiment, Community Development Project, National Extension Service, Training and Visit System, Integrated Rural Development Programme.	10
Unit IV	First-line extension system of ICAR; National demonstration (ND), Operational Research Project (ORP), Krishi Vigyan Kendra (KVK), Lab to Land Project (LLP).	10
Unit V	Extension teaching methods: individual, group and mass contact methods, Factors influencing in selection of extension teaching methods	10
Unit VI	Visit to nearby KVK	10

Recommended Readings:

- Adivi Reddy.A, Extension Education, seventh edition, Sri lakshmi Press, Bapatla
- Agarwal J.C. 2007 Textbook on Essentials of Educational Technology Innovations in Teaching –Learning, second edition, Vikas Publishing House Pvt Ltd.
- Sumita Roy, Tej Verma and Pushpa Gupta 2006 textbook on family approach in extension programme management, first edition, Indian Council of Agricultural Research, New Delhi.
- Dahama O.P. and Bhatnagar O.P, Education and Communication Development, second edition, oxford and IBH publishing pvt. Ltd,calcutta.
- Ray GL (1996) Extension Communication and Management, Naya Prakash Publications, Calcutta.

Suggested equivalent online courses: On Swayam, Vidyamitra.inflibnet.ac.in, literature-study-online.com, epg-pathshala.egyankosh.ac.in

Suggested Continuous Evaluation Methods: Seminar/ Presentation on any topic of the above syllabus ☐ Test with multiple choice questions/ short and long answer questions ☐ Attendance

Semester-VII
Bachelor of Home Science (Honours with Research/Academic projects/ Entrepreneurship)

GE-8 Principles of Food Preservation

No. of Hours-45+30

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course Title	Credits	Credit distribution of the course			Eligibility Criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
GE-8 Principles of Food Preservation	4	3	0	1	Passed class XII with science, Arts and commerce	Nil
Bachelor of Home Science (Honours with Research/Academic projects/ Entrepreneurship)						
Programme: Bachelor of Home Science (Honours with Research/Academic projects/ Entrepreneurship)			Year: Fourth		Semester: Seventh Paper: GE-8	
Subject- Home Science						
Course- GE-8		Course Title: Principles of Food Preservation				
Course outcomes: The Student at the completion of the course will be able to:						
<ul style="list-style-type: none">Describe different processing and food preservation techniques based on different food materials like low temperature processing, high temperature processing, irradiation, preservation by chemicals and high concentration.List different food processing techniques, various methods used to preserve foods and factors influencing the shelf-life of the food products.Identify different packaging techniques used for food packaging and also effects of different processing techniques on palatability and nutritive value of food.Write down the basic principles of different preservation methods.						
Credits: 4		Generic Elective				
Max. Marks: As per Univ. rules		Min. Passing Marks: As per Univ. rules				
Unit	Topics					No. of hours
Unit I	Food processing and preservation principles, method of preservation: pasteurization (definition, time-temperature combination and equipment) sterilization (definition, time-temperature combination					10
	and equipment), blanching (definition, time-temperature combination and equipment, adequacy in blanching), canning (definition, manufacturing process, defects of cans)					

Unit II	Freezing and Refrigeration: Introduction to refrigeration, cool storage; Freezing: introduction, principle of freezing, freezing methods- air freezing, plate freezing, liquid immersion freezing and cryogenic freezing, changes during freezing, advantages and disadvantages of freezing and changes in food during freezing storage; introduction to thawing, changes during thawing and its effect on food.	15
Unit III	Food drying/ dehydration: definition, free and bound moisture, concept of water activity, factors affecting drying, moisture content (wet basis and dry basis), drying methods and equipment: sun/solar drying, cabinet dryer, tunnel dryer, spray dryer, freeze dryer, fluidized bed dryer; changes in food during drying	10
Unit IV	Food irradiation- definition, units of radiation, mechanism of actions, uses of radiation processing in food industry, kinds of ionizing radiation used in food irradiation; food fermentation.	10
	Practical	
Unit-1	Preparation and pasteurization of fruit juice	10
Unit-II	Dehydration and drying of fruits and vegetables, Preservation by freezing and refrigeration	10
Unit -III	Visit to Food Processing Industry	10

References

- Fellows, P. Food Processing Technology Principles and Practices. CRC Press, Boca Raton Boston New York Washington, DC.
- Jongen, W. M. F. 2002. Fruit and Vegetable Processing: Improving quality, Woodhead Publishing Ltd, England
- Somogayi, L. P., Ramaswamy, H. S. and Hui, Y. H. 1996. Processing Fruits: Science and Technology, Vol 1. Biology, Principles and Applications. CRC Press, Florida
- Smith, D. S., Cash, J. N., Nip, Y. K. and Hui, Y. H. 1997. Processing vegetables: Science and Technology. Technomic Publishing Company Inc, USA.
- Dauthy, M. E. 1995. Fruit and Vegetable Processing. Food and Agriculture Organization of the United Nations, Rome.

Suggested Continuous Evaluation Methods: Seminar/ Presentation on any topic of the above syllabus ☐ Test with multiple choice questions/ short and long answer questions ☐
Attendance

Semester-VIII
Bachelor of Home Science (Honours with Research/Academic projects/ Entrepreneurship)

DSC-20 Apparel Designing

No. of Hours-120

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course Title	Credits	Credit distribution of the course			Eligibility Criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
DSC-20 Apparel Designing	4	0	0	4	Passed class XII with science, Arts and commerce	Nil
Bachelor of Home Science (Honours with Research/Academic projects/ Entrepreneurship)						
Programme: Bachelor of Home Science (Honours with Research/Academic projects/ Entrepreneurship)		Year: Fourth			Semester: Eighth Paper: DSC-20	
Subject- Home Science						
Course- DSC-20		Course Title: Apparel Designing				
Course outcomes: The Student at the completion of the course will be able to: <ul style="list-style-type: none">To enable student to make pattern from sketch/photographTo enable them to obtain perfect fit and harmony between the fabric and design of the garment.						
Credits: 4			Discipline Specific Course			
Max. Marks: As per Univ. rules			Min. Passing Marks: As per Univ. rules			
Unit	Topics					No. of hours
	Practical					
Unit I	Fashion illustrations: Figure drawing with different poses and styles, Designing of various colors, yokes, sleeves and accessories					40
Unit II	Designing and styling with the application of principles of pattern making rules a) Moving, dividing and combining darts: Pivot and slash method b) Converting dart into seam lines Adding fullness in blouse by gathers and darts					20
Unit III	Construction of different types of yokes, Collars and Sleeves					15
Unit IV	Skirts: six gored skirt, circular skirt and skirt on bias					15
Unit V	Construction of 3 formal dresses for different age group using different construction and decorative features					20
Unit VI	Visit to Garment Manufacturing Unit					10

Suggested Readings:

- Connie Amaden-Crawford. 1989. *The Art of Fashion Draping*. Fair Child Publ.
- Janine Mee & Michal Purdy. 1987. *Modelling on the Dress Stand*. BSP Professional Books.
- Natalie Bray. 1994. *Dress Fitting*. Blackwell.

Suggested Digital Platform:

- <http://ecoursesonline.iasri.res.in/course/view.php?id=196>

Suggested Continuous Evaluation Methods: Seminar/ Presentation on any topic of the above syllabus ☐ Test with multiple choice questions/ short and long answer questions ☐ Attendance

Semester-VIII
Bachelor of Home Science (Honours with Research/Academic projects/ Entrepreneurship)
DSE-8 Food Safety and Quality Control

No. of Hours-30+60

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course Title	Credits	Credit distribution of the course			Eligibility Criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
DSE- 8 Food Safetyand Quality Control	4	2	0	2	Passed class XII with science, Arts and commerce	Nil
Bachelor of Home Science (Honours with Research/Academic projects/ Entrepreneurship)						
Programme: Bachelorof Home Science (Honours with Research/Academic projects/ Entrepreneurship)			Year: Fourth			Semester: Eighth Paper: DSE-8
Subject- Home Science						
Course- DSE-8			Course Title: Food Safety and Quality Control			
Course outcomes: The Student at the completion of the course will be able to:						
<ul style="list-style-type: none">• To familiarize students to apply protocol for safe food handling techniques, water and waste management• To understand the role of food packaging and the importance of Nutrition labeling.• To analyse consequences of food poisoning and infection on the health of individuals• To Understand the basic principles food preservation methods						
Credits: 4					Discipline Specific Elective	
Max. Marks: As per Univ. rules					Min. Passing Marks: As per Univ. rules	
Unit	Topics					No. of Lectures
Unit I	Quality standards, assurance and factors affecting quality.					5
Unit II	Methods and techniques for assessment of food quality. 1. Objective evaluation: Physical parameters and their testing. 2. Sensory evaluation: Sensory characteristics of foods, conducting sensory tests, selection of taste panel, type of tests- difference, ranking, sensitivity and descriptive tests. 3. Nutritional evaluation: Proximate composition, iron, calcium phosphorus, vitamin C.					5
Unit III	Food safety: Microbiological evaluation of raw material/products, microbiological limits, colony count, coliform streptococci and their indicators.					5
Unit IV	Food adulteration: common adulterants and their ill effects.					5
Unit V	Food standards, food laws and regulations: PFA, Essential Commodity Act, FPO, MPO, MMPO, Misbranding, BIS, Agmark, Export Quality Control and Inspection Act.					5

Unit VI	Food safety, safety hazards and risks, HACCP as a method to prevent food borne illness, ISO.	5
PRACTICALS		
Unit I	Estimation of proximate principles (moisture, crude fiber, total ash, crude protein and fat).	10
Unit II	Estimation of iron and calcium.	10
Unit III	Estimation of vitamin C.	4
Unit IV	Physical testing of grains.	2
Unit V	Estimation of gluten in wheat.	10
Unit VI	Detection of adulterant in milk: Water and starch.	4
Unit VII	Detection of mineral oil and argemone oil in edible oils.	6
Unit VIII	Detection of adulterant in spices and condiments.	6
Unit IX	Sensory evaluation of foods using sensory score card and hedonic scale.	8

Suggested Readings:

- Mahindra N. S, 2008, Food Additives, Characteristics, Detection and Estimation, APH Publishing Corporation, New Delhi
- Wardlaw G.M, Hamp J S, 2007, Perspectives in Nutrition, 7th edition, Mc Graw Hill
- The Food Safety and Standards Act along with Rules and Regulations, 2011, Delhi, Commercial Law Publishers (India) Pvt Ltd.
- Khanna K et al, 2013, Text Book of Nutrition and Dietetics, Phoenix publications
- Sethi P and Lakra P, Aahaarvigyaan, Poshanevam suraksha, 2015, Elite Publishing House.
- 6. Sharma S, Wadhwa A, 2003, Nutrition in the Community- a text book, Elite publishing house.

Suggested Digital Platform: <http://ecoursesonline.iasri.res.in/course/view.php?id=196>

Suggested Continuous Evaluation Methods: Seminar/ Presentation on any topic of the above syllabus ☐ Test with multiple choice questions/ short and long answer questions ☐
Attendance

Semester-VIII
Bachelor in Home Science (Honours)
DSE-9 Textile Industry and Trade

No. of Hours-60

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course Title	Credits	Credit distribution of the course			Eligibility Criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
DSE-9 Textile Industry and Trade	4	4	0	0	Passed class XII with Science, Arts and Commerce	Nil
Bachelor in Home Science (Honours)						
Programme: Bachelor of Home Science (Honours)		Year: Fourth			Semester: Eighth Paper: DSE-9	
Home science						
Course: DSE-9		Course Title: Textile Industry and Trade				
Course outcomes: The Student at the completion of the course will be able to: • Students will be able to understand about the textile related trades and recent practices.						
Credits: 4			Generic Elective			
Max. Marks: As per Univ. rules			Min. Passing marks: As per Univ. rules			
Unit	Topics					No. of hours
Unit I	Textiles Industries of India including cottage industries of handloom, hosiery and sericulture					5
Unit II	Importance of entrepreneurs and textile industries in the Indian Economy					5
Unit III	Five year plans and Textile industries					5
Unit IV	Marketing concept					5
Unit V	Co-ordination of production with consumer preference for various textiles products					5
Unit VI	Factors influencing the production and consumption of textiles					5
Unit VII	Factors affecting the cost of textile and pricing policies					5
Unit VIII	Causes for price fluctuations					5
Unit IX	Sales promotion techniques					5
Unit X	Import and export transaction					5
Unit XI	Quality control institutions and quality regulation in India					5
Unit XII	Different textile mills, khadi and village industry commission, weaving service centers, handloom sector, co-operative societies, research associations					5

Suggested Readings:

- Cooklin, G., *Introduction to Clothing Manufacture*. Blackwell Scientific Publications.
- Karpan., *Change in Trends in Apparel Industry*. Abhishek Publication.
- Kathryn Moore Greenwood. *Fashion Innovation & Marketing*. MacmillanCo.
- Kitty Dickerson. *Textiles & Apparels in Global Economy*. Merrill PrenticeHall.

Suggested Continuous Evaluation Methods: Seminar/ Presentation on any topic of the above syllabus ☐ Test with multiple choice questions/ short and long answer questions ☐ Attendance

Semester-VIII**Bachelor of Home Science (Honours with Research/Academic projects/ Entrepreneurship)
GE-9 Retailing and Merchandizing in Textile and Apparel****No. of Hours-60****CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE**

Course Title	Credits	Credit distribution of the course			Eligibility Criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
GE-9 Retailing and Merchandizing-Textile and Apparel	4	4	0	0	Passed class XII with science, Arts and commerce	Nil
Bachelor of Home Science (Honours with Research/Academic projects/ Entrepreneurship)						
Programme: Bachelor of Home Science (Honours with Research/Academic projects/ Entrepreneurship)		Year: Fourth			Semester: Eighth Paper: GE-9	
Subject- Home Science						
Course- GE-9		Course Title: Retailing and Merchandizing in Textile and Apparel				
Course outcomes: The Student at the completion of the course will be able to: <ul style="list-style-type: none">To develop in depth knowledge about Merchandizing.To learn about sales promotion techniques and export import procedures						
Credits: 4			Generic Elective			
Max. Marks: As per Univ. rules			Min. Passing Marks: As per Univ. rules			
Unit	Topics					No. of hours
Unit I	Merchandizing: terminology, concept and principles.					3
Unit II	Factors affecting Merchandizing					3
Unit III	Role and responsibilities of a merchandiser					3
Unit IV	Merchandizing for buying houses, departmental stores and export houses.					3
Unit V	Retailing- terminology and concept					5
Unit VI	Evolution of retail and retail formats					5
Unit VII	Sale promotion and promotion mix: Advertising, Sale promotion techniques, personal selling, and publicity.					10
Unit VIII	Pricing methods and pricing of textiles					6
Unit IX	Marketing research: meaning, scope and classification. Steps in marketing research					8
Unit X	Fashion analysis, forecasting and significance in product planning.					7
Unit XI	Export and Import: Channels of distribution, starting of export and import business and its procedure, organizations involved in export promotion in India.					7

Suggested Readings:

- Mike Easey (1995) Fashion Marketing Blackwell science Lts,USA
- Pamela Stecker (1996) Fashion Design Manual Macmillan Education Australia Pvt, Ltd, South Yarra.
- Elaine Stone and Jean A. Samples (1985) Fashion Merchandising –An Introduction McGraw-Hill Book Co, New York USA
- Jeanette Jarnow and Kitty Dickerson (1997) Inside the Fashion Business Merrill Prentice Hall New Jersey
- Nancy J. Rabolt & Judy K. Miler (1997) Concepts and Cases IN Retail Management Fair Child Publications ,New York rd
- Pradhan, S. 2009. Retailing Management, edn. New Delhi, Tata McGraw-Hill Publishing Company Limit. 613p

Suggested Digital Platform:

- <https://egyankosh.ac.in/bitstream/123456789/15023/1/Unit-1.pdf>
- <http://ecoursesonline.iasri.res.in/mod/page/view.php?id=30821>

Suggested Continuous Evaluation Methods: Seminar/ Presentation on any topic of the above syllabus ☐ Test with multiple choice questions/ short and long answer questions ☐ Attendance

Semester-VIII
Bachelor of Home Science (Honours with Research/Academic projects/ Entrepreneurship)
DSE- 10 Management of Child Care Center and Nursery School
No. of Hours-30+60

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course Title	Credits	Credit distribution of the course			Eligibility Criteria	Pre- requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
DSE-10 Management of Child Care Center and Nursery School	4	2	0	2	Passed class XII with science, Arts and commerce	Nil
Bachelor of Home Science (Honours with Research/Academic projects/ Entrepreneurship)						
Programme: Bachelor of Home Science (Honours with Research/Academic projects/ Entrepreneurship)		Year: Fourth			Semester: Eighth Paper: DSE-10	
Subject- Home Science						
Course- DSE-10		Course Title: Management of Child Care Center and Nursery School				
Course outcomes: The Student at the completion of the course will be able to: <ul style="list-style-type: none">• Student will be able to learn about child care centers and its management.• To aware the student about curriculum and planning syllabus						
Credits: 4		Discipline Specific Elective				
Max. Marks: As per Univ. rules			Min. Passing Marks: As per Univ. rules			
Unit	Topics					No. of hours
I	Introduction <ul style="list-style-type: none">• Child Care Centers and Nursury School• Survey on community needs with regard to day care centre/child care centre.					5
II	Management of the centre <ul style="list-style-type: none">• Management committee for administrative task,• layout planning of day care centre/child care centre,• Planning policies of the centers,• Procedures and rules,• Budgeting,• Building,• Equipments and closed room planning.					5

III	Utilization of resources: <ul style="list-style-type: none"> Hiring staff, qualification and salary, procuring toys, equipments and furniture, Maintaining records and registers. 	2
IV	Training in service staff: <ul style="list-style-type: none"> Methods of communicating with children, Learning methods of handling children, Setting class room limits, Observing and testing children. 	3
V	Involving parents: <ul style="list-style-type: none"> Building rapport with children, Arranging parent teacher conferences. 	2
VI	Curriculum planning for young children: Planning syllabus- <ul style="list-style-type: none"> Annual, Monthly, Weekly and daily planning of activities. 	3
VII	Planning play environment: Preparation and putting up play room for teaching young children, teaching strategies in child care centre. <ol style="list-style-type: none"> Play way teaching methods. Planning science-nature experiences. Planning music dramatization and story session. Putting up display of play equipment in classroom and teaching methods. Preparation and submission of project report. 	5
VIII	<ul style="list-style-type: none"> Observation of teaching in Nursery School and Building rapport with the children. Organizing and participating in the pre-school activities in: <ol style="list-style-type: none"> Laboratory Nursery School. Community Balwadi. 	5
	Practical	
Unit	Topics	No. of hours
Unit I	Plan out different activities and preparation of teaching aid and play materials for nursery school children	20
Unit II	Visit to Day Care Centre and Participating in different activities - conducting in a nursery school with children and report writing	40

Suggested Readings:

- Contractor, M., 1984, Creative drama and puppetry in education, National book trust of India, Delhi
- Devadas P. Rajammal and N. Jaya (1996), "A Textbook on child development", MacMillan India Ltd. New Delhi.
- Nasim Siddiqi, Suman Bhatia and Suptika Biswas (2007) Early Childhood Care and Education – Book IV, DOABA HOUSE, New Delhi.
- Sen Gupta, M. (2009). Early Childhood Care and Education. New Delhi: PHI Learning Pvt. Ltd.
- Soni, R., 2015, Theme based early childhood care and education programme- A Resource Book, NCERT.

Suggested Continuous Evaluation Methods: Seminar/ Presentation on any topic of the above syllabus • Test with multiple choice questions/ short and long answer questions • Attendance

Semester-VII
Bachelor of Home Science (Honours with Research)
GENERAL ELECTIVE (GE-10) Household Equipment and Appropriate Technology

No. of Hours-45+30

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

Course Title	Credits	Credit distribution of the course			Eligibility Criteria	Pre-requisite of the course(if any)
		Lecture	Tutorial	Practical/ Practice		
GE- 10 Household Equipment and Appropriate Technology	4	3	0	1	Passed class XII with science, Arts and commerce	Nil

Bachelor of Home Science (Honours with Research)

Programme/Class: Bachelor of Home Science (Honours with Research)	Year: Fourth	Semester: Seventh Paper: GE-10
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Subject: Home Science

Course- GE-10	Course Title: Household Equipment and Appropriate Technology
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Course outcome:

The student at the completion of the course will be able to:

1. To understand the students and innovative technology in household equipment.
2. To understand the students about market of the household equipment.
3. To enable the students about conservation of time and energy saving.
4. To study about the drudgery reduction of home maker through appropriate technologies.

Credits: 4	DISCIPLINE SPECIFIC COURSE
Max. Marks: As per Univ. Rule	Min. Passing Marks: As per Univ. rules

Unit	Topics	No. of Hours
Unit I	<ul style="list-style-type: none"> • Work-worker and workplace relationship • Work simplification techniques • Mundel's classes of change • Factors affecting work capacity 	10
Unit II	<ul style="list-style-type: none"> • Energy cost work : meaning, methods of to calculate energy cost of work • Technology used for calculating Energy cost work • Fatigues, types of fatigues, methods of relieving from fatigues. • Measurement of the physiological cost of work. 	10
Unit III	<ul style="list-style-type: none"> • Household drudgery- definition, drudgery prone areas in home, drudgery reduction technologies used in household 	10
Unit IV	<ul style="list-style-type: none"> • Household equipment- introduction, definition, classification and base materials used in construction, selection, use, care and maintenance 	15
	Practical	
I	<ul style="list-style-type: none"> • Market survey for household appliances 	10
II	<ul style="list-style-type: none"> • Use of different kitchen appliances (available in laboratory). 	10
III	<ul style="list-style-type: none"> • Identification of different finishes. 	5
IV	<ul style="list-style-type: none"> • Scrapbook (collection of different) innovative equipments. 	5

Recommended Readings

- Grandjean, E. (1981). Ergonomics of the Home Taylor and Francis Ltd. New York.
- Grandjean, E. and Kroemer, K.H.E. (1999). Fitting the Task to the Human a Text Book of Occupational Ergonomics. Taylor and Francis, New York.
- Peet, I.J and Arnold, M.G. (1993). Household Equipment. John Wiley, New York.
- Science and Technology for Women. (1993). Compiled by Center of Science for Village. Waradha. Department of Science and Technology, New Delhi.
- Singh, S. (2007). Ergonomics Integration for Health and Productivity. Himanshu Publication, Udaipur, New Delhi.
- Gandotra, G., Oberoi, K. and Sharma, P. (2008). Appropriate technology for rural women.

Suggested equivalent online courses: On Swayam, Vidyamitra.inflibnet.ac.in, literature-study-online.com, epg-pathshala, egyankosh.ac.in

Suggested Continuous Evaluation Methods: Seminar/ Presentation on any topic of the above syllabus ☐ Test with multiple choice questions/ short and long answer questions ☐ Attendance