

**BANASTHALI VIDYAPITH**  
**Department of Home Science**

Minutes of the Board of Studies held on 28 December 2018 at 11:00 am in the Department of Home Science, Gyan Mandir, Banasthali Vidyapith

**PRESENT**

Dr. Chandra Kumari                      Internal Members

Ms. Charu Panwar

Dr. Charu Vyas

Dr. Deepti Bhargava

Ms. Ekta Sharma

Dr. Ekta Singh Chauhan

Dr. Gita Bisla

Prof. Monika Jain

Dr. Namrata Arora Charpe

Dr. Navita Pareek

Ms. Parul Sharma

Dr. Parul Tripathi

Dr. Parsansha Sharma

Ms. Prawal Pandey

Dr. Shalini Juneja

Prof. Sheel Sharma

Mrs. Shweta Dubey

Prof. Suman Pant

Dr. Suvidha

Prof. Indu Bansal                      Convener (in the Chair)

Note: Dr. Sheela Sangwan, Dr. Mini Shetah, Dr. Anjali Karoliya, (External Members) and Dr. Neelam Chaturvedi (Internal Member) could not attend the meeting.

The meeting started with a welcome of the members, by the convener of Board of Studies for Home Science, Prof. Indu Bansal, Dean, Home Science, Banasthali Vidyapith, Rajasthan

1. The Board confirmed the minutes of the meeting of the Board of Study held on 24<sup>th</sup> April' 2016 and pre BOS held on 2nd April' 2018.
2. Panel of Examiners for each examination up to and inclusive of Master's Degree Examination has been prepared in the prescribed format, separately for theory and practical examinations, keeping in view the Vidyapith Bye-laws. It has been submitted in secrecy section along with soft copy.
3. The Board reviewed the Study/Curricula, Scheme of examination in various courses of study, keeping in view the curriculum structure of the Vidyapith for Undergraduate and postgraduate courses.

Learning outcomes for each and every course of study (including practical course where prescribed) have been incorporated to explain focus and approach of the course. References have been updated and presented in APA format. Syllabuses of all the courses have been properly formatted, correcting spelling and punctuation errors.

The Board recommended courses of Study, Curricula and scheme of examination as follows-

#### **B.A**

i.	First Semester	No Change in scheme and syllabus
ii.	Second Semester	No Change in scheme and syllabus
iii.	Third Semester	No Change in scheme and syllabus
iv.	Fourth Semester	No Change in scheme and syllabus
v.	Fifth Semester	Minor Change
vi.	Sixth Semester	Minor Change

Learning outcomes, References and E-resources for BA is attached and marked as **Annexure-I a and b** .

#### **B.Sc. (Home Science) Programme**

i.	First Semester	Minor Change <sup>a b</sup>
ii.	Second Semester	No Change
iii.	Third Semester	Minor Change <sup>c</sup>
iv.	Fourth Semester	No Change
v.	Fifth Semester	Minor Change <sup>d e</sup>
vi.	Sixth Semester	Minor Change <sup>e</sup>

- (a) The Board recommended that in B.Sc. (Home Science) I Semester in course Elementary Human Physiology (Course Code: HSC103) 'structure of kidney' should

be deleted since it is part of organs of excretory system and there is no need to mention it separately

- (b) The Board reviewed the syllabus of Fundamentals of Biochemistry and Microbiology (Course Code: HSC106), of B.Sc. (Home Science) I Semester and it was found that syllabus is too elaborate for B.Sc. I Sem. students, hence, recommended that content should be rewritten to make it more concise. Besides, students do in- depth study in course Nutritional Biochemistry in VI semester.
- (c) The Board reviewed the content of practical of B.Sc. (Home Science) III Semester Fundamentals of Clothing Construction (Course Code: HSC207 L) and recommended that content should be elaborated to make it clear and unambiguous and to avoid repetition (deleted part is already in the syllabus of Family Clothing (Course code: HSC202L). These changes be made applicable from session 2019-2020 onwards
- (d) The Board reviewed the course content of Introduction to Work Study (Course Code: HSC 309) of B.Sc. (Home Science) V Semester and recommended that topics in unit I, II and V should be elaborated for clarity and Unit III and IV be redesigned to balance the units. These changes be made applicable from session 2019-2020 onwards.
- (e) The Board also suggested some new Discipline Electives along with those already running ; syllabus for which have been developed..

Learning outcomes, proposed revised (if any) / new syllabi, References and E-resources is attached and marked as **Annexure-II a and b** .

**M.Sc. (Home Science Human Development/ Food Science and Nutrition)**

i.	First Semester	Minor Change <sup>a</sup>
ii.	Second Semester	No Change
iii.	Third Semester	Minor Change
iv.	Fourth Semester	Minor Change

- (a) M.Sc. Human Development II Semester Course Contemporary Issues and Concerns in Human Development (Course Code: HSC 406) burning issues have been added and some part has been deleted because of repetitions in other courses.
- (b) M.Sc. Food Science and Nutrition IV Semester Course Clinical Nutrition and Dietetics (Course Code: HSC509) ; two new methods have been added in section A .  
Suggested revisions (if any), learning outcomes, References and E resources is attached and marked as **Annexure-III a and b** .
- (c) In the light of the discussions with honorable Vice Chancellor, the Board recommended some new reading elective courses focusing on recent advances in the field of specialization and of contemporary importance for development of self study / reading habits in P.G. students.

Pattern: Each course will be of two credits. There will be end semester exam only. These courses will not be alternative to regular course. Every M.Sc. student has to opt for at least two reading electives.

It was also suggested by the Board that reading electives should start from II semester itself (instead of III semester), **subjected to the approval of Academic Council**. In fourth semester, PG students have to finish their project work along with 4/5 course of study and will have less time for reading. Moreover, this will also increase scope for those students who want to opt for more than two electives. Besides, it will provide more time to those students who may not clear electives in first attempt.

#### **List of Reading Electives (Newly Introduced)**

1. Safe and Healthy Environments For Young Children
2. Nanotechnology in Textile
3. Introduction to Nutrigenomics Online course in lieu - Nutrigenomics for Disease Prevention and Intervention <a href="https://www.nutrigenomics.arizona.edu/home.html">https://www.nutrigenomics.arizona.edu/home.html</a>
4. Textile Conservation
5. Onconutrition
6. Colour Science and Instrumentation
7. Inclusive Education
8. Novel Technologies for Food Processing and Shelf Life Extension Online course in lieu - Novel Technologies For Food Processing and Shelf –Life <a href="https://nptel IIT, Kharagpur">https://nptel IIT, Kharagpur</a> Management
9. Food Biotechnology
10. Science of Clothing Comfort Online course in lieu - Science of Clothing Comfort <a href="http://swayam.gov.in">http://swayam.gov.in</a> I I T, Delhi
11. Ergonomic Applications in Interior Design
12. Functional Clothing
13. Content Development and Food Labelling
14. Emerging Technologies for Personalized Nutrition
15. Sports Nutrition

**Content for reading electives along with course outcomes and suggested reading material have been given in Annexure IV.**

4. No Home Science courses are running in the other programs of the Vidyapith except foundation and vocational courses. Foundation /Vocational Courses run by faculty have also been reviewed in the light of discussion with Foundation course committee. To bring uniformity in credits of foundation courses, the Board recommended that all courses will be of 2 credits. Accordingly content has been revised as per **Annexure V** .

5. Most of the examiners reported answers as satisfactory and to the point which helps to conclude that most students demonstrated their understanding of the key knowledge of their respective subject. Few (around 10%) examiners reported the answers to be vague and diffused, Very few (5%) suggested that answers should be more focused/ use of technical language/ improvement in language/ better articulation. **Annexure VI**

6. Total 105 Question papers of last five years were evaluated for their appropriateness. The overall quality of question papers was found to be good, so as to judge an average student's knowledge and skill. The distribution of marks was found suitable for the content of the question drafted. All the question papers were found to cover all the contents of the syllabus evenly. The pattern followed in drafting the papers at undergraduate level was mostly conventional, and questions were mainly direct and information based, requiring descriptive and subjective answers. Some of the UG papers had a limited number of application based questions. The questions were found to be framed in simple and easy to understand language. A considerable portion of question papers of postgraduate programmes was found to have both application based and analytical questions, suitable enough to require a good amount of mental effort by the students while answering them, providing them opportunities to utilize their competence, not just the content knowledge. The content of the questions has changed slightly from being information based to application based over the years. The overall quality of question papers was found to be consistent and no deterioration observed through the years. **Annexure VI I**

Meeting ended with vote of thanks to the chair.

## Annexure I (a)

### Programme Scheme: B.A.

#### Semester I

Existing					
Course Code	Course Name	L	T	P	C
HSC101	Basics of Home Science and Resource Management	6	0	0	6
HSC108 L	Interior Decoration Lab	0	0	4	2
	<b>Total</b>	<b>6</b>	<b>0</b>	<b>4</b>	<b>8</b>

Proposed					
Course Code	Course Name	L	T	P	C
HSC101	Basics of Home Science and Resource Management	6	0	0	6
HSC108 L	Interior Decoration Lab	0	0	4	2
	<b>Total</b>	<b>6</b>	<b>0</b>	<b>4</b>	<b>8</b>

#### Semester II

Existing					
Course Code	Course Name	L	T	P	C
HSC102	Basics of Human Development	4	0	0	4
HSC107	Fundamentals of Foods and Nutrition	4	0	0	4
	<b>Total</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>8</b>

Proposed					
Course Code	Course Name	L	T	P	C
HSC102	Basics of Human Development	4	0	0	4
HSC107	Fundamentals of Foods and Nutrition	4	0	0	4
	<b>Total</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>8</b>

#### Semester III

Existing					
Course Code	Course Name	L	T	P	C
HSC215	Nutrition in Health and Disease	6	0	0	6
HSC205L	Food and Nutrition Lab	0	0	4	2
	<b>Total</b>	<b>6</b>	<b>0</b>	<b>4</b>	<b>8</b>

Proposed					
Course Code	Course Name	L	T	P	C
HSC215	Nutrition in Health and Disease	6	0	0	6
HSC205L	Food and Nutrition Lab	0	0	4	2
	<b>Total</b>	<b>6</b>	<b>0</b>	<b>4</b>	<b>8</b>

#### Semester IV

Existing					
Course Code	Course Name	L	T	P	C
HSC210	Introduction to Community Nutrition and Extension	4	0	0	4
HSC212	Life Span Development	4	0	0	4
	<b>Total</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>8</b>

Proposed					
Course Code	Course Name	L	T	P	C
HSC210	Introduction to Community Nutrition and Extension	4	0	0	4
HSC212	Life Span Development	4	0	0	4
	<b>Total</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>8</b>

#### Semester V

Existing					
Course Code	Course Name	L	T	P	C
HSC308	Introduction to Textiles	4	0	0	4
HSC305	Family Dynamics and Parent Education	4	0	0	4
	<b>Total</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>8</b>

Proposed					
Course Code	Course Name	L	T	P	C
HSC308	Introduction to Textiles	4	0	0	4
	Discipline Elective -I	4	0	4	6
	<b>Total</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>8</b>

#### Semester VI

Existing					
Course Code	Course Name	L	T	P	C
HSC307	Introduction to Clothing	4	0	0	4
HSC312L	Textile Care and Clothing Construction Lab	0	0	8	4
	<b>Total</b>	<b>4</b>	<b>0</b>	<b>8</b>	<b>8</b>

Proposed					
Course Code	Course Name	L	T	P	C
HSC312L	Textile Care and Clothing Construction Lab	0	0	8	4
	Discipline Elective -II	4	0	4	6
	<b>Total</b>	<b>4</b>	<b>0</b>	<b>8</b>	<b>8</b>

Course code	List of discipline electives
<b>HSC305</b>	Family Dynamics and Parent Education
	Family and Child Welfare (Newly Introduced)
<b>HSC307</b>	Introduction to Clothing
	Fundamentals of Family Clothing (Newly Introduced)

## Programme : B.A.

S. N.	Course List	Learning Outcome	Existing Syllabus	Suggested Syllabus	Remarks
1	<b>HSC101 Basics of Home Science and Resource Management</b>	<p><b>Learning outcomes:</b> Upon completion of the course students will be able to:</p> <ul style="list-style-type: none"> <li>• Interpret concept and scope of Home Science discipline</li> <li>• Develop an insight into fundamentals of resource and their management</li> </ul>	-----	<p><b>References:</b></p> <ol style="list-style-type: none"> <li>1. Bansal, I., &amp; Kumari, C. (2010). <i>Home Science: An Introduction</i>. Newai (Raj) : Navjeevan Publishers.</li> <li>2. Chandra, A. (1978). <i>Introduction to Home Science</i>. New Delhi: Metropolitan Book Company, Ltd.</li> <li>3. Daecon, R.E., &amp; Firebaugh, F.M. (1975). <i>Context and concepts of Management</i>. USA: Houghton Mifflin Company.</li> <li>4. Gross, I.H., &amp; Crandall, E.W. (1980). <i>Management for modern families</i> (3<sup>rd</sup> ed.). New Jersey: Prentice Hall Inc. Engle Wood Cliffs.</li> <li>5. Jain, V. (2002). <i>Grih Prabandh, Sadhan Vyavastha awem aantrik sazza</i>. Jaipur: Abhishek Publication.</li> <li>6. Koontz, H., &amp; Wehrich, H. (2009). <i>Essentials of Management</i>. New Delhi: Tata McGraw Hill Publishing Co. Ltd.</li> <li>7. Patni, M., &amp; Sharma, L. (2017). <i>Grih prabandh</i> (25<sup>th</sup>ed.). Agra: Star Publication.</li> <li>8. Stoner, J.,Freeman,R., &amp; Gilbert, D. (1995). <i>Management</i> (6<sup>th</sup>ed.). New Delhi: Prentice Hall of India Pvt. Ltd.</li> <li>9. Tripathy, P.C., &amp; Reddy, P.N. (2001). <i>Principles of Management</i>. New Delhi: Tata McGraw Hill Publishing Co. Ltd.</li> <li>10. Wangundy, A.B. (1981). <i>Techniques of structured problem solving</i>. New York :Van Nostrand Reinhold Company.</li> </ol>	

	<b>HSC108 L Interior Decoration Lab</b>	<b>Learning outcomes:</b> Upon completion of the course students will be able to: <ul style="list-style-type: none"> <li>• Design and draw floor plans to meet a given set of requirements</li> <li>• Apply informed judgments in designing interiors</li> </ul>			
	<b>HSC102 Basics of Human Development</b>	<b>Learning outcomes:</b> Upon completion of the course students will be able to: <ul style="list-style-type: none"> <li>• Get insight into concept and various aspects of Human Development</li> <li>• Appraise concerns and issues related to parenting and development aspects</li> <li>• Relate theories to developmental aspects</li> </ul>		<b>References :</b> <ol style="list-style-type: none"> <li>1. Gupt Ram Babu (1996). <i>Vikasatmak Monovigyan</i>, Agra : Ratan Prakashan Mandir,</li> <li>2. Hurlock Elizabeth B. – <i>Bal Manovigyan</i> (5th &amp; 6th Edition), New Delhi: Tata Mc Graw Hill.</li> <li>3. Hurlock Elizabeth B. (1978). <i>Child Development</i> (6th ed.). New Delhi : Mc. Graw Hill Publishers Ltd..</li> <li>4. Laura.E.Berk (2013). <i>Child Development</i>. Illinois : Pearson.</li> <li>5. Musson P., Conger J.J., Kegan J. and Haston A.C. (1990). <i>Child Development and Personality</i>. New York: Harper &amp; Row.</li> <li>6. Singh Vrinda <i>Manav Vikas evam Parivarik Sambandh</i>. Jaipur: Panchsheel Parkashan.</li> <li>7. Verma, Priti, &amp; Srivastava, D.N. (1996). <i>Bal Manovigyan – Bal Vikas</i>. Agra : Vinod Pustak Mandir,.</li> </ol>	
	<b>HSC107 Fundamentals of Foods and Nutrition</b>	<b>Learning outcomes:</b> Upon completion of the course students will be able to: <ul style="list-style-type: none"> <li>• Describe the functions of food and role of various nutrients, dietary requirement of various nutrients, and effect of deficiencies and excesses</li> <li>• Explain the methods of food preparation and principles applied in food preservation.</li> <li>• Apply and incorporate the knowledge of nutritional requirement in various life stages.</li> </ul>		<b>References:</b> <ol style="list-style-type: none"> <li>1. Khanna, K., Gupta S, Mahna R, Puri S, Seth R and Passi SJ. (1997). <i>Text book of Nutrition &amp; Dietetics</i>. New Delhi : Phoenix Publishing House Pvt. Ltd..</li> <li>2. Mehtab, S. Bamji, K. Krishnawamy and GNV Brahmam.(1996). <i>Text Book of Human Nutrition</i>, New Delhi : Oxford &amp; IBH Publishing Co. Pvt. Ltd..</li> <li>3. Sharma,V .(1995) .<i>Food &amp; Nutrition Science</i>(2<sup>nd</sup> ed.). Meerut : Loyal Book House.</li> <li>4. Singh,V. (2006).<i>Food &amp; Nutrition Science</i> (3<sup>rd</sup> ed.). Jaipur: Panchsheel Prakashan.</li> <li>5. Srilakshmi, B. (2004). <i>Nutrition Science</i>, New Delhi: New Age International Pvt. Ltd.</li> <li>6. Swaminathan, M. (1985). <i>Essentials of Foods and Nutrition Vol.1</i> Madras : Ganesh and Co.</li> <li>7. Wilson, E.D., Fisher K. H. &amp; Fuqua M.E. (1975). <i>Principles of Nutrition</i>. Canada : John Wiley and Sons.</li> </ol>	



				<p><b>E- resources:</b></p> <ul style="list-style-type: none"> <li>• Function of food, food groups, food chart <a href="https://www.slideshare.net/chefkaushal84/food-56547837">https://www.slideshare.net/chefkaushal84/food-56547837</a></li> <li>• Methods of cooking <a href="https://www.slideshare.net/laurahuang/methods-of-cooking-ppt-5914731">https://www.slideshare.net/laurahuang/methods-of-cooking-ppt-5914731</a></li> <li>• Importance of nutrition, consumer rights, special diets, menu panning <a href="https://www.slideshare.net/itchomecare/8-nutrition-and-food-preparation-15193848">https://www.slideshare.net/itchomecare/8-nutrition-and-food-preparation-15193848</a></li> </ul>	
	<b>HSC 205 L Food and Nutrition Lab</b>	<p><b>Learning outcomes:</b> Upon completion of the course students will be able to:</p> <ul style="list-style-type: none"> <li>• Plan and prepare different types and specific nutrient rich diets using different cooking methods</li> <li>• Plan and prepare diets for various disease conditions</li> <li>• Prepare food products using various preservation methods</li> </ul>			
	<b>HSC215 Nutrition in Health and Disease</b>	<p><b>Learning outcomes:</b> Upon completion of the course students will be able to:</p> <ul style="list-style-type: none"> <li>• Describe the role of nutrition and nutrients in health, disease and various life stages</li> <li>• Explain the causes of food spoilage and types of food preservation</li> <li>• Apply and incorporate the knowledge of therapeutic diet for various disease conditions</li> </ul>		<p><b>References :</b></p> <ol style="list-style-type: none"> <li>1. Khanna, K, Gupta S.,Mahna R,Puri S,Seth R and Passi SJ. (1997).<i>Text book of Nutrition &amp; Dietetics</i>. New Delhi: Phoenix Publishing House Pvt. Ltd..</li> <li>2. Sharma,V. (1995). <i>Food &amp; Nutrition Science (3<sup>rd</sup> ed.)</i>. Meerut: Loyal Book House.</li> <li>3. Singh,V. (2006). <i>Food &amp; Nutrition Science (3<sup>rd</sup> ed.)</i>. Jaipur : Panchsheel Prakashan .</li> <li>4. Srilakshmi, B. (2004). <i>Nutrition Science</i>. New Delhi : New Age International Pvt. Limited.</li> <li>5. Swaminathan, M. (1985). <i>Essentials of Foods and Nutrition Vol.2</i> Madras: Ganesh and Co..</li> </ol> <p><b>E- resources :</b></p> <ul style="list-style-type: none"> <li>• Causes of food spoilage, sources, factors and its prevention <a href="https://www.slideshare.net/MAMATHESH/food-spoilage-microbiology">https://www.slideshare.net/MAMATHESH/food-spoilage-microbiology</a></li> <li>• Therapeutic diet in various diseases <a href="https://www.slideshare.net/sapnamanger/therapeutic-diet">https://www.slideshare.net/sapnamanger/therapeutic-diet</a></li> <li>• Basic nutrition <a href="https://www.slideshare.net/jinulazer/ppt-on-nutrients">https://www.slideshare.net/jinulazer/ppt-on-nutrients</a></li> </ul>	

	<b>HSC210 Introduction to Community Nutrition and Extension</b>	<b>Learning outcomes:</b> Upon completion of the course students will be able to: <ul style="list-style-type: none"> <li>• Explain the linkages between nutrition, environment, health and disease</li> <li>• Recognize the importance of malnutrition as a conditioning factor in relation to many diseases in community</li> <li>• Get acquainted with the roles of national &amp; international agencies in community nutrition</li> <li>• Explain importance of extension programmes for the betterment of QOL in rural areas and develop skills for effective communication</li> </ul>		<b>References:</b> <ol style="list-style-type: none"> <li>1. Bamji, M. S., Rao, P.N., &amp; Reddy, V. (1996). <i>Text book of Human Nutrition</i>. New Delhi : Oxford and IBH publishing Co Pvt. Ltd.</li> <li>2. Bhargava, B. (1999). <i>Parivarik Swastha avm samajik Kalyan</i> (2<sup>nd</sup> ed.). Jaipur: University Book House Pvt. Ltd.</li> <li>3. Dhama, O.P., &amp; Bhatnagar, O.P. (2010). <i>Education and communication for development</i>. New Delhi: Oxford &amp; IBH Publishing Co.</li> <li>4. Harpilini, B.D. (1994). <i>Grahavigyan mai Prasar Shiksha</i>. Agra: Star Publication.</li> <li>5. Kalla, P. N., &amp; Gakkhar, A. (2010). <i>New Dimension of Extension and Communication</i>. Jaipur: University Book House.</li> <li>6. Kalla, P.N., &amp; Gakkhar, A. (2005). <i>Prasar Shiksha ke naye Aayam</i>. Jaipur: Hindi Granth Academy.</li> <li>7. Singh, V. (2005). <i>Food and Nutrition Science</i> (3rd ed.). Jaipur : Panchsheel Prakashan.</li> </ol>	
	<b>HSC212 Life Span Development</b>	<b>Learning outcomes:</b> Upon completion of the course students will be able to: <ul style="list-style-type: none"> <li>• Understand important aspects of development during the whole life span</li> <li>• Understand the issues faced and adjustments required at each stage across the life span</li> </ul>		<b>References:</b> <ol style="list-style-type: none"> <li>1. Cole, M., &amp; Cole, S. (1995). <i>The Development of Children</i>. New York, NY: Freeman &amp; Co.</li> <li>2. Craig, G. (1999). <i>Human Development</i>. New Jersey, NJ: Prentice Hall.</li> <li>3. Gupt, R. (1998). <i>Matra Kala Shishu Palan avem Bal Vikas</i>. Agra: Ratan Prakashan Mandir.</li> <li>4. Hurlock, E.B. (1978). <i>Child Development</i> (6th ed.). New York: McGraw Hill Ltd.</li> <li>5. Hurlock, E.B. (1980). <i>Developmental Psychology – A life span Approach</i> (5th ed.). New York, NY: Tata McGraw Hill Publishing Co. Ltd.</li> <li>6. Hurlock, E.B. (1990). <i>Vikas Manovigyan</i>. Pratham Khand/Dutiya Khand, Hindi Madhyam Karyanvay Nideshalaya, Delhi University Dwara Prakashit.</li> <li>7. Verma, P. &amp; Srivastava, D.N. (1996). <i>Bal Manovigyan – Bal Vikas</i>. Agra: Vinod Pustak Mandir.</li> </ol> <b>E-resources:</b> <ul style="list-style-type: none"> <li>• Life Span Development  <a href="http://www.pdfdrive.com/life-span-development-e33437743.html">www.pdfdrive.com/life-span-development-e33437743.html</a> </li> </ul>	

			<ul style="list-style-type: none"> <li>Life-Span Human Development www.pdfdrive.com/life-span-human-development-e58160481.html</li> <li>Life-Span Human Development 7<sup>th</sup> Edition www.pdfdrive.com/life-span-human-development-7th-ed-e901075.html</li> </ul>	
	<b>HSC308 Introduction to Textiles</b>	<p><b>Learning outcomes:</b> Upon completion of the course students will be able to:</p> <ul style="list-style-type: none"> <li>Get basic knowledge about different fibers used in textile Industry, their physical and chemical characteristics and end use</li> <li>Identify different methods of yarn and fabric manufacturing and their characteristics and utility</li> <li>Analyze different techniques used to enrich the surface of fabric through dyeing and printing and finishing</li> <li>Discuss the use of different types of washing methods , equipments and different agents used in care and maintenance of fabric</li> <li>Evaluate different practices involved in Textile Industry and at household level</li> </ul>	<p><b>References :</b></p> <ol style="list-style-type: none"> <li>Corbman, B. P. (1985). <i>Textile Fibres to Fabric</i>. New Delhi: Gregg Division - Mc. Graw Hill Inc.</li> <li>Dantyagi, S. (1967). <i>Fundamentals of Textiles and Their Care</i>. New Delhi: Orient Longman.</li> <li>Deolkar, D. (1971). <i>Household Textiles and Laundry Work</i>. New Delhi: Atmaram and sons.</li> <li>Hollen, N. &amp; Saddler, J. (1964). <i>Textile</i>. (5th ed.). New York, NY: Mc. Millan Publishing Co.</li> <li>Joseph, L. M. (1986). <i>Introductory Textile Science</i>. America: Halt, Rinehart and Winston.</li> <li>Kadolph, S. J. &amp; Langbord, A. L. (11th ed.). (2014). <i>Textiles</i>, New Jersey: Prentice - Hall Inc.</li> <li>Tortora, P.G. (1978). <i>Understanding Textiles</i>, New York, NY: Macmillan Publishing Company.</li> </ol>	
	<b>HSC312 L Textile care and clothing construction Lab.</b>	<p><b>Learning outcomes:</b> Upon completion of the course students will be able to:</p> <ul style="list-style-type: none"> <li>Learn basic garment construction and embroidery skills</li> <li>Use learned skills in garment construction for different age groups and figure types</li> <li>Learn basic knitting stitches and their use for knitting different garments</li> <li>Apply theory in taking care of household textiles and garments</li> </ul>		

	<p><b>HSC305 Family Dynamics and Parent Education</b></p>	<p><b>Learning outcomes:</b> Upon completion of the course students will be able to:</p> <ul style="list-style-type: none"> <li>• Gain information about importance, problems and adjustment in marriage life and family</li> <li>• Attain knowledge about role of parents and their involvement for overall development of the child</li> <li>• Get awareness about parent and community education for betterment of society</li> </ul>		<p><b>References:</b></p> <ol style="list-style-type: none"> <li>1. Bhushan V, &amp; Sachdeva R. (1983). <i>Introduction to Sociology</i>. Allahabad: Kitab Mahal.</li> <li>2. Gupt R.B. (1996). <i>Vikasatmak Manovigyan</i>. Agra: Ratan Prakashan Mandir.</li> <li>3. Mukharjee, R.K. (1979). <i>Indian Society</i>. Jaipur, Chaura Rasta: College Book Centre.</li> <li>4. Rice F.P. (1983). <i>Marriage and Family</i>. Boston: Allyn &amp; Bacan.</li> <li>5. Schaefer, C.E., &amp; Millman, H.L. (1981). <i>How to Help Children with Common Problems</i>. New York, NY: New American Library.</li> <li>6. Tomar, R. B. (1976). <i>Parivarik Samaj Shastra</i>. Agra: Shree Ram Mehra &amp; Co.</li> </ol> <p><b>E-resources:</b></p> <ul style="list-style-type: none"> <li>• Building Stronger Marriages and Families <a href="https://www.pdfdrive.com/building-stronger-marriages-and-families-e22030924.html">https://www.pdfdrive.com/building-stronger-marriages-and-families-e22030924.html</a></li> <li>• Community Education as a Home for Family Support and Education Programs. <a href="https://www.pdfdrive.com/community-education-as-a-home-for-family-support-and-education-programs-e36264845.html">https://www.pdfdrive.com/community-education-as-a-home-for-family-support-and-education-programs-e36264845.html</a></li> <li>• Handbook of Parenting Volume 1 Children and Parenting <a href="https://www.pdfdrive.com/handbook-of-parenting-volume-1-children-and-parenting-e19245564.html">https://www.pdfdrive.com/handbook-of-parenting-volume-1-children-and-parenting-e19245564.html</a></li> <li>• Marriage and Family <a href="https://www.pdfdrive.com/marriage-and-family-e26425302.html">https://www.pdfdrive.com/marriage-and-family-e26425302.html</a></li> <li>• Parenting With Love and Logic: Teaching Children Responsibility <a href="https://www.pdfdrive.com/parenting-with-love-and-logic-teaching-children-responsibility-e60737122.html">https://www.pdfdrive.com/parenting-with-love-and-logic-teaching-children-responsibility-e60737122.html</a></li> <li>• Principles of Marriage and Family Ethics <a href="https://www.pdfdrive.com/principles-of-marriage-and-family-ethics-">https://www.pdfdrive.com/principles-of-marriage-and-family-ethics-</a></li> </ul>	
--	---	--	--	--	--

				e27057361.html	
				<ul style="list-style-type: none"> <li>The Conscious Parent: Transforming Ourselves, Empowering Our Children</li> </ul> <p><a href="https://www.pdfdrive.com/the-conscious-parent-transforming-ourselves-empowering-our-children-e60737120.html">https://www.pdfdrive.com/the-conscious-parent-transforming-ourselves-empowering-our-children-e60737120.html</a></p>	
	<b>Family and Child Welfare</b>	<p><b>Learning outcomes:</b> Upon completion of the course students will be able to</p> <ul style="list-style-type: none"> <li>Get an insight into the family as a social system</li> <li>Understand about the family disharmony due to changing socio-economic conditions in the country.</li> <li>Gain an understanding of the needs and problems of children, youth, women, the aged and the family as a whole.</li> <li>Acquire knowledge about welfare services for family and children India</li> </ul>		<p style="text-align: center;">Unit- I</p> <ol style="list-style-type: none"> <li>Changing pattern of family in India : <ul style="list-style-type: none"> <li>Structural and functional changes as result of modernization</li> </ul> </li> <li>Causes and effects of family disharmony</li> <li>Implications of family changes: <ul style="list-style-type: none"> <li>Female headed households,</li> <li>Single –parent families,</li> <li>Families with working women</li> <li>DINK families</li> </ul> </li> </ol> <p style="text-align: center;">Unit- II</p> <p>Problems and needs of families in specific situations</p> <ul style="list-style-type: none"> <li>Families affected by natural calamities – earthquake, flood, famine.</li> <li>Families affected by war, riots and terrorism.</li> <li>Families with chronically ill patients and disabilities</li> <li>Families in extreme poverty conditions</li> <li>Families with marital discord.</li> <li>Migrant families</li> <li>Families with adopted children</li> </ul> <p style="text-align: center;">Unit –III</p> <ol style="list-style-type: none"> <li>Issue related to children- Health and nutrition, literacy and education, drop outs, recreation, self help and vocational training.</li> <li>Children in difficult circumstances – Gender disparities, latch key children, homeless children, abused children, young offenders</li> <li>Children in conflict with self and others : emotional and psychological aspects</li> </ol>	

				<p style="text-align: center;">Unit – IV</p> <ol style="list-style-type: none"> <li>1. Situation of women in India : health , reproductive health and nutrition, education, employment, sexual harassment and domestic violence, role of conflict in women, marginalization of women – widows , divorced, deserted women , women with dependent children</li> <li>2. Problems of adolescents and youth : substance abuse , unemployment , antisocial active</li> <li>3. Specific problems of aging population : health and medical care, housing and family support and financial assistance</li> </ol> <p>Unit V</p> <ol style="list-style-type: none"> <li>1. Welfare programmes : meaning , need and status in India</li> <li>2. Different types of welfare programme pertaining to family in India: <ul style="list-style-type: none"> <li>➤ Maternal and child help services</li> <li>➤ Institutional services for women and children in distress</li> <li>➤ Services for children with disabilities and youth</li> <li>➤ Services for aged</li> </ul> </li> </ol> <p><b>References :</b></p> <ol style="list-style-type: none"> <li>1. Augustine, J.S. (Ed) (1992) : The Indian family in transition, New Delhi : Vikas Publishing House, Unit I &amp; II (entire book)</li> <li>2. Bhatia, M.S. (1993) Ageing and Society, Udaipur: Arya’s Book Centers. Unit IX. Chapter III to VIII, pp40-208</li> <li>3. Desai, K.G. (Ed.) (1988): Ageing in India, Bombay: Tata institute of Social Sciences. Unit IX (entire book)</li> <li>4. Desai, N. and Krishnaraj, M(1987) : Women and society in India, Delhi: Ajanta Publications, Unit IV (entire book).</li> <li>5. NIPCCD (1994): Child in India: A statistical profile, New Delhi NIPCCD</li> <li>6. Sinha, J.M.P. (1989): Problems of Ageing, New Delhi : Classical Publishing company, Unit IX, Chapter V pp 63-98</li> <li>7. TISS (1991): Research in Families with problems in India, Volume I and II Bombay : TISS Unit V, Part IV pp147-187, 204-246, Vol II Part I, pp 269-289, 299-312</li> <li>8. UNICEF (1990) : Children and Women in India: A Situation Analysis Unit VI, VII.</li> <li>9. Choudhary D.P. (1985) : Child welfare development , Atma Ram &amp; Son Delhi</li> </ol>	
--	--	--	--	---	--

				10. Acchpal, B and Verma, A (1988): Towards better Families : An intergrated approache to Family Life Education, Baroda	
	<b>HSC307 Introduction to Clothing</b>	<p><b>Learning outcomes:</b> Upon completion of the course students will be able to:</p> <ul style="list-style-type: none"> <li>• Understand the basic essentials of clothing construction</li> <li>• Assess the various steps involved in the process of garment making</li> <li>• Gain the skills required for apparel construction</li> </ul>		<p><b>References :</b></p> <ol style="list-style-type: none"> <li>1. Bendell, P. &amp; Reader's Digest (1995). <i>Complete guide to sewing</i>. Montreal. Canada: Penguin printing trade Ltd.</li> <li>2. Doongaji, (2002). <i>Basic processes of clothing construction</i>. Delhi: Raaj Prakashan.</li> <li>3. Mc-Call's (1963). <i>Sewing Book</i>. New York: Random House, Inc.</li> <li>4. Smith, A. (1981). <i>Sew simple : A step by step guide to dress making</i>. Hutchinson, MA: English Sewing Ltd. .</li> </ol>	
	<b>Fundamentals of Family Clothing</b>	<p><b>Learning outcomes:</b> Upon completion of the course, the students will be able to:</p> <ul style="list-style-type: none"> <li>• Describe the selection factors for fabrics and clothes of individuals of different age group.</li> <li>• Understand specific property of fabric required for different types of garments.</li> <li>• Elaborate various functions of clothing.</li> <li>• Use different principles and elements of art while selecting or designing dress for different figure types.</li> </ul>		<p>Unit I Selection of fabric for different garments. Garment type and their selection- outer garments and under garments. Readymade and home made garments.</p> <p>Unit II Family clothing decisions- steps and factors. Family wardrobe principles- community, budget, occasion, climate, occupation, interest, size, composition of the family, fashion, quality and accessories.</p> <p>Unit III Body measurements and proportion, figure types. Principles and elements of art in clothing design. Preparation of fabric for garment cutting. Layout types and cutting of the fabric.</p> <p>Unit IV Sociological, physical and psychological aspect of clothing. Factors influencing consumption of textiles</p> <p>Unit V Children's clothes: selection of fabrics, design, colour for children garments according to age. Clothing for adolescence, middle age and old age.</p> <p><b>References:</b></p> <ul style="list-style-type: none"> <li>• Tate, M.T. and Glisson, O. (1967). <i>Family clothing</i>. New York: John Wiley and Sons.</li> <li>• Lewis, D.S. &amp; Bowers, M.G. (1960). <i>Clothing construction and wardrobe planning</i>. New York: Macmillan Book Company.</li> <li>• Wingate, Isabel B. (1965). <i>Textile Fabrics and Their Selection</i>. London: Prentice-Hall, INC.</li> <li>• Alexander (1972). <i>Textile Products, Selection, Use and Care</i>. London: Miffen Co.</li> <li>• Frings, G.S. (1999). <i>Fashion from concept to Consumer</i>. New Jersey: Prentice Hall.</li> </ul>	

**Name of the programme : B.sc. (Home Science )**

**HOME SCIENCE PROGRAMME**

The quality of life of society and the family determines positive functioning. Home Science has a vital role to play in increasing the capacity of the family and the community. At Banasthali Vidyapith, the faculty of Home Science strives to work dedicatedly towards women's empowerment through socially-relevant, holistic, interdisciplinary education, in keeping with its unique philosophy of Panchmukhi Shiksha (Five fold education). Home Science curriculum is offered in a composite form as per the development trends incorporating multi-disciplinary skills, linking the general studies with professional courses integrating theory and practice, and flexibility to the credit based system to meet the challenges in Indian ethos and global context. The curriculum is continually innovated to make it globally valuable, locally relevant and responsive to the changing times and needs. The course sensitizes students to the needs of others, especially of those less advantaged, and fosters a service orientation. The faculty also aims to contribute to the national and international knowledge base in Home Science and allied fields. Due emphasis has always been given to the skill development and enhancement in the students. The degrees offered by the faculty include B.Sc. (Home Science) and M.Sc. (Home Science) in Food Science and Nutrition, Human Development and Clothing and Textile. PhD is awarded in all the five branches of Home Science. Home Science is also offered as a subject in B. A. programme.

**Program Educational objectives:**

Objectives of the Home Science programme are

- To acquaint students with interdisciplinary nature of Home Science as an integrated body of knowledge, all interwoven to enhance the quality of life, and multidisciplinary nature of subjects dealing with art and science of living
- To provide education through integrated approach of combining theory, practical, and field work emphasizing gender neutral, family focus , region specific and career perspective
- To prepare students to become actively involved in local and regional professional service activities which allow continuous initiative for empowering the individual, family and community
- To inculcate scientific thinking to undertake research projects of national and international recognition and publish multidisciplinary papers

**Programme Outcomes:**

**PO1 Knowledge** – Have knowledge and holistic understanding of the core courses related to Home Science including Human Development, Foods and Nutrition, Clothing and Textile, Human Management, Extension Education and Communication; and basic courses



associated with discipline of Home Science, including Social Sciences, Biological sciences, Physical sciences, Technology and Management.

**PO2 Planning Abilities-** Apply skills in designing, implementing, monitoring and evaluating programmes effectively for individuals, family, community, and for vulnerable groups of society.

**PO3 Problem Analysis-** Solve problems concerning home ,family , and society for ensured physical and mental health in the changing socio-economic scenario viz. dietary problems, behavioral problems, clothing problems, social problems by applying scientific methods ; through critical thinking, assessing, analyzing, finding appropriate solutions and taking decisions

**PO4 Modern Tool Usage-** ability to select and use appropriate methods and procedures; tools and equipments; raw materials and other resources for knowledge, skill enhancement, designing and creation of new products, assessment and evaluation

**PO5 Leadership Skills-** apply leadership skills; inspiring, taking responsibility, delegating tasks while working in a team, communicating with other teams, providing guidance to lesser skilled in various settings be it family, industry or institutions or carrying out research projects

**PO6 Professional Identity-** Take various professional roles in industries, govt./non-govt. organizations, institutes as educators, entrepreneurs, counselors, social workers, consultants, designers, researchers and exhibit competencies & skills

**PO7 Ethics-** Apply ethical practices while data collection, and conducting experiments ; involving human beings as well as animals, delivering professional responsibilities

**PO8 Communication-** Use soft skills for clear , accurate, unambiguous effective communication using verbal and non-verbal skills at inter / intra personal and professional level

**PO9 Home Science and Society-** Apply knowledge and competencies developed as graduates to impart knowledge, identify, analyze and address family and societal issues to improve quality of life of individual, family and society as a whole, also covering marginalized and vulnerable groups of society.

**PO10 Environment and Sustainability-** Critically evaluate impact of household and industrial practices on environment. Appreciate use of sustainable practices for improved physical, emotional, social, psychological environment at micro / macro level

**PO11 Life Long learning** – ability to reason out, learn and improve oneself in the changing dynamic scenario by strengthening the strength and weakening of weaknesses for sustainable developmental needs , technological changes, career requirements and new avenues.

**PO12 Project-** Provide opportunity to students to get acquainted with innovative projects and develop skills to plan and undertake intervention projects.

**Program specific outcomes:**

Upon graduation the students will be able to

- Apply academic knowledge for commercial application with an entrepreneurial base
- Transfer knowledge from class room to laboratory and from laboratory to field
- Extend their competencies and work to the community and vulnerable group thus leading to social and economic development
- Apply multiple investigative skills with a spirit of inquiry for a wider options to choose from higher studies to variety of career options

## Programme Scheme:

### B.Sc. (Home Science)

#### Semester : I

Existing					
Course Code	Course Name	L	T	P	C
BVF 004	Modern English Language	2	0	0	2
BVF 003	Indian Heritage	2	0	0	2
HSC 111	Introduction to Home Science	4	0	0	4
HSC 106	Fundamentals of Bio-Chemistry and Microbiology	4	0	0	4
HSC 106L	Fundamentals of Bio-Chemistry and Microbiology-	0	0	2	1
HSC 103	Elementary Human Physiology	4	0	0	4
HSC 103L	Elementary Human Physiology	0	0	2	1
HSC 112	Introduction to Human Development	4	0	0	4
HSC 114	Textiles and Their Care	4	0	0	4
HSC 114L	Textiles and Their Care	0	0	4	2
	Total	24	0	8	28

Proposed					
Course Code	Course Name	L	T	P	C
	General English	2	0	0	2
	Indian Cultural Heritage	2	0	0	2
HSC 103 / 103L	Elementary Human Physiology	4	0	2	5
HSC 106 / 106L	Fundamentals of Bio-Chemistry and Microbiology	4	0	2	5
HSC 111	Introduction to Home Science	4	0	0	4
HSC 112	Introduction to Human Development	4	0	0	4
HSC 114 / 114L	Textiles and Their Care	4	0	4	6
	<b>Total</b>	<b>24</b>		<b>8</b>	<b>28</b>

#### Semester : II

Existing					
Course Code	Course Name	L	T	P	C
BVF 005	Modern Hindi Language	2	0	0	2
BVF 002	Environment Studies	2	0	0	2
HSC 110	Introduction to Extension Education	4	0	0	4
HSC 104	Elements of Food Science	4	0	0	4
HSC 104L	Elements of Food Science	0	0	4	2
HSC 113	Life Span Development -I (Prenatal to Early Childhood)	4	0	0	4
HSC 109	Interior Designing and Decoration	4	0	0	4
HSC 109L	Interior Designing and Decoration	0	0	4	2
HSC 105	Fabric Construction	4	0	0	4
	Total	24	0	8	28

Proposed					
Course Code	Course Name	L	T	P	C
	General Hindi	2	0	0	2
BVF 002	Environment Studies	2	0	0	2
HSC 104 / 104L	Elements of Food Science	4	0	4	6
HSC 105	Fabric Construction	4	0	0	4
HSC 109 / 109L	Interior Designing and Decoration	4	0	4	6
HSC 110	Introduction to Extension Education	4	0	0	4
HSC 113	Life Span Development -I (Prenatal to Early Childhood)	4	0	0	4
	Total	24	0	8	28

Semester : III

Existing					
Course Code	Course Name	L	T	P	C
BVF 007R	Selected Writing for Self Study- I	2	0	0	2
BVF 001	Elements of Management	3	0	0	3
HSC 206	Food Preservation and Protection	4	0	0	4
HSC 209	Human Nutrition and Meal Planning	4	0	0	4
HSC 209L	Human Nutrition and Meal Planning- Laboratory	0	0	4	2
HSC 211	Introduction to Resource Management	4	0	0	4
HSC 207	Fundamentals of Clothing Construction	4	0	0	4
HSC207L	Fundamentals of Clothing Construction-	0	0	4	2
HSC 213	Life Span Development- II ( Middle Childhood to Old Age)	4	0	0	4
	Total	25	0	8	29

Proposed					
Course Code	Course Name	L	T	P	C
BVF 006	Parenthood and Family Relation	2	0	0	2
	Elective Foundation Course - I	2	0	0	2
HSC 206	Food Preservation and Protection	4	0	0	4
HSC 207 / 207L	Fundamentals of Clothing Construction	4	0	4	6
HSC 209 / 209L	Human Nutrition and Meal Planning	4	0	4	6
HSC 211	Introduction to Resource Management	4	0	0	4
HSC 213	Life Span Development- II ( Middle Childhood to Old Age)	4	0	0	4
	Total	24	0	8	28

Semester : IV

Existing					
Course Code	Course Name	L	T	P	C
BVF 008R	Selected Writing for Self Study- II	2	0	0	2
BVF 009	Women in Indian Society	3	0	0	3
HSC 214	Nutrition for Vulnerable Groups	4	0	0	4
HSC 201	Communication Process	4	0	0	4
HSC 201L	Communication Process- Laboratory	0	0	4	2
HSC 202	Family Clothing	4	0	0	4
HSC 202L	Family Clothing- Laboratory	0	0	4	2
HSC 203	Family Dynamics	3	0	0	3
*HSC 203L	Family Dynamics- Laboratory	0	0	2	1
HSC 208	Guiding Child Behaviour	3	0	0	3
*HSC 208L	Guiding Child Behaviour- Laboratory	0	0	2	1
	Total	23	0	12	29

Proposed					
Course Code	Course Name	L	T	P	C
BVF 009	Women in Indian Society	2	0	0	2
	Elective Foundation Course - II	2	0	0	2
HSC 201 201L	Communication Process	4	0	4	6
HSC 202 / 202L	Family Clothing	4	0	4	6
HSC 203 / 203L	Family Dynamics	3	0	2	4
HSC 208 / 208L	Guiding Child Behaviour	3	0	2	4
HSC 214	Nutrition for Vulnerable Groups	4	0	0	4
	Total	22	0	12	28

\*Common practical examination for HSC 203L and HSC 208L.

**Semester : V**

Existing					
Course Code	Course Name	L	T	P	C
	Vocational Elective - I	2	0	0	2
HSC301	Assessment of Nutritional Status	4	0	0	4
HSC301 L	Assessment of Nutritional Status	0	0	4	2
HSC303	Dyeing, Printing and Finishing	3	0	0	3
HSC309	Introduction to work Study	4	0	0	4
HSC310	Methods and Material for child Study	4	0	0	4
HSC310 L	Methods and Material for child Study	0	0	4	2
HSC313	Textile Designing	3	0	0	3
HSC315 L	Surface Ornamentation techniques for textile	0	0	4	2

Proposed					
Course Code	Course Name	L	T	P	C
	Vocational Course - I	2	0	0	2
	Selected Writings of Great Authors - I	2	0	0	2
HSC301 / 301L	Assessment of Nutritional Status	4	0	4	6
HSC303	Dyeing, Printing and Finishing	3	0	0	3
HSC313	Textile Designing	3	0	0	3
HSC315 L	Surface Ornamentation Techniques for Textile Lab	0	0	4	2
HSC310 /310 L	Methods and Material for child Study	4	0	4	6
	Discipline Elective I	4	0	0	4
	Total	22	0	12	28

**Semester : VI**

Existing					
Course Code	Course Name	L	T	P	C
	Vocational Elective - II	2	0	0	2
HSC302	Diet Therapy	4	0	0	4
HSC302L	Diet Therapy	0	0	2	1
HSC304	Early Childhood Education	4	0	0	4
HSC304L	Early Childhood Education	0	0	4	2
HSC306	Fashion Dynamics & illustration	3	0	0	3
HSC306 L	Fashion Dynamics & illustration	0	0	4	2
HSC311	Nutritional Biochemistry	4	0	0	4
HSC311L	Nutritional Biochemistry	0	0	2	1
HSC314	Welfare Programmes	3	0	0	3
	Total	20	0	12	26

Proposed					
Course Code	Course Name	L	T	P	C
	Vocational Course - II	2	0	0	2
	Elective Foundation Course - III	2	0	0	2
HSC 302/ 302L	Diet Therapy	4	0	2	5
HSC304 /304L	Early Childhood Education	4	0	4	6
HSC306/ 306L	Fashion Dynamics & Illustration	3	0	4	5
HSC314	Welfare Programmes	3	0	0	3
	Discipline Elective II	4	0	2	5
	Total	22	0	12	28

\*Common practical examination for HSC 302L and HSC 311L.

<b>List of Discipline Electives</b>					
Course code	Course Name	<b>L</b>	<b>T</b>	<b>P</b>	<b>C</b>
HSC309	Introduction to work Study	4	0	0	4
	Behaviour Change Communication (Newly Introduced)	4	0	0	4
	Community Health Management(Newly Introduced)	4	0	0	4
HSC311/ HSC311L	Nutritional Biochemistry	4	0	2	5
/	Ergonomics and Space Management(Newly Introduced)	4	0	2	5
/	Programme Planning and Management(Newly Introduced)	4	0	2	5

\* **L - Lecture hrs/week; T - Tutorial hrs/week;**

**P - Project/Practical/Lab/All other non-classroom academic activities, etc. hrs/week; C - Credit Points of the Course**      **Course**  
**Details : (See annexure II b)**

## Annexure II b

Name of the Programme : B.Sc. ( Home Science)

S. N0.	Course/ List	Learning Outcome	Existing Syllabus	Suggested Syllabus	Remarks
1	HSC 103/ HSC 103 L Elementary Human Physiology	Upon completion of the course students will be able to: <ul style="list-style-type: none"> <li>• Describe the functioning of various body organs and integrated functioning of all systems in human body</li> <li>• Examine some basic parameters of human fitness</li> <li>• Apply the knowledge of First Aid in different situations</li> </ul>	Unit II (a) Digestive system- Organs of digestive system and their physiology; Role of enzymes in digestion of carbohydrate, protein and fat (b) Excretory System-Organs of excretory system, <del>structure of kidney</del> , formation of urine and its composition	Unit II (a) Digestive system- Organs of digestive system and their physiology; Role of enzymes in digestion of carbohydrate, protein and fat (b) Excretory System-Organs of excretory system, formation of urine and its composition  <b>References :</b> 1. Ross & Wilson (1996). <i>Foundations of Anatomy and Physiology</i> (8 <sup>th</sup> ed.). New York: Churchill Livingstone, Elsevier 2. Sanghani, P. B. (2012). <i>Human Anatomy and Physiology with health education</i> . New Delhi:Tata Mc Graw Hill Education Private Limited. 3. Sears,W.G.,&Winwood,R.S.(1982). <i>Anatomy and Physiology for Nurses</i> , London: Edwards Arnold Publishing Co.Ltd. 4. Tortora,G. J., & Derrickson, B. (2006). <i>Principles of Anatomy and Physiology</i> . USA: John Wiley & Sons. Inc. 5. Waugh, A., & Grant, A. (2014). <i>Anatomy and Physiology in Health and Illness</i> (12th ed.). New York; Churchill Livingstone, Elsevier.  <b>E resources</b> <ul style="list-style-type: none"> <li>• <b>Diagram of human body organs -</b>  <a href="https://in.pinterest.com/pin/429390145695727907/">https://in.pinterest.com/pin/429390145695727907/</a></li> </ul>	Structure of kidney is a part of organs of excretory system

				<p>• <b>The human body: Anatomy ,facts and functions</b>  <a href="https://www.livescience.com/37009-human-body.html">https://www.livescience.com/37009-human-body.html</a></p>	
	HSC 106 /HSC 106L Fundamentals of Bio - Chemistry and Microbiology	<p>Upon completion of the course students will be able to:</p> <ul style="list-style-type: none"> <li>Analyze principles of Biochemistry (as applicable to human nutrition)</li> <li>Explain chemistry and functions of major nutrients in human body</li> <li>Discuss nature and role of microbiology</li> <li>Apply and practice learned information in qualitative analysis of major nutrients, micro organisms in food</li> </ul>	<p><b>Unit I</b> Introduction and scope of Biochemistry, organic chemistry as related to biochemistry - functional groups - alcohol, aldehyde, ether, esters, amine, and carboxylic group (Examples from Biochemistry). Carbohydrate: Classification and Nomenclature, chemical structure, properties and functions of mono, di and polysaccharides, colour reactions of Carbohydrates.</p> <p>Lipids: Classification, structure, properties and functions of fatty acids, triglycerides, sterols and phospholipids.</p> <p><b>Unit II</b> Amino Acids: Properties, structures, classification and functions of essential amino acid Proteins: Classification, structure and fundamental properties of proteins and Functions of Proteins.</p> <p><b>Unit III</b> Vitamins and Minerals: Elementary idea about chemistry and functions of vitamins A, D, E, K, vitamin B complex (Thiamine, Riboflavin, Niacin, Pyridoxine, Biotin, Folic acid, vitamin B12) and Vitamin C</p>	<p><b>Unit –I</b> Introduction of Biochemistry Introduction to organic functional groups with examples from biochemistry – alcohol, aldehyde, ether, ester, amine and carboxylic groups</p> <p>Carbohydrate: Classification and nomenclature, chemical structure and functions of mono, di &amp; polysaccharides</p> <p><b>Carbohydrates as sweeteners</b></p> <p>Lipids : Chemical structures and functions of lipids</p> <p><b>Unit II</b> Amino Acids : Classification, structure and functions of Essential Amino Acids</p> <p>Proteins : Classification , structure and functions</p> <p><b>Unit III</b> Vitamins and Minerals:</p> <p><b>Chemical names</b> and functions of Fat soluble and Water soluble vitamins - A, D, E and K, Vitamin B Complex (Thiamin , Riboflavin, Niacin, Pyridoxine, Biotin, Folic Acid, Vitamin B<sub>12</sub>) and vitamin C (only Basic information)</p>	content has been rewritten to make it more concise



			<p>Elementary idea about major elements and trace elements and their functions (Calcium, Phosphorus, Iron, Iodine, Zinc, Magnesium, Sodium and Chlorine)</p> <p><b>Unit IV</b></p> <p>A. Microorganisms - Classification (Elementary idea) and their general characteristics.</p> <p>B. Microorganisms: Benefits and hazards ( a brief discussion )</p> <p>C. Introductory account of Air and water Microbiology.</p> <p><b>Unit V</b></p> <p>A. Infection: Kinds of infectious diseases - mode of transfer of infections.</p> <p>B. Resistance - Natural resistance (the first line of defense, the second line of defense).</p> <p>C. Immunity - types of immunity, an introduction to antigens and antibodies, Prophylactic measures (Antiserum and vaccines)</p>	<p>Minerals and trace elements (Macro and Micro Minerals) : Calcium, Phosphorus, Magnesium, Sodium, Chloride, Iron, Iodine, Zinc and Selenium</p> <p><b>Unit IV</b> Introduction to microorganisms: basic structure of bacteria, virus and fungi (only elementary idea) and general characteristics</p> <p>Benefits and hazards of Microorganisms</p> <p>Introduction to Microorganisms found in air and water</p> <p><b>Unit V</b> Concept of infectious diseases and their mode of transfer</p> <p>Resistance – Natural resistance (the first line of defense and second line of defense)</p> <p>Immunity - Definitions of innate , acquired, active and passive immunity</p> <p>Concept of immunization, Immunization schedule for children Importance of cold chain vaccine management</p>	
--	--	--	--	--	--

	HSC 111 Introduction to Home Science	<p>Learning outcomes: Upon completion of the course students will be able to:</p> <ul style="list-style-type: none"> <li>• Discuss concept, , historical background and relationship between Home Science with foundation and supportive courses</li> <li>• Explain the scope of different areas of Home Science</li> <li>• Utilize information in designing and developing skills needed for further specialization and entrepreneurship</li> </ul>	-----	<p><b>References:</b></p> <ol style="list-style-type: none"> <li>1. Aggarwal, J. C. (2004). <i>Educational Psychology</i>. New Delhi: Vikas Publishing House Pvt. Ltd.</li> <li>2. Bansal, I.&amp; Kumari, C. (2009). <i>Home Science: An Introduction</i>. Banasthali: Navjeevan Press.</li> <li>3. Bhushan, B. &amp; Sachdeva, R. (1983). <i>Sociology</i>. , Allahabad: Kitab Mehal.</li> <li>4. Chandra, A. (1978). <i>Introduction to Home Science</i>. New Delhi: Metropolitan Book Company, Ltd.</li> <li>5. Chauhan, S.S. (1983). <i>Advanced Educational Psychology</i>. (5th ed.). Agra: Vikas Publishing House, Pvt. Ltd.</li> <li>6. Devdas, R.P. (1978). <i>Methods of Teaching Home Science</i>. New Delhi: NCERT.</li> <li>7. Devdas, R.P. (1978). <i>The meaning of Home science</i>. New Delhi: NCERT.</li> <li>8. Khanka, S.S.(1999). <i>Entrepreneurial Development</i>. New Delhi: S. Chand and Company, Ltd.</li> <li>9. Sharma, K.R. (2007). <i>Fundamental of Sociology</i> .Chennai: Atlantic Publishers.</li> <li>10. Verma, S. &amp; Deshpandey, A. (1997). <i>Parivarik Vitt</i>. Shri Saraswati Sadan Mansuri, New Delhi: Hindi Granth Academy.</li> <li>11. Vidyalankar, S. (1976). <i>Samajshastra</i>. Jaipur: Hindi Granth Academy.</li> </ol>	
--	--------------------------------------	--	-------	--	--

	HSC 112 Introduction to Human Development	<p>Upon completion of the course students will be able to:</p> <ul style="list-style-type: none"> <li>• Discuss concept and various aspects of Human Development</li> <li>• Explain growth and development of children</li> <li>• Appraise concern and issues related to parenting and development aspects</li> <li>• Relate theories to developmental aspects</li> </ul>	-----	<p><b>Reference Book :</b></p> <ol style="list-style-type: none"> <li>1. Gupt, Ram Babu (1996). <i>Vikasatmak Monovigyan</i>. Agra: Ratan Prakashan Mandir</li> <li>2. Hurlock, Elizabeth B. (1984). <i>Bal Manovigyan</i> (6th ed.). New Delhi : Tata Mc Graw Hill.</li> <li>3. Hurlock, Elizabeth B. (1978). <i>Child Development</i> (6th ed.). New Delhi: Mc Graw Hill Publishers Ltd.</li> <li>4. Mussen, P., Conger J.J., Kagan J. and Haston AC (1990). <i>Child Development and Personality</i>. New York: Harper &amp; Raw.</li> </ol>	
	HSC 114/ HSC 114L Textiles and Their Care	<p>Learning outcomes:</p> <p>Upon completion of the course students will be able to</p> <ul style="list-style-type: none"> <li>• Select and evaluate textile material critically for the specific end use.</li> <li>• Differentiate among various types of fiber, yarns and fabrics that would meet the requirement of garment and textile industries.</li> <li>• Use various types of materials, reagents, equipments and processes involved in care of textiles.</li> <li>• Demonstrate good base knowledge for higher degree program</li> </ul>		<p><b>References :</b></p> <ol style="list-style-type: none"> <li>1. Corbman, B.P. (1983). <i>Textiles: Fiber to Fabric</i> (6<sup>th</sup> ed.). New York: McGraw Hill Publication.</li> <li>2. Dantiyagi, S. (2006). <i>Fundamentals of Textiles and their Care</i> (5<sup>th</sup> ed.). Delhi: Orient Longman private ltd.</li> <li>3. Deulkar, D. (1982). <i>Household textiles and Laundry Work</i>. Delhi: Atma ram and Sons.</li> <li>4. Gohl, E. P. G. &amp; Vilensky, L. D. (1981). <i>Textiles-for modern living</i>. Melbourne: Longman Cheshire.</li> <li>5. Hollen, N. &amp; Saddler, J. (1979). <i>Textiles</i> (5th ed.). New York: MacMillan Publishing Co.</li> <li>6. Joseph, M. L. (1986). <i>Introductory Textile Science</i>. New York: Holt, Rinehart and Winston.</li> <li>7. Tortora, G. P. (1978). <i>Understanding Textiles</i>. New York: MacMillan publishing Co.</li> </ol> <p><b>E-resources</b></p> <ol style="list-style-type: none"> <li>1. Textile fibers classification <a href="https://www.textileschool.com/2782/comprehensive-list-of-textile-fibers/">https://www.textileschool.com/2782/comprehensive-list-of-textile-fibers/</a></li> <li>2. Fancy yarns <a href="https://nptel.ac.in/courses/116102038/42">https://nptel.ac.in/courses/116102038/42</a></li> </ol>	

				<ol style="list-style-type: none"> <li>3. Handbook of textile fibers <a href="https://www.scribd.com/doc/23984852/Handbook-of-Textil-Fibers">https://www.scribd.com/doc/23984852/Handbook-of-Textil-Fibers</a></li> <li>4. Textile fibers: Classification and properties pdf <a href="http://bieap.gov.in/Pdf/CGTPaperII.pdf">http://bieap.gov.in/Pdf/CGTPaperII.pdf</a></li> <li>5. Textile science book <a href="http://cbseacademic.nic.in/web_material/Curriculum/Vocational/2018/Textile%20DesignT&amp;P_XI_829.pdf">http://cbseacademic.nic.in/web_material/Curriculum/Vocational/2018/Textile%20DesignT&amp;P_XI_829.pdf</a></li> <li>6. Textile fibers, dyes, finishes and processes <a href="https://www.scribd.com/document/25717442/Textile-Fibers-Dyes-Finishes-and-Processes">https://www.scribd.com/document/25717442/Textile-Fibers-Dyes-Finishes-and-Processes</a></li> </ol>	
	<b>HSC 104 / HSC 104 L Elements of Food Science</b>	<b>Learning outcomes:</b> Upon completion of the course students will be able to: <ul style="list-style-type: none"> <li>• Explain the chemistry underlying the properties of various food components</li> <li>• Explain functions of food and identify good sources of nutrients</li> <li>• Know the basic concept of food science</li> <li>• Apply the various methods of cooking in daily life</li> <li>• To make informed judgments in use of different commodities in various food preparations</li> </ul>	-----	<b>References :</b> <ol style="list-style-type: none"> <li>1. Mudambi, S., Shalini R.S.&amp; Raw, M. (2007). <i>Food Science</i>, New Delhi: Wiley East limited,</li> <li>2. Shadak, S.M.&amp;Manay, N.S. (1996). <i>Food Facts &amp; Principles</i>, Wiley Eastern Ltd. New Delhi.</li> <li>3. Srilakshmi, B. (1996) .<i>Food Science</i>, New age international Pvt.Ltd. New Delhi.</li> <li>4. Swaminathan, M. (1987). <i>Food Science Chemistry and Experimental Foods</i> .The Bangalore Printing and publishing Co. ltd. Bangalore.</li> </ol>	

	<p><b>HSC 105 Fabric Construction</b></p>	<p><b>Learning outcomes:</b> Upon completion the course students will be able to:</p> <ul style="list-style-type: none"> <li>• Know different yarn manufacturing process and their effect on properties</li> <li>• Understand and relate various fabric construction methods with properties and end use</li> <li>• Describe preparatory processes for weaving and develop concept of color and weave effects</li> <li>• Explain different simple and compound weaves</li> </ul>	<p>-----</p>	<p><b>References:</b></p> <ol style="list-style-type: none"> <li>1. Blinov, I. and Belay, S. (1988): <i>Design of Woven Fabrics</i>. Moscow: Mir Publishers</li> <li>2. Corbman, B. P. (1985). <i>Textile Fibres to Fabric</i>. New Delhi: Gregg Division - Mc. Graw Hill Inc.</li> <li>3. Grosicki, Z. J. and Watson. (1988). <i>Textile Design and Colour</i>, London: Newness, Butterworth</li> <li>4. Hall, A. J. (1975). <i>The Standard Hand Book of Textiles</i>. London: Newness, Butterworth</li> <li>5. Hollen, N. and Saddler, J. (1964). <i>Textile</i>. 5<sup>th</sup> ed. New York, Mc. Millan Publishing Co.</li> <li>6. Kadolph, S. J. and Langbord, A. L. (2014). <i>Textiles</i>, 11<sup>th</sup> ed. New Jersey: Prentice - Hall Inc.</li> <li>7. Tortora, P.G., (1978). <i>Understanding Textiles</i>, New York: Macmillan Publishing Company</li> </ol> <p><b>E- resources :</b></p> <ul style="list-style-type: none"> <li>• Fabric Construction, <a href="http://download.nos.org/srsec321newE/321-E-Lesson-24.pdf">http://download.nos.org/srsec321newE/321-E-Lesson-24.pdf</a></li> <li>• Yarn and classification, <a href="http://cms.gcg11.ac.in/attachments/article/87/CLASSIFICATION%20OF%20YARN.pdf">http://cms.gcg11.ac.in/attachments/article/87/CLASSIFICATION%20OF%20YARN.pdf</a></li> </ul>	
--	---	--	--------------	--	--

	<b>HSC 109/ HSC 109 L Interior Designing and Decoration</b>	<b>Learning outcomes:</b> Upon completion of the course students will be able to: <ul style="list-style-type: none"> <li>• Compare and relate objects in terms of their aesthetic potentials</li> <li>• Analyze factors that create beauty and eloquence in different types of interiors</li> <li>• Synthesize elements of art based on principles of design in order to achieve the objectives of design and decoration</li> </ul>	-----	<b>References:</b> <ol style="list-style-type: none"> <li>1. Faulkner and Faulkner (1977). <i>Inside Today's Home</i>. (4<sup>th</sup> ed.). New York: Reinhart &amp; Winston</li> <li>2. Kurtz, D. (1987). <i>Visual imagination: An introduction to Art</i>. New Jersey: Prentice Hall Inc. Engle Wood Cliffs</li> <li>3. Sardana, S.C. (2001). <i>Vaastu Shastra</i>. New Delhi: New Allied Publishers</li> <li>4. Sutton &amp; Whelan (2004). <i>The Complete Color Harmony</i>. USA: Rockport Publishers Inc.</li> </ol> <b>E- resources</b> <ul style="list-style-type: none"> <li>• Elements and Principles of Art Design <a href="https://study.com/academy/lesson/elements-and-principles-of-art-design.html">https://study.com/academy/lesson/elements-and-principles-of-art-design.html</a></li> <li>• Basic Elements of Design <a href="https://creativemarket.com/blog/10-basic-elements-of-design">https://creativemarket.com/blog/10-basic-elements-of-design</a></li> <li>• Using Illusions in Interior Designing <a href="http://www.hamstech.com/blog/using-illusions-in-interior-designing">http://www.hamstech.com/blog/using-illusions-in-interior-designing</a></li> <li>• Vaastu <a href="http://www.vaastuinternational.com">http://www.vaastuinternational.com</a></li> </ul>	
	<b>HSC 110 Introduction to Extension Education</b>	<b>Learning outcomes:</b> Upon completion of the course students will be able to: <ul style="list-style-type: none"> <li>• Understand meaning, philosophy and principles of Extension Education and its role in national development</li> <li>• Explain Extension models in practice and their scope in facilitating development</li> <li>• Design plan of work for need based program</li> </ul>	-----	<b>References:</b> <ol style="list-style-type: none"> <li>1. Chauhan, J. (1996). <i>Prasar Shiksha Aur Soochana Tantra</i>. Agra: Isha Publication.</li> <li>2. Dahama, O.P., &amp; Bhatnagar, O.P. (2010). <i>Education and Communication for Development</i>. New Delhi: Oxford and I BH Publishing Co., Pvt. Ltd.</li> <li>3. Dubey, V.K., &amp; Bishnoi, I. (2008). <i>Extension Education and Communication</i>. New Delhi: New age International Publishers.</li> <li>4. Jalihal, K. (2007). <i>Fundamentals of Extension Education and Management in Education</i>. New Delhi: Concept Publishing Company</li> <li>5. Kalla, P.N., &amp; Gakkhar, A. (2005). <i>Prasar Shiksha Ke Naye</i></li> </ol>	

		<ul style="list-style-type: none"> <li>• Ready to be part of various developmental programs</li> </ul>		<p>Ayam. Jaipur: Hindi Granth Akadami.</p> <p>6. Kalla, P.N., &amp; Gakkhar, A. (2010). <i>New Dimension of Extension and Communication</i>. Jaipur: University Book House.</p> <p>7. Maximun, N. (2006). <i>Understanding Extension Education</i>. New Delhi: Gyan Publishing House</p> <p>8. Mohanty, S.R. (2017). <i>Home Science Extension Education and Rural Development</i>. Germany: Anchor Academic Publishing.</p> <p>9. Rajsingh, A., &amp; Saxena, A. (2008). <i>Prasar Siksha me Sampreshan va Nirdesh Takneek</i>. Jaipur: University Book House, Pvt. Ltd.</p> <p>10. Sandhu, A.S. (1993). <i>Text book on Agricultural Communication : Process and Methods</i>. Calcutta: Oxford and IBH Publishing Co. Pvt. Ltd.</p> <p>11. Sharma, O.P. (2013). <i>Programme Planning and Participatory approaches in Extension</i>. Udaipur: Agrotech Publishing Academy.</p> <p>12. Singh, U., &amp; Nayak, A. (2007). <i>Extension Education</i>. , New Delhi: Commonwealth Publishers. ISBN 817169442.</p> <p>13. Supe, S.V. (2005). <i>An Introduction to Extension Education</i>. Oxford &amp; IBH Publishing Co. Pvt. Ltd.</p> <p>14. Vaghmare, S.K.(1980). <i>Teaching Extension Education</i>. Vallabhvidyanagar Gujarat: Prashant Publishers.</p>	
--	--	--	--	---	--

	<p><b>HSC 113 Life Span Development -I (Prenatal to early childhood years)</b></p>	<p><b>Learning outcomes:</b> Upon completion of the course students will be able to:</p> <ul style="list-style-type: none"> <li>• Understand various aspects of development from prenatal to early childhood years</li> <li>• Assess the issues faced and adjustments required during these years</li> </ul>	<p>-----</p>	<p><b>References :</b></p> <ol style="list-style-type: none"> <li>1. Berk, L.E. (1996). <i>Child Development</i>. New Delhi: Prentice Hall.</li> <li>2. Cole, M., &amp; Cole, S. (1995). <i>The Development of Children</i>. NY: Freeman &amp; Co.</li> <li>3. Hurlock, E.B. (1978). <i>Child Development</i> (6th ed.). New York: Tata McGraw Hill Publishing Company Limited.</li> <li>4. Hurlock, E.B. (1980). <i>Developmental Psychology - A Life Span Approach</i> (5th ed.). New York: Tata McGraw Hill Publishing Company Limited.</li> <li>5. Rice, F.P. (1965). <i>Human Development – A Life Span Approach</i>. New Jersey, NJ: Prentice Hall.</li> <li>6. Santrock, J.W. (2008). <i>Life Span Development</i>. New Delhi: Tata McGraw Hill Companies Pvt. Ltd.</li> </ol> <p><b>E-resources:</b></p> <ul style="list-style-type: none"> <li>• Early childhood development and cognitive development <a href="https://www.pdfdrive.com/early-childhood-development-and-cognitive-development-e63805631.html">https://www.pdfdrive.com/early-childhood-development-and-cognitive-development-e63805631.html</a></li> <li>• Early childhood development and cognitive development in developing countries <a href="https://www.pdfdrive.com/early-childhood-development-and-cognitive-development-in-developing-countries-e124334421.html">https://www.pdfdrive.com/early-childhood-development-and-cognitive-development-in-developing-countries-e124334421.html</a></li> <li>• Effects of Prenatal Stress and Poverty on Fetal Growth <a href="https://www.pdfdrive.com/effects-of-prenatal-stress-and-poverty-on-fetal-growth-e21046301.html">https://www.pdfdrive.com/effects-of-prenatal-stress-and-poverty-on-fetal-growth-e21046301.html</a></li> <li>• Influence of prenatal stress and postnatal maternal behaviour on child temperament and coping with stress <a href="https://www.pdfdrive.com/influence-of-prenatal-stress-and-postnatal-maternal-behaviour-on-child-temperament-and-coping-d57252917.html">https://www.pdfdrive.com/influence-of-prenatal-stress-and-postnatal-maternal-behaviour-on-child-temperament-and-coping-d57252917.html</a></li> <li>• Prenatal Book</li> </ul>	
--	--	--	--------------	---	--



				<p><a href="https://www.pdfdrive.com/prenatal-book-e35457151.html">https://www.pdfdrive.com/prenatal-book-e35457151.html</a></p> <ul style="list-style-type: none"> <li>• Prenatal maternal stress and child motor development <a href="https://www.pdfdrive.com/prenatal-maternal-stress-and-child-motor-development-1-understanding-the-d53948640.html">https://www.pdfdrive.com/prenatal-maternal-stress-and-child-motor-development-1-understanding-the-d53948640.html</a></li> <li>• Prenatal, Perinatal &amp; Postnatal Aspects <a href="https://www.pdfdrive.com/prenatal-perinatal-postnatal-aspects-e54138046.html">https://www.pdfdrive.com/prenatal-perinatal-postnatal-aspects-e54138046.html</a></li> </ul>	
	<b>HSC 206 Food Preservation and Protection</b>	<p><b>Learning outcomes:</b> Upon completion of the course students will be able to:</p> <ul style="list-style-type: none"> <li>• Identify and describe causes, principles and methods of food preservation</li> <li>• Describe personal hygiene requirements for food handlers for preparing food safely.</li> <li>• Know the principles and objectives of various food laws, standards and authority required for safe food marketing.</li> </ul>	-----	<p><b>References :</b></p> <ol style="list-style-type: none"> <li>1. Desrosier, N.W.(1977). <i>Elements of food Technology</i>. Connecticut USA: AVI Publishing Co.</li> <li>2. Frazier, W.C., Westhoff D.C.(2014). <i>Food Microbiology</i>. New York :Mc Graw Hill Book Company.</li> <li>3. Gould, G.W.(1994). <i>New Methods of food Preservation</i>. London : Black lie Academic and Professional.</li> <li>4. Swaminathan, M. (1987) <i>Food Science Chemistry and experimental foods</i>. Bangalore : The Bangalore Printing and Publishing Co. Ltd.</li> </ol>	

<p><b>HSC 207 / HSC 207 L Fundamentals of Clothing Construction</b></p>	<p><b>Learning outcomes:</b> Upon completion of the course students will be able to:</p> <ul style="list-style-type: none"> <li>• Understand basic essentials of clothing construction and process of garment making</li> <li>• Use acquired garment construction skills for different age groups and figure types</li> </ul>	<p><b>HSC207 Fundamentals of Clothing Construction</b></p> <p>-----</p>	<p><b>References :</b></p> <ol style="list-style-type: none"> <li>1. Ajaonkar, D.B.(1998). <i>Knitting Technology</i>. Mumbai : Universal Publication Corp.</li> <li>2. Doongaji.(2002). <i>Basic Processes of Clothing Construction</i>. Delhi : RaajPrakashan.</li> <li>3. Lewis, D.S. (1960). <i>Clothing Construction and Wardrobe Planning</i>. New York : The Macmillan Company.</li> <li>4. Mazumdar,L. and Vatsala, R.(2004). <i>Text book of Fundamentals of Clothing Construction</i>. New Delhi : Indian Council of Agricultural Research.</li> <li>5. Mullick, P. (2002). <i>Garment Construction Skills</i>. New Delhi : Kalyani Publishers.</li> </ol>	
		<p><b>HSC207L Fundamentals of Clothing Construction Lab.</b> Hand and Machine stitches, Basic embroidery stitches, seams and seam finishes, Disposal of fullness, Plackets and fastener, Yokes, Sleeves, Pockets, Trimmings, Knitting Patterns.</p> <ul style="list-style-type: none"> <li>• Stitching of Apron, Sari Petticoat, <u>Sari blouse</u></li> <li>• Collars, <u>Baby Layette, Romper</u>•Mending.</li> </ul>	<p><b>Syllabus:</b></p> <ul style="list-style-type: none"> <li>•Hand Stitches- Running, basting, back, buttonhole, hemming, overcasting, .picko.</li> <li>• Machine Stiches/seams – Plain and it’s finishing, french, lapped, run and fell, decorative seams- slot, piped.</li> <li>• Disposal of fullness- darts, pleats, tucks, gathers, smoking, shirring.</li> <li>• Pockets- patch, inseam,welt.</li> <li>• Plackets and fasteners.</li> <li>• Trimmings, mending,</li> <li>• Sleeves- plain, cap, flared, gathered, puffed,.</li> <li>• Collar – baby, cape, Chinese / mandarian/stand/, peterpan, sailor, shirt</li> <li>• Yokes- straight, round, V shape, U shape.</li> <li>• Stitching of apron and petticoat</li> <li>• Embroideries- blanket, buttonhole, bullion knot, chain,</li> </ul>	<p>Content has been elaborated to make it clear and unambiguous</p> <p>and to avoid repetition (deleted part is already in the syllabus of family clothing HSC202L)</p>

				<p>couching, french knot, fly, feather, herringbone, lazy daisy, running, stem, satin</p> <p>Knitting patterns</p>	
	<p><b>HSC 209 / HSC 209 L</b> <b>Human Nutrition &amp; Meal Planning</b></p>	<p><b>Learning outcomes:</b> Upon completion of the course students will be able to:</p> <ul style="list-style-type: none"> <li>To describe the functions and sources of nutrients</li> <li>Assess the dietary requirement of various nutrients and effects of deficiencies and excesses.</li> <li>Apply the knowledge in planning and preparation of meals of improved nutritional quality for different groups</li> <li>Evaluate acceptability and serving of food.</li> </ul>	-----	<p><b>References:</b></p> <ol style="list-style-type: none"> <li>1. Khanna, K, Gupta S, Mahna R, Puri S, Seth R. and Passi S.J.(1997). <i>Text book of Nutrition &amp; Dietetics</i>. New Delhi: Phoenix Publishing House Pvt. Ltd.</li> <li>2. Mudambi, S.R. (2007). <i>Fundamental of foods , Nutrition and Diet Therapy</i>. Delhi: New age international (P) Ltd..</li> <li>3. Robinson, C.H. (1986). <i>Normal and Therapeutic Nutrition(17th ed.)</i>. New York: McMillan Publishing Company.</li> <li>4. Sharma, S. (2000). <i>Human Nutrition and Meal Planning</i>. New Delhi : Jnanda Publishers.</li> <li>5. Srilakshmi , B. (2004). <i>Nutrition Science</i>. New Delhi : New Age, International (P) Limited.</li> </ol> <p><b>E resources:</b></p> <ul style="list-style-type: none"> <li>• Classification of food, balanced diet <a href="https://www.slideshare.net/JasminaSangani/meal-planning">https://www.slideshare.net/JasminaSangani/meal-planning</a></li> <li>• Types of food services and their advantage <a href="https://www.slideshare.net/iamrealmelissa/food-service-67652942">https://www.slideshare.net/iamrealmelissa/food-service-67652942</a></li> <li>• Dietary requirement for various age groups <a href="https://www.slideshare.net/aneeshajaiswal/dietary-guidelines-11405034">https://www.slideshare.net/aneeshajaiswal/dietary-guidelines-11405034</a></li> </ul>	

				<ul style="list-style-type: none"> <li>• Preparation of nutrient rich dishes such as: Protein, Vitamin A, Thiamine, Riboflavin, Niacin, Ascorbic acid, Calcium and Iron</li> <li>• Preparation of food products for the use of PEM children</li> <li>• Planning and preparing (in groups) balanced diet for different activity levels.</li> <li>• Meal serving practice</li> <li>• Table setting – Modern and traditional</li> </ul>	
	<b>HSC 211 Introduction to Resource Management</b>	<b>Learning outcomes:</b> Upon completion of the course students will be able to: <ul style="list-style-type: none"> <li>• Describe the concepts of management</li> <li>• Differentiate various approaches to management</li> <li>• Understand process and techniques of decision making</li> </ul>	-----	<b>References:</b> <ol style="list-style-type: none"> <li>1. Armstrong, M. (2010). <i>A Handbook of Management Techniques</i>. (Revised 3<sup>rd</sup> ed.). London : Kogan Page Publishers.</li> <li>2. Daecon R.E.&amp; Firebaugh F.M. (1975). <i>Context and concepts of Management USA</i> : Houghton Mifflin Company.</li> <li>3. Gross I.H. &amp; Crandall, E.W. (1980). <i>Management for modern families</i> (3rd ed.) . New Jersey : Prentice Hall Inc. Engle Wood Cliffs.</li> <li>4. Luthans F.(1998). <i>Organizational Behavior</i>. (8<sup>th</sup> ed.). New York : Ervin-McGraw Hill.</li> <li>5. Robbins S.P., Decenzo D.A. (2009). <i>Fundamentals of Management</i>. ( 6<sup>th</sup> ed.). New Jersey : Pearson Prentice Hall.</li> <li>6. Robbins, S. &amp; Judge, T.A. (2013). <i>Organizational Behavior</i> (15<sup>th</sup> ed.). US : Prentice Hall.</li> <li>7. Stoner, J., Freeman R. &amp; Gilbert D. (1995). <i>Management</i>. (6<sup>th</sup> ed.). New Delhi: Prentice Hall of India Pvt. Ltd..</li> </ol> <b>E- Resources:</b> <ul style="list-style-type: none"> <li>• Management Theory  <a href="http://www.technofunc.com/index.php/leadership-skills-2/leadership-a-management/item/management-theories">http://www.technofunc.com/index.php/leadership-skills-2/leadership-a-management/item/management-theories</a> </li> </ul>	

				<ul style="list-style-type: none"> <li>Motivation Theories  <a href="https://www.tankonyvtar.hu/hu/tartalom/tamop412A/2011-0023_Psychology/030300.scorml">https://www.tankonyvtar.hu/hu/tartalom/tamop412A/2011-0023_Psychology/030300.scorml</a></li> </ul>	
	<b>HSC213 Life Span Development - II : (Middle Childhood to Old age)</b>	<b>Learning outcomes:</b> Upon completion of the course students will be able to: <ul style="list-style-type: none"> <li>Acquire knowledge related to various aspects of development in different stages of life span.</li> <li>Understand adjustment issues and requirements of different stages from middle childhood to old age.</li> </ul>	-----	<b>References:</b> <ol style="list-style-type: none"> <li>Berk, L.E. (1996). <i>Child Development</i>, New Delhi: Prentice Hall.</li> <li>Cole, M. &amp; Cole, S. (1995). <i>The Development of Children</i>. New York, NY: Freeman &amp; Co.</li> <li>Craig, G. (1999). <i>Human Development</i>. New Jersey, NJ: Prentice Hall.</li> <li>Gardiner, H.W., Mutter, J.D., &amp; Kosmitzki. (1998). <i>Lives Across Cultures</i>. Boston: Allyn &amp; Bacon.</li> <li>Gupta, R. (1998). <i>Matra Kala Shishu Palan avm Bal Vikas</i>. Agra: Ratan Prakashan Mandir.</li> <li>Hurlock, E.B. (1980). <i>Development Psychology: A Life Span Approach</i> (5th ed.). New York: Tata McGraw Hill Publishing Co. Ltd.</li> <li>Hurlock, E.B. (1990). <i>Vikas Manovigyan</i>. Pratham Khand/Dutiya Khand, Hindi Madhyam Karyanvai Nideshalaya, Delhi University Dwara Prakashit.</li> <li>Rice, F.P. (1965). <i>Human Development : A life Span Approach</i>. New Jersey, NJ: Prentice Hall.</li> <li>Santrock, J.W. (2008). <i>Life Span Development</i>. New York: Tata McGraw Hill Companies, Inc.</li> </ol> <b>E-resources:</b> <ul style="list-style-type: none"> <li>Ageing and old age as a task  <a href="https://www.pdfdrive.com/ageing-and-old-age-as-a-task-e38334984.html">https://www.pdfdrive.com/ageing-and-old-age-as-a-task-e38334984.html</a></li> <li>Aging, Economic Growth, and Old-Age Security in Asia  <a href="https://www.pdfdrive.com/aging-economic-growth-and-old-age-security-in-asia-e34443523.html">https://www.pdfdrive.com/aging-economic-growth-and-old-age-security-in-asia-e34443523.html</a></li> </ul>	

				<ul style="list-style-type: none"> <li>• Chapter 16 Middle Adulthood: Emotional and Social Development <a href="https://www.pdfdrive.com/chapter-16-middle-adulthood-emotional-and-social-development-e7909382.html">https://www.pdfdrive.com/chapter-16-middle-adulthood-emotional-and-social-development-e7909382.html</a></li> <li>• Factors contributing to life satisfaction in early and middle adulthood <a href="https://www.pdfdrive.com/factors-contributing-to-life-satisfaction-in-early-and-middle-adulthood-e32013339.html">https://www.pdfdrive.com/factors-contributing-to-life-satisfaction-in-early-and-middle-adulthood-e32013339.html</a></li> <li>• Physical and Cognitive Development in Middle Adulthood <a href="https://www.pdfdrive.com/physical-and-cognitive-development-in-middle-adulthood-e59558323.html">https://www.pdfdrive.com/physical-and-cognitive-development-in-middle-adulthood-e59558323.html</a></li> </ul>	
	<b>HSC 201 / HSC 201 L Communication Process</b>	<p><b>Learning outcomes:</b> Upon completion of the course students will be able to:</p> <ul style="list-style-type: none"> <li>• Explain concept and different types of communication</li> <li>• Distinguish different approaches of communication</li> <li>• Create effective messages to relevant audiences</li> </ul> <p>Use appropriate media in different approaches of communication</p>	-----	<p><b>References:</b></p> <ol style="list-style-type: none"> <li>1. Chauhan, J. (1996). <i>Prasar Shiksha Aur Soochana Tantra</i>. Agra, Isha Publication.</li> <li>2. Dahama, O.P., &amp; Bhatnagar, O.P. (2010). <i>Education and Communication for Development</i>. New Delhi, Oxford and I BH Publishing Co., Pvt. Ltd.</li> <li>3. Harpalani, B.D. (1994). <i>Grih Vigyan Mein Prasar Shiksha</i>, Agra, Star Publication.</li> <li>4. Joseph, M.K. (1996). <i>Modern Media and communication, Sociology and Communication Revolution</i>. (Vol.- 1), New Delhi, Anmol Publication Pvt. Ltd.</li> <li>5. Joshi, U.J. (2000). <i>Textbook of Mass Communication</i>. New Delhi, Anmol Publishers.</li> <li>6. Kalla, P. N., &amp; Gakkhar, A. (2010). <i>New Dimension of Extension and Communication</i>. Jaipur, University Book House.</li> <li>7. Malhan, P.N. (1992). <i>Communication Media Yesterday, Today and Tomorrow</i>. New Delhi, Ministry of Information and Broadcasting.</li> </ol>	

				8. Mody, B. (1991). <i>Designing messages for Developmental Communication</i> , New Delhi, SAGE Publications. 9. Raines, C., & Williamson, L. (1995). <i>Using Visual Aids- the effective use of type, colour and graphics</i> . New Delhi, Viva books private Ltd. 10. Rajsingh, A., & Saxena, A. (2008). <i>Prasar Siksha me Sampreshan va Nirdesh Takneek</i> . Jaipur, University Book House. 11. Ray, G.L. (1991). <i>Extension Communication &amp; Management</i> . Calcutta, Naya Prakash. 12. Raydu, C.S. (1993). <i>Media and Communication Management</i> . Bombay, Himalaya Publishing House. 13. Sandhu, A. S. (1993). <i>Textbook on agricultural communication, Process and Methods</i> . Culcutta, Oxford and IBH Pub. Co. Pvt. Ltd. 14. Singh, R.P., & Rana, G. (2005). <i>Communication</i> . New Delhi, Ravi Books.	
	<b>HSC 202 / HSC 202 L Family Clothing</b>	<b>Learning outcomes:</b> Upon completion of the course students will be able to: <ul style="list-style-type: none"> <li>• Select fabrics and clothes for different age groups.</li> <li>• Intelligently buy and care garments and house hold textile materials.</li> <li>• Understand the consumer problems and their rights</li> </ul>		<b>References :</b> 1. Chahar(2007). <i>Consumer protection movement in India : problems and prospects</i> . New Delhi : Kanishka Publishers. 2. Lewis, D.S. & Bowers, M.G.(1960). <i>Clothing construction and wardrobe planning</i> . New York : Macmillan Book Company. 3. Tate, M.T., and Glisson, O. (1967). <i>Family clothing</i> . New York : John Wiley and Sons. 4. Wingate, Isabel B. (1965). <i>Textile Fabrics and Their Selection</i> . London : Prentice-Hall,INC.	

	<b>HSC202 L Family Clothing Lab</b>			Drafting, cutting and stitching of clothing for: <ul style="list-style-type: none"> <li>• Infant- Baby layette, Romper.</li> <li>• Children- Frock, Shirt/Bushirt, Shorts (Designing and construction with emphasis on growth, comfort, self help features).</li> <li>• Adult- Blouse, Kalidar / Simple Kurta, Salwar / Churidar pyjama, Gent's pyjama.</li> </ul>	
	<b>HSC 203 / HSC 203 L Family Dynamics</b>	<b>Learning outcomes:</b> Upon completion of the course students will be able to: <ul style="list-style-type: none"> <li>• Analyze different aspects of marriage and family in the context of changing socio-economic scenario in the country</li> <li>• Intelligently deal with economic and social issues</li> <li>• Solve family disharmony issues and have positive attitude towards marital and family counseling</li> </ul>		<b>References :</b> <ol style="list-style-type: none"> <li>1. Augustine, J.S. (1982). <i>The Indian Family in Transition</i>, New Delhi : Vikas Publishing House.</li> <li>2. Bhatia, H. S. (1983). <i>Aging and society: A sociological study of retired public servants</i>. Udaipur Arya's Book Centre.</li> <li>3. Chaudhary, J.N. (1988). <i>Divorce in Indian Society</i>. Jaipur : Printwell Publishers.</li> <li>4. Desai, N. &amp; Krishnaraj, M. (1987). <i>Women and society in India</i>. New Delhi: Ajanta Publications.</li> <li>5. Devdas, T.S. (1979). <i>Hindu Family and marriage</i>, Madras: University of Botany.</li> <li>6. Jain, B. S. (1984). <i>Indian society</i>. Jaipur: College Book Center.</li> <li>7. Kapadia, K.M. (1990). <i>Marriage and family</i> (3rd Ed). Calcutta : Oxford University Press</li> <li>8. MacIver &amp; Page Charles H. (1952). <i>Society -An introduction analysis</i>. London : Macmillan Co. Ltd.</li> <li>9. Mukherjee, R. (1979). <i>Indian Society</i>. Jaipur: College Book Center.</li> <li>10. Rice F. Philips (1983). <i>Marriage and Family</i>. : N.J. : Prentice Hall</li> <li>11. TISS. (1991). <i>Research in families with problems in India Mumbai</i>: BookPublisher T.I.S.S. 991Description: xvi,587 p..</li> </ol>	



				12. Vidya, B. & Sachdeva, D.R. (1984). <i>Introduction to sociology</i> . New Delhi : Kitab Mahal.	
	<b>HSC 208/ HSC 208 L Guiding Child Behavior</b>	<p><b>Learning outcomes:</b> Upon completion of the course students will be able to:</p> <ul style="list-style-type: none"> <li>• Underline different rearing practices and their implications</li> <li>• Analyze various behavioral problems and habit disorders under difficult circumstances and exceptionalities</li> <li>• Analyze a problem, identify appropriate guidance strategies and effectively handle the problems</li> </ul>		<p><b>References:</b></p> <ol style="list-style-type: none"> <li>1. Harvey, D. (1975). <i>Baby Book</i>. London : Marshall, Cavendish.</li> <li>2. Hetherington, E. Mavis &amp; Parke, Ross D. (1993). <i>Child Psychology : A Contemporary View Point</i>. NY: McGraw Hill.</li> <li>3. Heward, W. L. &amp; Orlansky, M. D. (1992). <i>Exceptional Children</i>. NY: Meryll Publishers.</li> <li>4. Kumar, R.N. (1993). <i>Baby &amp; Child care</i>. New Delhi: UBS Publishers.</li> <li>5. Lynch, Eleemon W &amp; Lewis Rena B. (1988). <i>Exceptional children and adults - An introduction to special education</i>. Glenview: Scott Foresman and Co.</li> <li>6. Schaefer, C.E. &amp; Millman, H.L. (1981). <i>How to help children with common problems</i>. New York, NY: Van Nostrand Reinhold Company.</li> <li>7. Spock, Benjamin (1976). <i>Baby and Child Care</i>. New York : Pocket books.</li> </ol>	

	<b>HSC 214 Nutrition for Vulnerable Groups</b>	<b>Learning outcomes:</b> Upon completion of the course students will be able to: <ul style="list-style-type: none"> <li>• Have sufficient content – related knowledge base of nutritional requirements of vulnerable groups of society</li> <li>• Apply the knowledge to design , implement and evaluate solutions to meet requirements of given set of vulnerable groups with available range of food sources</li> </ul>		<b>References:</b> <ol style="list-style-type: none"> <li>1. Gupta, S. (2006). <i>Text Book of Pediatric Nutrition</i>. New Delhi : Peepee Publishers and Distribution P. Ltd. Ed.</li> <li>2. Khanna, K. Gupta, S. Mahna, R, Puri, S. Seth, R. and Passi, SJ.(1997).<i>Text book of Nutrition &amp; Dietetics</i>. New Delhi: Phoenix Publishing House Pvt. Ltd..</li> <li>3. Robinson, CH. and Lawler, MR. (1994). <i>Normal and Therapeutic Nutrition</i>. New York: Macmillan.</li> </ol>	
	<b>HSC 301 / HSC 301 L Assessment of Nutritional Status</b>	<b>Learning outcomes:</b> Upon completion of the course students will be able to: <ul style="list-style-type: none"> <li>• Use skills in anthropometric measurements and assessment of nutritional status</li> <li>• Conduct dietary surveys in the community</li> <li>• Get Employment in different NGO's and government agencies working in the field of nutrition</li> <li>• Work independently in the field of community nutrition</li> </ul>		<b>References:</b> <ol style="list-style-type: none"> <li>1. Bamji, M.S., Rao, P.N., and Reddy, V. (1996) .<i>Text Book of Human Nutrition</i>. New Delhi:Oxford &amp; IBH Publishing Co. Pvt. Ltd.</li> <li>2. Gibson, R.S. (2005). <i>Assessment of Nutritional Status</i>. New Delhi:Oxford University Press.</li> <li>3. Jelliffe, D. B. (1966). <i>Assessment of Nutritional Status of the Community</i>. W.H.O.</li> </ol> <b>E-resources :</b> <ul style="list-style-type: none"> <li>• Anthropometry procedures Manual_CDC  <a href="http://www.cdc.gov/nchs/data/nhanes_07_08/manual_an.pdf">http://www.cdc.gov/nchs/data/nhanes_07_08/manual_an.pdf</a></li> <li>• WHO Child Growth Standards - World Health Organization  <a href="http://www.who.int/child/growth/standard">http://www.who.int/child/growth/standard</a></li> </ul>	

	<p><b>HSC 303 Dyeing, Printing and Finishing</b></p>	<p><b>Learning outcomes:</b> Upon completion of the course students will be able to:</p> <ul style="list-style-type: none"> <li>• Analyze basic elements and principles of various dyes, prints and finishes.</li> <li>• Apply knowledge of different dyes, finishes, and style of printing to design various fabrics</li> <li>• Extend and expand their ideas and creativity in designing</li> <li>• Reason about eco-friendly aspects in relation to textile industries and provide solutions at multiple level of production</li> </ul>		<p><b>References:</b></p> <ol style="list-style-type: none"> <li>1. Alexander (1972). <i>Textile Products: Selection, use and care</i>. London, UK: Miffin Company.</li> <li>2. Corbman, B.P. (1983). <i>Textiles: Fiber to Fabric</i> (6<sup>th</sup> ed.). New York, NY: McGraw Hill Publication.</li> <li>3. Gohl, E. P. G. &amp; Vilensky, L. D. (2005). <i>Textile Science</i> (2<sup>nd</sup> ed.). New Delhi, India: CBS Publishers.</li> <li>4. Hall, A.J. (1980). <i>The standard Handbook of Textiles</i> (8<sup>th</sup> ed.). London, UK: Newness Butterworth.</li> <li>5. Hess, K.P. (1959). <i>Textile fibers and their use</i> (6<sup>th</sup> ed.). New Delhi, India: Oxford and IBH Publication co.</li> <li>6. Shenai, V. A. (1985). <i>Technology of Printing: Technology of textile processing</i> Mumbai, India: Sevak Publication.</li> <li>7. Shenai, V. A. (1997). <i>History of Textile designs</i>. Mumbai, India: Sevak Publicatios.</li> <li>8. Vidyasagar, P.V. (1998). <i>Handbook of textiles</i>. New Delhi, India: Mittal Publication.</li> <li>9. Watson &amp; William (1998). <i>Textile Design &amp; Colour</i>. Mumbai, India: Bombay University Publication.</li> </ol> <p><b>E-resources:</b></p> <ul style="list-style-type: none"> <li>• Textile fibers, dyes, finishes and processes <a href="https://www.scribd.com/document/25717442/Textile-Fibers-Dyes-Finishes-and-Processes">https://www.scribd.com/document/25717442/Textile-Fibers-Dyes-Finishes-and-Processes</a></li> <li>• Textile dyeing and Printing <a href="https://www.scribd.com/doc/54185948/Textile-Dyeing-and-Printing">https://www.scribd.com/doc/54185948/Textile-Dyeing-and-Printing</a></li> <li>• Classification of dyes <a href="https://www.textileschool.com/383/types-of-dyes-classification-based-on-chemical-structure/">https://www.textileschool.com/383/types-of-dyes-classification-based-on-chemical-structure/</a></li> <li>• Method of printing <a href="http://eacharya.inflibnet.ac.in/index.php/content/index/57206af18ae36c6">http://eacharya.inflibnet.ac.in/index.php/content/index/57206af18ae36c6</a></li> </ul>	
--	--	--	--	--	--

				<p>781c073ae</p> <ul style="list-style-type: none"> <li>• Style of printing <a href="http://eacharya.inflibnet.ac.in/index.php/content/index/57206af18ae36c6781c073ae">http://eacharya.inflibnet.ac.in/index.php/content/index/57206af18ae36c6781c073ae</a></li> <li>• Textile dyeing industry and environmental hazard <a href="https://file.scirp.org/pdf/NS20120100003_72866800.pdf">https://file.scirp.org/pdf/NS20120100003_72866800.pdf</a></li> <li>• Impact of dyeing process on environment <a href="http://cdn.intechopen.com/pdfs/41411/InTech-Textile_dyes_dyeing_process_and_environmental_impact.pdf">http://cdn.intechopen.com/pdfs/41411/InTech-Textile_dyes_dyeing_process_and_environmental_impact.pdf</a></li> <li>• Indian textile industry and environmental issues <a href="https://pdfs.semanticscholar.org/7761/d7fca806e9f6fb64d5b1e7aed3e44a032bbf.pdf">https://pdfs.semanticscholar.org/7761/d7fca806e9f6fb64d5b1e7aed3e44a032bbf.pdf</a></li> </ul>	
	<b>HSC 313 Textile Designing</b>	<p><b>Learning outcomes:</b> Upon completion the course students will be able to:</p> <ul style="list-style-type: none"> <li>• Plan and develop various textile designs using basic elements and principles of design</li> <li>• Explore inspiration sources of design for basic sketching and painting</li> <li>• Differentiate and develop various types of motifs</li> <li>• Use creative and technical skills for designing textiles with special emphasis on applied design</li> <li>• Use concept, theories and specification of color in selection of apparels for men, women and children</li> </ul>		<p><b>References :</b></p> <ol style="list-style-type: none"> <li>1. Cole, D. (2007). <i>Patterns new surface design</i>. London: Laurence King Publication,</li> <li>2. Corbman, B.S (1985). <i>Textile fiber to fabric</i>. New Delhi: Mc. Graw Hill Publication</li> <li>3. Hess, K. P. (1959). <i>Textile fibers and their use</i>. New Delhi: Oxford and IBH Publication company</li> <li>4. Naik S. D. and Wilson . J. (2006): <i>Surface designing and Textile fabrics</i>. New Delhi:_New age international (P) Limited Publishers</li> <li>5. Shenai, V. A. (1997). <i>History of Textile Designs</i>. Mumbai: Sevak Publications</li> <li>6. Terry, A. G. (1979). <i>Printed textile A guide to creative design fundamentals</i>. New Jersey, England: Prentice hall inc.</li> <li>7. Vidyasagar, P.V.(1998). <i>Handbook of textiles</i>. New Delhi: Mittal Publication</li> <li>8. Watson and William. (1998). <i>Textile Design and Colour</i>. Mumbai: Bombay University Publication</li> </ol>	

				<p><b>E – resources :</b></p> <ul style="list-style-type: none"> <li>• Elements and principles of design-Slide share, <a href="https://www.slideshare.net/admecinstitute/principles-of-design-30520900">https://www.slideshare.net/admecinstitute/principles-of-design-30520900</a></li> <li>• Indian Heritage - Textiles of India, <a href="http://www.indian-heritage.org/alangaram/textiles/textiles.html">http://www.indian-heritage.org/alangaram/textiles/textiles.html</a></li> <li>• How colour notion works – Munsell color system, <a href="https://munsell.com/about-munsell-color/how-color-notation-works/">https://munsell.com/about-munsell-color/how-color-notation-works/</a></li> </ul>	
	<p><b>HSC 315 L Surface Ornamentation Techniques for Textile</b></p>	<p><b>Learning outcomes:</b> Upon completion the course students will be</p> <ul style="list-style-type: none"> <li>• Apply knowledge of different dyes, finishes, and style of printing to design various fabrics</li> <li>• Use creative and technical skills for designing textiles with special emphasis on applied design</li> </ul>			

	<b>HSC 310 / HSC 310 L Methods and Materials for Child Study</b>	<b>Learning outcomes:</b> Upon completion of the course students will be able to: <ul style="list-style-type: none"> <li>• Explain characteristics and requirements of different groups of children</li> <li>• Explain major methods and approaches of child study</li> <li>• Design and create play materials and plan learning experiences for promoting various concepts and commutative skills in children</li> </ul>		<b>References :</b> <ol style="list-style-type: none"> <li>1. Santrock W. J. (2008). <i>A tropical approach to Life -Span Development(3<sup>rd</sup>. ed)</i>. New Delhi : Tata Mc Graw-Hill Publication Company Ltd.</li> <li>2. Papalia E. Diane (2004). <i>Human Development (9<sup>th</sup> ed.)</i>. New Delhi : Mc Graw Hill Education (India) Private Ltd.</li> <li>3. Levine E. Laura (2011). <i>Child Development :An Active Learning Approach</i>. Los Angeles: Sage Publications.</li> </ol>	
	<b>HSC 302/ HSC 302 L Diet Therapy</b>	<b>Learning outcomes:</b> Upon completion of the course students will be able to: <ul style="list-style-type: none"> <li>• Identify the nutritional needs in various diseases</li> <li>• Formulate therapeutic diet according to disease using principles of diet therapy</li> <li>• Apply the knowledge of therapeutic diet for counseling of patients</li> <li>• Demonstrate the nutritional care in community</li> </ul>		<b>References :</b> <ol style="list-style-type: none"> <li>1. Antia, F.P. &amp; Abraham, P. (1973).<i>Clinical dietetics and nutrition</i>. New Delhi: Oxford University Press.</li> <li>2. Khanna, K., Gupta, S., &amp; Passi, S.J. (1997) . <i>Textbook of Nutrition and Dietetics .</i>, New Delhi : Phoenix Publishing House Pvt. Ltd.</li> <li>3. <a href="#">Passmore, R.</a> ., &amp; Eastwood, M. A.(1986). <i>Davidson and Passmore Human Nutrition and Dietetics</i> .Churchill Livingstone.</li> <li>4. Robinson, C.H., &amp; Lawler, M. (1982). <i>Normal and Therapeutic Nutrition, New Delhi: Oxford IBH Publishing Co.</i></li> <li>5. Sharma, S. (2000). <i>Human Nutrition and Meal Planning</i>. New Delhi: Jnanda Publishers</li> <li>6. Srilakshmi, B. (2002). <i>Dietetics: New Age Interantional (p) Ltd.</i></li> <li>7. Swaminathan, M.(1985). <i>Fundamentals of Food and Nutrition, (Vol.II)</i>. Bangalore: <b>Bangalore</b> Printing and Publishing Co Ltd</li> <li>8. Williams, S.R.(1993). <i>Nutrition and Diet Therapy</i>. St.</li> </ol>	

				<p>Louis:Times Mirror Mosby College Publishing.</p> <p><b>E resources</b></p> <ul style="list-style-type: none"> <li>• Indian chronic kidney disease guidelines <a href="http://isn-india.org/images/CKD_1.pdf">http://isn-india.org/images/CKD_1.pdf</a></li> <li>• Dietary Guidelines for Indians <a href="http://ninindia.org/DietaryGuidelinesforNINwebsite.pdf">http://ninindia.org/DietaryGuidelinesforNINwebsite.pdf</a></li> <li>• ICMR guidelines for management of type 2 diabetes 2018 <a href="https://medibulletin.com/wp-content/uploads/2018/05/ICMR.diabetesGuidelines.2018.pdf">https://medibulletin.com/wp-content/uploads/2018/05/ICMR.diabetesGuidelines.2018.pdf</a></li> </ul>	
	<p><b>HSC 304 / HSC 304 Early Childhood Education</b></p>	<p><b>Learning outcomes:</b> Upon completion of the course students will be able to:</p> <ul style="list-style-type: none"> <li>• Explain significance of early childhood years, historical development and philosophical ideas related to early childhood education</li> <li>• Get proficiency in planning programmes and curriculum including various components to promote all round development of young children</li> <li>• Analyze problems , identify various contemporary issues in ECE and plan innovations</li> </ul>		<p><b>References :</b></p> <ul style="list-style-type: none"> <li>• Grewal, J.S. (1995). <i>Early Childhood Education</i>. Agra: National Psychological Corporation.</li> <li>• Lawton, J.T. (1988). <i>Introduction to Childcare &amp; Early Childhood Education</i>. London : Scott Freeman Co.</li> <li>• Morrison, G.S. (1976). <i>Early Childhood Education Today</i>.USA: Merrill Publications.</li> <li>• Read, K.H. (1996). <i>Nursery School Relationship Laboratory</i>. Calcutta: Oxford and IBM.</li> <li>• Swaminathan, M. (1984). <i>Play Activities for Young Children</i>. New Delhi: UNICEF.</li> </ul> <p><b>E-resources</b></p> <ul style="list-style-type: none"> <li>• पाश्चात्य शैक्षक वचन व वचनक 4MB <a href="https://drive.google.com/open?id=0Bwk5FIsI0ctxQmJYQXJhVkYjYWHM">https://drive.google.com/open?id=0Bwk5FIsI0ctxQmJYQXJhVkYjYWHM</a></li> <li>• अध्यापन-अ धर्म तथा मूल्यांकन 2MB <a href="https://drive.google.com/open?id=0Bwk5FIsI0ctxSlg1d2RoaFRzYjg">https://drive.google.com/open?id=0Bwk5FIsI0ctxSlg1d2RoaFRzYjg</a></li> <li>• पाठ्यचर्या तथा अनुदेश 17MB <a href="https://drive.google.com/open?id=0Bwk5FIsI0ctxejNMUFZxbTI6MGc">https://drive.google.com/open?id=0Bwk5FIsI0ctxejNMUFZxbTI6MGc</a></li> </ul>	

				<ul style="list-style-type: none"> <li>अ धगम के लए मार्गदर्शन 6MB  <a href="https://drive.google.com/open?id=0Bwk5FIsI0ctxRXNHR011T3JWaFU">https://drive.google.com/open?id=0Bwk5FIsI0ctxRXNHR011T3JWaFU</a> </li> </ul>	
	<b>HSC 306 /HSC 306 L  Fashion Dynamics &amp;  Illustration</b>	<b>Learning outcomes:</b> Upon completion of the course students will be able to: <ul style="list-style-type: none"> <li>Recognize basic concepts of fashion dynamics, fashion movement and its development.</li> <li>Interpret and learn to operate practices involved in fashion business.</li> <li>Find out designers of international and national fame and explore their contribution to the fashion of today</li> <li>Design and sketch fashion illustrations for different purposes</li> </ul>		<b>References:</b> <ol style="list-style-type: none"> <li>Abling, B. (1993). <i>Fashion Sketchbook</i>. New York: Fairchild publication</li> <li>Abling, B. (2017). <i>Fashion Flats and Technical Drawing</i>. New York: Bloomsbury Publication</li> <li>Abling, B. (2nd ed.). (2005). <i>Marker Rendering for fashion, Accessory and Home Fashion</i>. New York: Fairchild Publication.</li> <li>Castelino, M. (1994). <i>Fashion Kaleidoscope</i>. Calcutta: Rupa and co.</li> <li>Diamond, J. &amp; Diamond, E. ( V ed.). ( 2013). <i>The World of Fashion</i>. New York, NY: Bloomsbury Publishing Inc.</li> <li>Frings, G. S. (1999). <i>Fashion from Concept to Consumer</i>. New Jersey: Prentic Hall</li> <li>Ireland, P.J. ( 1995). <i>Fashion Design Illustration for Children</i>. London: B. T. Batsford Ltd.</li> <li>Ireland, P.J. (2005). <i>Figure Templates for Fashion Illustration</i>, Singapore: Page One Publishing Pvt.Ltd.</li> <li>Leach, R. ( 2012). <i>The Fashion Resource Book : Research for Design</i>. London: Thames &amp; Hudson Ltd.</li> <li>Rouso, C. (2012). <i>Fashion Forward : A Guide to Fashion Forecasting</i>. New York: Fair child Books Inc.</li> <li>Stone, E. (2004). <i>The Dynamics of Fashion</i>. New York: McGraw Hill Book Company</li> <li>Tain, L. ( 3rd ed.). (2010). <i>Portfolio Presentation : for Fashion Designers</i>. New York: Fairchild Books Inc.</li> </ol>	



	<b>HSC314 Welfare Programmes</b>	<b>Learning outcomes:</b> Upon completion of the course students will be able to: <ul style="list-style-type: none"> <li>• Discuss welfare services for family and children in India</li> <li>• Interpret various types of services to meet the needs of family and children</li> <li>• Analyze the institutional services for women and children; old age and children with special need</li> <li>• Summarize the role of international agencies in child welfare</li> </ul>		<b>References:</b> <ol style="list-style-type: none"> <li>1. Alfred, K. (1980) . <i>Child Welfare Services</i> . New York : Mc-Millan Publishers.</li> <li>2. Choudhary, D.P. (1985) . <i>Child Welfare Development</i>, Delhi: Atma Ram &amp; Sons .</li> <li>3. Fonseca, M.B. (1991) . <i>Counselling for Marital Happiness</i>, Bombay : Manaktalas .</li> <li>4. Verma, V.S. &amp; Singh, M. (1988). <i>Legal Rights for Women and Families</i> . New Delhi:Women’s Legal Aid Centre</li> </ol>	
--	----------------------------------	--	--	---	--

### Discipline Electives

	<b>HSC 309 Introduction to Work Study</b>	<b>Learning outcomes:</b> Upon completion of the course students will be able to: <ul style="list-style-type: none"> <li>• Analyze changes in human body at work</li> <li>• Analyze and reason out concept of Ergonomics and its applications to develop user-centered approach</li> <li>• Develop human centered approach to work and workplace designing</li> </ul>	Unit – I Work Study 1. <del>Concept and importance</del> 2. Work Study Techniques - Formal and Informal 3. Mundell's classes of change Unit – II The Worker-Costs of work 1. Affective Component 2. Cognitive Component 3. Temporal Component 4. Physical Component Unit – III <del>The Work</del> 1. <del>Tasks, Activities, Events &amp; Milestones</del>	Unit – I Work Study 1. <del>Components of Work Study- Time Study and Method Study</del> 2. Work Study Techniques - Formal and Informal 3. Mundell's classes of change Unit – II Costs of work 1. Affective Component- <del>Motivation</del> 2. Cognitive Component- <del>Guilford’s model of Intellect</del> 3. Temporal Component - <del>Work Curve, Rest Periods and Fatigue</del> 4. Physical Component- <del>Principles of Biomechanics, Indicators of Physical Stress (Heart Rate, VO2 max), Work Physiology (Static and Dynamic Work)</del> Unit – III 1. <del>Functional design for Seated and Standing Workers</del> 2. <del>Workstation Analysis- User-Machine-Environment Interface</del>	
--	---	--	---	---	--

		<ul style="list-style-type: none"> <li>Analyze the indoor climate components for ergonomic designing</li> </ul>	<p>2.The Job description &amp; Job Specification  3.Job Characteristics Model  Unit – IV The Workplace  1.Functional design for Seated and Standing Workers  2.Workstation Analysis  3.Environmental factors in workplaces  4.Noise  5.Illumination  6.Quality of Air- Humidity and Temperature  Unit –V Ergonomics - Human Factors  1.Meaning, Areas of study in Ergonomics  2.Bio-Mechanics/Kinesiology  (a) Motion Economy  (b) Work physiology – static and dynamic work  3. Man-Machine Environment System</p>	<p>Unit – IV Indoor Climate in Workplace  1. Illumination- Principles of Good Lighting  2. Noise Levels and their control in workplaces  3. Quality of Air- Humidity and Temperature    Unit –V Ergonomics - Human Factors  1.Meaning, Areas of study in Ergonomics, Criteria to assess Ergonomic Fit  2. Relationship between Optimal Design and Performance  3. Man Machine Environment System  <b>References :</b>  1. Bridger R.S. (2009). <i>Introduction to Ergonomics</i>. New York :Mc Graw Hill Inc.  2. Galer I. (1987). <i>Applied Ergonomics Handbook (2nd ed.)</i>. London:Butterworth &amp; Co. Publications Ltd .  3. Salvendy G. (2006). <i>Handbook of Human Factors and Ergonomics</i>. New York:John Wiley &amp; Sons.  4. Sanders M., McCormick E. (1993). <i>Human Factors in Engineering and Design</i>. New York:McGraw Hill.    <b>E- Resources</b>  <ul style="list-style-type: none"> <li>Human Factors  <a href="https://www.fac.ksu.edu.sa/sites/default/files/human_factors.ppt">https://www.fac.ksu.edu.sa/sites/default/files/human_factors.ppt</a></li> </ul> </p>	
--	--	---	---	--	--

	<p><b>Behaviour Change Communication</b></p>	<p><b>Learning outcome:</b> Upon completion of the course students will be able to</p> <ol style="list-style-type: none"> <li>1. State the meaning, theories and principles of behaviour change communication</li> <li>2. Explain Steps necessary in designing a behaviour change communication strategy</li> <li>3. Design effective communication strategies</li> </ol>		<p><b>Unit I: Introduction to Behavior Change Communication</b></p> <ol style="list-style-type: none"> <li>a) Defining behaviour change, behaviour change communication</li> <li>b) The behaviour change process</li> <li>c) Behaviour change theories</li> <li>d) Guiding principles for BCC</li> <li>e) Characteristics of effective behaviour change communication programs</li> </ol> <p><b>Unit II : Designing Behavior Change Communication Programs</b></p> <ol style="list-style-type: none"> <li>a) Defining the problem</li> <li>b) Identify target audience</li> <li>c) Conduct formative assessment</li> <li>d) Segment target population</li> <li>e) Define communication and behaviour change objectives</li> <li>f) Select communication channels</li> <li>g) Design key messages and materials</li> <li>h) Pre-test materials and messages</li> </ol> <p><b>Unit III: Dissemination, implementation, monitoring and evaluation of BCC programs</b></p> <ol style="list-style-type: none"> <li>a) Message dissemination</li> <li>b) Monitoring of BCC programs</li> <li>c) Evaluation and re- planning</li> <li>d) Evaluation of message effect</li> </ol> <p><b>Unit IV: Designing a Communication Strategy</b></p> <ol style="list-style-type: none"> <li>a) Steps in designing a communication strategy</li> <li>b) Key elements of a communication strategy</li> </ol> <p><b>Unit V: 7 C's of Effective Communication</b></p> <ol style="list-style-type: none"> <li>a) Command attention</li> <li>b) Cater to the heart and head</li> <li>c) Clarity of message</li> <li>d) Consistency checks</li> <li>e) Communicate a benefit</li> </ol>	
--	--	---	--	---	--

				<p>f) Create trust g) Call for action</p> <p><b>References</b></p> <p>Gainforth, Brown, West, Campbell, &amp; Michie (2014). ABC of Behaviour Change Theories. Silverback Publishing, ISBN 1291886672, 9781291886672</p> <p>Gainforth, Brown, West, Campbell, &amp; Michie (2014). The Behaviour Change Wheel: A Guide to Designing Interventions. Silverback Publishing, ISBN 1291846050, 9781291846058</p> <p>McKee, Becker &amp; Bockh (2014). Social and Behavior Change Communication. Wiley Online Library, Online ISBN: 9781118505328, Print ISBN: 9781118505311</p> <p>Woods N., Lisa (2006). Behaviour Change Communication In Emergencies: A Toolkit. United Nations Children's Fund. ISBN 99946-896-1-4</p> <p><b>e-resources</b></p> <p>Introduction to Behaviour Change Communication. Retrieved from <a href="https://slideplayer.com/slide/5727280/">https://slideplayer.com/slide/5727280/</a></p> <p>Health Communication Capacity Collaborative (n.d.). Designing a Social and Behavior Change Communication Strategy. Retrieved from <a href="https://sbccimplementationkits.org/courses/designing-a-social-and-behavior-change-communication-strategy/">https://sbccimplementationkits.org/courses/designing-a-social-and-behavior-change-communication-strategy/</a></p> <p>IFRC (n.d.). Introduction to Behaviour Change Communication. Retrieved from <a href="http://www.rcrc-resilience-southeastasia.org/document/introduction-to-behavior-change-communication-bcc/">http://www.rcrc-resilience-southeastasia.org/document/introduction-to-behavior-change-communication-bcc/</a></p>	
--	--	--	--	--	--

				<p>Introduction to Behaviour Change Communication. Retrieved from <a href="https://slideplayer.com/slide/5727280/">https://slideplayer.com/slide/5727280/</a></p> <p>Naqeeb, B.(2006). Behaviour Change Communication .Retrieved from <a href="https://www.slideshare.net/bilalnaqeeb/behavior-change-communication">https://www.slideshare.net/bilalnaqeeb/behavior-change-communication</a></p> <p>Rao, S.(n.d.) Behaviour change communication. Retrieved from <a href="https://www.slideshare.net/drsrinivasraod/behavioural-change-communication">https://www.slideshare.net/drsrinivasraod/behavioural-change-communication</a></p> <p>Avis, W.(2016). Methods and approaches to understanding behaviour change. Retrieved from <a href="https://gsdrc.org/wp-content/uploads/2016/08/HDQ1389.pdf">https://gsdrc.org/wp-content/uploads/2016/08/HDQ1389.pdf</a></p>	
	<b>Community Health Management</b>	<p><b>Learning outcome:</b> Upon completion of the course students will be able to</p> <ol style="list-style-type: none"> <li>1) Understand the concept of health from the individual and community perspective</li> <li>2) Know the factors affecting health and nutritional status of individual and community and promoting aspects to improving community health.</li> </ol>		<p><b>Unit 1:</b> Health and dimensions of health</p> <p>Physical health, mental health, emotional health, spiritual health and social health. Characteristics of mental health. Positive health versus absence of diseases</p> <p><b>Unit 2:</b> Community and its organization</p> <p>Concept of community ,types of community, factors affecting health of the community-environmental, social, cultural, dietary, organizational, economic, political. Vulnerable groups/ needs of specials population.</p> <p><b>Unit 3:</b> Communicable and infectious Disease control</p> <p>Nature of communicable and infectious diseases, infection, contamination, disinfections, discontamination, transmission-direct and indirect, vector born disease, infecting organisms and causative agents.</p>	

				<p>Principles of disease control.</p> <p><b>Unit 4:</b> Community Water and Waste management</p> <p>Importance of water to the community, etiology and effects of toxic agents, water born infectious agents, sources of water, safe drinking water/potability and tests for potability. Community waste and waste disposal-sewage disposal and treatment, solid waste and disposal, liquid waste disposal.</p> <p><b>Unit 5:</b> Life style and Community health</p> <p>Preventive and promotive aspects, public education and action, alcohol, cigarette smoking, drugs, AIDS,STD diet and chronic diseases.</p> <p><b>References:</b></p> <p>Clark,J,J Henderson,J.(1983):Community Health,Churchilli Livingstone.</p> <p>Park, K. (2017):Park's Textbook of Prevention and Social Medicine 24<sup>Th</sup> Edition.Banaingstone. Bhanot Publishers,Jabalpur.</p> <p><b>e-resources:</b></p> <p>Infectious disease retrieved from <a href="https://www.who.int">https://www.who.int</a></p> <p>factors affecting health of the community retrieved from <a href="https://www.slideshare.net">https://www.slideshare.net</a></p>	
--	--	--	--	--	--

	<p><b>HSC 311 / HSC 311 L</b> <b>Nutritional Bio- Chemistry</b></p>	<p><b>Learning outcomes:</b> Upon completion of the course students will be able to:</p> <ul style="list-style-type: none"> <li>• Get thorough knowledge about the metabolism of nutrients and their functions in the body</li> <li>• Gain insight into functions and interrelationship between nutrients and their importance in the maintenance of health</li> <li>• Estimate some nutrients, detect adulteration in foods,</li> <li>• Assess the chemical characteristics of foods</li> </ul>		<p><b>References:</b></p> <ol style="list-style-type: none"> <li>1. Conn, E. E. &amp; Stump, P. K. (1987). <i>Outlines of Bio-chemistry</i>. New York: John Wiley &amp; Sons Inc.</li> <li>2. Deb, A. C. (1998). <i>Fundamentals of Bio-chemistry</i>. Calcutta: New Central Book Agency,.</li> <li>3. Martin, D.W., Mayes, P.A. &amp; Rodwell, V.W. (20033) <i>Harper's Review Bio-chemistry</i>. USA: Lange Medical Publication. Los Altos California.</li> <li>4. Pant, M. C. (2005) <i>.Essential of Bio-chemistry</i>. Meerut : Kedarnath Ramnath &amp; Co..</li> <li>5. Plummer, D.T. (2017). <i>An Introduction to Practical Biochemistry</i>. New Delhi : McGraw Hill Education.</li> <li>6. Rao, A.V.S.S.R. (2006). <i>Text Books of Bio-chemistry</i>. Tahuku (AP) : UBS Publishers Distributers Pvt. Limited.</li> <li>7. Sharma S. (1993). <i>Practical Biochemistry</i>. Jaipur : Classic Publishing House.</li> <li>8. Sharma, S. (2007). <i>Experiments and Techniques in Biochemistry</i>. New Delhi : Galgotia Publishing.</li> <li>9. Talwar, G. P., Srivastava, L. M.(2004).<i>Text Book of Bio-chemistry &amp; Human Biology</i>. New Delhi : Prentice Hall of India Pvt. Ltd.</li> </ol>	
--	---	--	--	---	--

	<p><b>HSC /HSC L</b>  <b>Ergonomics and Space Management</b></p>	<p><b>Learning Outcomes:</b></p> <p>Upon the completion of this course, the students will be able to</p> <ul style="list-style-type: none"> <li>• Understand the concepts of Ergonomics and Proxemics in context to each other</li> <li>• Apply ergonomic approaches to designing of spaces and products</li> <li>• Evaluate different workspaces and furniture on functional grounds</li> </ul>		<p style="text-align: right;"><b>L T P C</b> <b>4 0 2 5</b></p> <p style="text-align: center;"><b>Unit I</b></p> <p>a) Concept and Importance of Ergonomics  b) Proxemics and its applications  c) Anthropometrics- Concept and Applications in design</p> <p style="text-align: center;"><b>Unit II</b></p> <p>Design Techniques in Space Planning and their applications</p> <p>a) Proportioning Systems- The Golden Section and Fibonacci Series  b) Oriental Grid Systems  c) Corbusier.s Modular System</p> <p style="text-align: center;"><b>Unit III</b></p> <p>Ergonomic Approaches to the design of</p> <p>a) Residential Buildings  b) Office Layouts  c) Computer Workspaces  d) Equipments  e) Laboratories</p>	
--	--	--	--	---	--



				<p style="text-align: center;"><b>Unit IV</b></p> <p>a) Principles of Ergonomic Interior Design  b) Ergonomic Assessment of Workspace Design- Reactive &amp; Proactive Approach  c) Multi-Unit and Adjustable Furniture</p> <p style="text-align: center;"><b>Unit V</b></p> <p>a) Landscape Designing on aesthetic and functional grounds  b) Principles of Sustainable Workplace Design  c) Furniture Design Guidelines for Fit &amp; Function</p> <p style="text-align: center;"><b>Ergonomics and Space Management Lab</b></p> <p>1. Ergonomic Evaluation of Computer Workstation  2. Anthropometric considerations for seated and standing workers  3. Assessment of User-Chair fit: Comparison of at least two types of chairs  4. Postural Analysis of seated and standing workers  5. Analysis of workplace factors- Illumination, Noise levels, Air Quality  6. Analysis of ZCR (Zone of Comfortable Reach) for seated and standing workers</p> <p>References:</p> <p>1. Openshaw, S. (2006). Ergonomics and Design: A Reference Guide. Allsteel Inc.</p>	
--	--	--	--	--	--

				<ol style="list-style-type: none"> <li>2. Soares, M.M. &amp; Rebelo, F. (2016). Ergonomics in Design: Methods and Techniques. CRC Press</li> <li>3. Postell J. (2012). Furniture Design. John Wiley &amp; Sons</li> <li>4. Soares, M.M. &amp; Rebelo, F. (2018) (Ed). Advances in Ergonomics in Design. Springer, Cham</li> <li>5. Pheasant, S. &amp; Haslegrave, C.M. (2005). Bodyspace: Anthropometry, Ergonomics and the Design of Work. III ed., CRC Press</li> <li>6. Penick, P. (2013). Lawn Gone!. Ten Speed Press</li> </ol>	
	<p><b>HSC / HSC L Programme Planning and Management</b></p>	<p><b>Learning outcomes:</b></p> <p>Upon completion of the course students will be able to</p> <ul style="list-style-type: none"> <li>• State the meaning, nature and importance of programme planning</li> <li>• Explain programme planning process and extension management</li> <li>• Design plan of work for need based program</li> </ul> <p>Apply techniques of participatory planning- RRA, PRA and PLA</p>		<p><b>Unit I</b> Programme Planning in Extension</p> <ol style="list-style-type: none"> <li>1) Meaning and nature of programme planning</li> <li>2) Importance of programme planning</li> <li>3) Need of Programme Planning</li> <li>4) Abilities needed by Planners</li> </ol> <p><b>Unit II</b> Programme planning process</p> <ol style="list-style-type: none"> <li>1) Community Study</li> <li>2) Local Leaders and Participation</li> <li>3) Need Assessment</li> <li>4) Framing Objectives</li> <li>5) Plan of work</li> <li>6) Programme Implementation</li> <li>7) Evaluation</li> <li>8) Reconsideration</li> </ol> <p><b>Unit III</b> Participatory planning</p>	

				<ol style="list-style-type: none"> <li>1) Concept and importance of participatory planning</li> <li>2) Process of participatory planning</li> <li>3) Techniques of participatory planning- RRA, PRA and PLA and their application in extension approaches of participatory planning – cooperative, democratic, bottom up and down</li> </ol> <p><b>Unit IV</b> Extension Management</p> <ol style="list-style-type: none"> <li>1) Concept and meaning of management and extension management</li> <li>2) Principles and importance of extension management</li> <li>3) Competencies required by extension managers</li> <li>4) Problems in extension management</li> </ol> <p><b>Unit V</b> Extension Management process</p> <ol style="list-style-type: none"> <li>1) Planning</li> <li>2) Organizing</li> <li>3) Staffing</li> <li>4) Directing</li> <li>5) Communicating</li> <li>6) Co-ordination</li> <li>7) Controlling</li> <li>8) Monitoring</li> <li>9) Evaluation.</li> </ol> <p><b>References:</b></p> <ol style="list-style-type: none"> <li>1. Adhikary, MM. (2006). Participatory Planning &amp; Project Management in Extension Sciences. Agrotech Publ.Academy.</li> </ol>	
--	--	--	--	--	--

				<ol style="list-style-type: none"> <li>2. Burton, G. &amp; Hanab, T. (1997). Management Today, Tata Mc Graw Hill Publishing Company, New Delhi.</li> <li>3. Chandan, J. S. (1997). Management- Concepts and Strategies. Vikas Publishing House, New Delhi.</li> <li>4. Dale, R. (2004). Evaluating Development Programmes and Projects. New Delhi, Sage Publications.</li> <li>5. Govind, S. Tamilselvi, G. &amp; Meenambigai, J. (2011). Extension Educational and Rural Development, Agrobios, Jodhpur.</li> <li>6. Koontz &amp; Heinz, W. (1990). Essentials of Management, McGraw-Hill, New Delhi.</li> <li>7. Kumar &amp; Hansra. (1997). Extension Education for Human Resource Development. New Delhi: Concept Publishers.</li> <li>8. Mikkelsen, B. (2002). Methods for Development Work and Research. New Delhi, Sage Publications</li> <li>9. Prasad, M.L. (1999). Principles and Practice of Management, Sultan Chand &amp; Sons, New Delhi.</li> <li>10. Rajpurohit, R, Sharma, S. &amp; Gupta, A. (2013). Management, Ajmer book company Publishers, Jaipur.</li> <li>11. Ray, G.L. (2006). Extension Communication and Management. Kalyani Publishers, New Delhi.</li> <li>12. Sandhu, A.S. (1994) Extension Programme Planning. Oxford &amp; IBH Publishing Company Private Limited, New Delhi.</li> <li>13. Supe, S.V. (2018). Introduction to Extension Education. Oxford Publishers, New Delhi.</li> <li>14. Tripathi, P.C &amp; Reddy, P.N. (1993). Principles of Management, Tata McGraw Hill, New Delhi.</li> </ol> <p><b>E-resources :</b></p> <p>Extension Program Planning: Meaning, Definition, Objectives, Importance and principles</p>	
--	--	--	--	--	--

				<p>Retrieved from <a href="https://eggp.inflibnet.ac.in/ahl.php?csrno=827">https://eggp.inflibnet.ac.in/ahl.php?csrno=827</a></p> <p>Steps in Program Planning Retrieved from <a href="https://eggp.inflibnet.ac.in/ahl.php?csrno=827">https://eggp.inflibnet.ac.in/ahl.php?csrno=827</a></p> <p>PRA I and PRA II Retrieved from <a href="https://eggp.inflibnet.ac.in/ahl.php?csrno=827">https://eggp.inflibnet.ac.in/ahl.php?csrno=827</a></p> <p>Planning and Developing Extension Programme Retrieved from <a href="http://egyankosh.ac.in/handle/123456789/9171">http://egyankosh.ac.in/handle/123456789/9171</a></p> <p><b>HSC L Programme Planning and Management Lab</b></p> <ol style="list-style-type: none"><li>1) Assessing needs and problems of a target group in a community</li><li>2) Development of a plan of action for the problem identified</li><li>3) Conducting the planned programme</li><li>4) Evaluation and reporting</li><li>5) Suggestion and follow-up.</li></ol>	
--	--	--	--	--	--

**Name of the programme : M.Sc. (Home Science )**

**HOME SCIENCE PROGRAMME**

The quality of life of society and the family determines positive functioning. Home Science has a vital role to play in increasing the capacity of the family and the community. At Banasthali Vidyapith, the faculty of Home Science strives to work dedicatedly towards women's empowerment through socially-relevant, holistic, interdisciplinary education, in keeping with its unique philosophy of Panchmukhi Shiksha (Five fold education). Home Science curriculum is offered in a composite form as per the development trends incorporating multi-disciplinary skills, linking the general studies with professional courses integrating theory and practice, and flexibility to the credit based system to meet the challenges in Indian ethos and global context. The curriculum is continually innovated to make it globally valuable, locally relevant and responsive to the changing times and needs. The course sensitizes students to the needs of others, especially of those less advantaged, and fosters a service orientation. The faculty also aims to contribute to the national and international knowledge base in Home Science and allied fields. Due emphasis has always been given to the skill development and enhancement in the students. The degrees offered by the faculty include B.Sc. (Home Science) and M.Sc. (Home Science) in Food Science and Nutrition, Human Development and Clothing and Textile. PhD is awarded in all the five branches of Home Science. Home Science is also offered as a subject in B. A. programme.

**Program Educational objectives:**

Objectives of the Home Science programme are

- To acquaint students with interdisciplinary nature of Home Science as an integrated body of knowledge, all interwoven to enhance the quality of life, and multidisciplinary nature of subjects dealing with art and science of living
- To provide education through integrated approach of combining theory, practical, and field work emphasizing gender neutral, family focus , region specific and career perspective
- To prepare students to become actively involved in local and regional professional service activities which allow continuous initiative for empowering the individual, family and community
- To inculcate scientific thinking to undertake research projects of national and international recognition and publish multidisciplinary papers

**Programme Outcomes:**

**PO1 Knowledge** – Have knowledge and holistic understanding of the core courses related to Home Science including Human Development, Foods and Nutrition, Clothing and Textile, Human Management, Extension Education and Communication; and basic courses associated with discipline of Home Science, including Social Sciences, Biological sciences, Physical sciences, Technology and Management.

**PO2 Planning Abilities-** Apply skills in designing, implementing, monitoring and evaluating programmes effectively for individuals, family, community, and for vulnerable groups of society.

**PO3 Problem Analysis-** Solve problems concerning home ,family , and society for ensured physical and mental health in the changing socio-economic scenario viz. dietary problems, behavioral problems, clothing problems, social problems by applying scientific methods ; through critical thinking, assessing, analyzing, finding appropriate solutions and taking decisions

**PO4 Modern Tool Usage-** ability to select and use appropriate methods and procedures; tools and equipments; raw materials and other resources for knowledge, skill enhancement, designing and creation of new products, assessment and evaluation

**PO5 Leadership Skills-** apply leadership skills; inspiring, taking responsibility, delegating tasks while working in a team, communicating with other teams, providing guidance to lesser skilled in various settings be it family, industry or institutions or carrying out research projects

**PO6 Professional Identity-** Take various professional roles in industries, govt./non-govt. organizations, institutes as educators, entrepreneurs, counselors, social workers, consultants, designers, researchers and exhibit competencies & skills

**PO7 Ethics-** Apply ethical practices while data collection, and conducting experiments ; involving human beings as well as animals, delivering professional responsibilities

**PO8 Communication-** Use soft skills for clear , accurate, unambiguous effective communication using verbal and non-verbal skills at inter / intra personal and professional level

**PO9 Home Science and Society-** Apply knowledge and competencies developed as graduates to impart knowledge, identify, analyze and address family and societal issues to improve quality of life of individual, family and society as a whole, also covering marginalized and vulnerable groups of society.

**PO10 Environment and Sustainability-** Critically evaluate impact of household and industrial practices on environment. Appreciate use of sustainable practices for improved physical, emotional, social, psychological environment at micro / macro level

**PO11 Life Long learning** – ability to reason out, learn and improve oneself in the changing dynamic scenario by strengthening the strength and weakening of weaknesses for sustainable developmental needs , technological changes, career requirements and new avenues.

**PO12 Project-** Provide opportunity to students to get acquainted with innovative projects and develop skills to plan and undertake intervention projects.

**Program specific outcomes:**

**M.Sc. (Home Science Human Development)**

Focus on developing knowledge and competence for:

- teaching and research in academic and other institutions
- Planning and conducting intervention , guidance and advocacy for empowerment of families and communities
- Supervisory, training and consultancy roles and responsibilities in Government and non-government agencies/institutions.
- Entrepreneurship in specific areas of human development
- Orientation to the socio-cultural and economic environment for planning, monitoring and evaluation of various programmes for children and families.
- Advocacy and policy related roles

**M.Sc. (Home Science Food Science and Nutrition)**

Focus on developing knowledge and competence for:

- Academic and research institutions
- Prepare professional to work with government and non-government organization , hospitals, food service institutes, and industry in various capacity
- Planning, Mentoring and evaluation of nutrition and health programmes Training and IEC activities of regional and national programmes
- Ensuring food safety and quality for consumers.
- Advocacy, consultancy and Entrepreneurial ventures.

**M.Sc. (Home Science Clothing and Textile)**

Focus on developing knowledge and competence for:

- related area of educational, commercial and research establishments
- selection and design of fabrics, apparel and accessories for commercial marketing
- entrepreneurial management in textiles and clothing enterprises/ industry
- enhance self employment through entrepreneurial skill training
- Intensive and extensive theoretical and experiential learning and training in fusion of traditional and modern



## Programme Scheme:

### M.Sc. (Home Science Human Development)

#### Semester: I

Existing					
Course Code	Course Name	L	T	P	C
CS 422	Introduction to computers	4	0	0	4
CS 422L	Introduction to computers laboratory	0	0	4	2
HSC 403	Advanced Study in Human Development: Conception to Childhood	4	0	0	4
HSC 403L	Advanced Study in Human Development: Conception to Childhood Lab	0	0	4	2
HSC 418	Research Methods in Human Development	4	0	0	4
HSC 424	Techniques of Studying Human Development and Scientific Writing	4	0	0	4
HSC 424L	Techniques of Studying Human Development and Scientific Writing Lab	0	0	4	2
HSC 427	Theories of Human Development	4	0	0	4
	<b>Total</b>	<b>20</b>	<b>0</b>	<b>12</b>	<b>26</b>

Proposed					
Course Code	Course Name	L	T	P	C
CS 422 / CS 422L	Introduction to Computers	4	0	4	6
HSC 403 / 403L	Advanced Study in Human Development: Conception to Childhood	4	0	4	6
HSC 418	Research Methods in Human Development	4	0	0	4
HSC 424/ 424L	Techniques of Studying Human Development and Scientific Writing	4	0	4	6
HSC 427	Theories of Human Development	4	0	0	4
	<b>Total</b>	<b>20</b>	<b>0</b>	<b>12</b>	<b>26</b>

#### Semester : II

Existing					
Course Code	Course Name	L	T	P	C
HSC 401	Adolescence & Youth	4	0	0	4
HSC 401L	Adolescence & Youth Lab	0	0	2	1
HSC 406	Contemporary Issues and Concerns in Human Development	4	0	0	4
HSC 406L	Contemporary Issues and Concerns in Human Development Lab	0	0	4	2
HSC 407	Early Childhood Care & Education	4	0	0	4
HSC 407L	Early Childhood Care & Education Lab	0	0	4	2
HSC 420	Social Psychology	4	0	0	4
HSC 420L	Social Psychology Lab	0	0	2	1
HSC 423	Statistical Methods in Human Development	4	0	0	4
HSC 428P	Work experience/ Internship	0	0	4	2
	<b>Total</b>	<b>20</b>	<b>0</b>	<b>16</b>	<b>28</b>

Proposed					
Course Code	Course Name	L	T	P	C
HSC 401/ 401L	Adolescence & Youth	4	0	2	5
HSC 406 / 406L	Contemporary Issues and Concerns in Human Development	4	0	4	6
HSC 407/ 407L	Early Childhood Care & Education	4	0	4	6
HSC 420 / 420L	Social Psychology	4	0	2	5
HSC 423	Statistical Methods in Human Development	4	0	0	4
HSC 428P	Work experience/ Internship	0	0	4	2
	<b>Total</b>	<b>20</b>	<b>0</b>	<b>16</b>	<b>28</b>

\*Common practical examination for HSC 401L and HSC 420L.

\*Common practical examination for HSC 401L and HSC 420L.

**Semester : III**

Existing					
Course Code	Course Name	L	T	P	C
HSC 502	Adulthood and Ageing	4	0	0	4
HSC 508	Child in the Family	4	0	0	4
HSC 511	Curriculum for Early Years	4	0	0	4
HSC 511L	Curriculum for Early Years Lab	0	0	4	2
HSC 520	Introduction to Guidance and Counseling	4	0	0	4
HSC 520L	Introduction to Guidance and Counseling Lab	0	0	4	2
HSC 526	Persons with Special Needs	4	0	0	4
HSC 526L	Persons with Special Needs Lab	0	0	4	2
	Total	20	0	12	26

Proposed					
Course Code	Course Name	L	T	P	C
HSC 502	Adulthood and Ageing	4	0	0	4
HSC 508	Child in the Family	4	0	0	4
HSC 520/ 520L	Introduction to Guidance and Counseling	4	0	4	6
	Discipline Elective - I	4	0	4	6
	Open Elective	4	0	4	6
	Reading Elective -I	0	0	0	2
	Total	20	0	12	28

**List of Discipline Electives**

Course Code	Course Name
HSC 526 / 526L	Persons with Special Needs
HSC 511/ 511L	Curriculum for Early Years
	Media Planning and Social Marketing (Newly Introduced)
	Planning for Innovative Project and Management(Newly Introduced)

**Semester : IV**

Existing					
Course Code	Course Name	L	T	P	C
HSC 501	Abnormal Psychology	4	0	0	4
HSC 525	Parent & Community Education	4	0	0	4
HSC 525L	Parent & Community Education Lab	0	0	4	2
	Specialization (I/II) Course 1	4	0	0	4
	Specialization (I/II) Course 2	4	0	0	4
	Specialization (I/II) Course 3	0	0	4	2
HSC 528P	Project	0	0	12	6
	Total	16	0	20	26

Proposed					
Course Code	Course Name	L	T	P	C
HSC 501	Abnormal Psychology	4	0	0	4
HSC 525 / 525L	Parent & Community Education	4	0	4	6
	Elective Specialization Course 1	4	0	0	4
	Elective Specialization Course 2	4	0	0	4
	Elective Specialization Course 3	0	0	4	2
	Reading Elective -II	0	0	0	2
HSC 528P	Project	0	0	12	6
	Total	16	0	20	28

Specialization I Guidance and counseling						Specialization I Guidance and counseling					
HSC 517	Guidance and Coping in Crisis	4	0	0	4	HSC 517	Guidance and Coping in Crisis				
HSC 527	Principles and Procedures in Guidance and Counseling	4	0	0	4	HSC 527	Principles and Procedures in Guidance and Counseling				
HSC 537L	Practicing Guidance and Counseling Lab	0	0	4	2	HSC 537L	Practicing Guidance and Counseling Lab				
<b>Specialization II Early Childhood Education</b>						<b>Or</b>					
<b>Specialization II Early Childhood Education</b>						<b>Specialization II Early Childhood Education</b>					
HSC 513	ECE Centers Organization, Administration and Management	4	0	0	4	HSC 513	ECE Centers Organization, Administration and Management				
HSC 518	Innovative Programmes and Curriculum Planning for ECE Centers	4	0	0	4	HSC 518	Innovative Programmes and Curriculum Planning for ECE Centers				
HSC536 L	Management and innovations in Early Childhood Education Lab	0	0	4	2	HSC536 L	Management and innovations in Early Childhood Education Lab				

## M.Sc. (Home Science Clothing and Textile)

### Semester I

Existing					
Course Code	Course Name	L	T	P	C
CS 422	Introduction to computers	4	0	0	4
CS 422L	Introduction to computers laboratory	0	0	4	2
HSC 404	Apparel Pattern Making	4	0	0	4
HSC 404L	Apparel Pattern Making Lab	0	0	4	2
HSC 411	Historic Costumes	4	0	0	4
HSC 416	Research Methods in Clothing & Textile	4	0	0	4
HSC 425	Textile Chemistry	4	0	0	4
HSC 425L	Textile Chemistry Lab	0	0	4	2
	Total	20	0	12	26

Proposed					
Course Code	Course Name	L	T	P	C
CS 422/ 422L	Introduction to computers	4	0	4	6
HSC 404 / 404L	Apparel Pattern Making	4	0	4	6
HSC 411	Historic Costumes	4	0	0	4
HSC 416	Research Methods in Clothing & Textile	4	0	0	4
HSC 425/ 425L	Textile Chemistry	4	0	4	6
	Total	20	0	12	26

### Semester II

Existing					
Course Code	Course Name	L	T	P	C
HSC 408	Fashion Business and Communication	4	0	0	4
HSC 408L	Fashion Business and Communication Lab	0	0	4	2
HSC 410	Garment Production Technology	4	0	0	4
HSC 412	Historic Textiles	4	0	0	4
HSC 412L	Historic Textiles Lab	0	0	4	2
HSC 421	Statistical Methods in Clothing & Textile	4	0	0	4
HSC 426	Textile Testing	4	0	0	4
HSC 426L	Textile Testing Lab	0	0	4	2
HSC 428P	Work experience/ Internship	0	0	4	2
	Total	20	0	16	28

Proposed					
Course Code	Course Name	L	T	P	C
HSC 408/ 408L	Fashion Business and Communication	4	0	2	6
HSC 410	Garment Production Technology	4	0	0	4
HSC 412/ 412L	Historic Textiles	4	0	4	6
HSC 421	Statistical Methods in Clothing & Textile	4	0	0	4
HSC 426/ 426L	Textile Testing	4	0	4	6
HSC 428P	Work experience/ Internship	0	0	4	2
	Total	20	0	16	28

**Semester III**

Existing					
Course Code	Course Name	L	T	P	C
HSC 504	Advanced Apparel Designing and Construction	2	0	0	2
HSC 504L	Advanced Apparel Designing and Construction Lab	0	0	4	2
HSC 512	Dyeing and Printing	4	0	0	4
HSC 512L	Dyeing and Printing Lab	0	0	8	4
HSC 514	Fabric Manufacture	4	0	0	4
HSC 514L	Fabric Manufacture Lab	0	0	4	2
HSC 532	Textile Merchandising	4	0	0	4
HSC 529	Technical Textiles and Textile Ecology	4	0	0	4
	Total	18	0	16	26

Proposed					
Course Code	Course Name	L	T	P	C
HSC 504/504L	Advanced Apparel Designing and Construction	2	0	4	4
HSC 512/512L	Dyeing and Printing	4	0	8	8
HSC 529	Technical Textiles and Textile Ecology	4	0	0	4
HSC 532	Textile Merchandising	4	0	0	4
	Discipline Elective	4	0	4	6
	Reading Elective -I	0	0	0	2
	Total	18	0	16	28

**List of Discipline Electives**

HSC 514 /514L	Fabric Manufacture
Code to be generated	Knitting Technology(Newly Introduced)
HSC 531/531L	Textile Finishes
Code to be generated	Textile Auxillaries and their application(Newly Introduced)
Code to be generated	Media planning and Social Marketing(Newly Introduced)

**Semester IV**

Existing					
Course Code	Course Name	L	T	P	C
HSC 507	CAD in Textile and Garment Designing	2	0	0	2
HSC 507L	CAD in Textile and Garment Designing Lab	0	0	8	4
HSC 510	Commercial Clothing	4	0	0	4
HSC 510L	Commercial Clothing Lab	0	0	8	4
HSC 531	Textile Finishes	4	0	0	4
HSC 531L	Textile Finishes Lab	0	0	4	2
HSC 528P	Project	0	0	12	6
	Total	10	0	32	26

Proposed					
Course Code	Course Name	L	T	P	C
HSC 507/507L	CAD in Textile and Garment Designing	2	0	8	6
HSC 510/510L	Commercial Clothing	4	0	8	8
HSC 528P	Project	0	0	12	6
	Open Elective	4	0	4	6
	Reading Elective -II	0	0	0	2
	Total	10	0	32	28

## M.Sc. (Home Science Food Science and Nutrition)

### Semester I

Existing					
Course Code	Course Name	L	T	P	C
CS 422	Introduction to computers	4	0	0	4
CS 422L	Introduction to computers lab	0	0	4	2
HSC 402	Advanced Food Science	4	0	0	4
HSC 402L	Advanced Food Science Lab	0	0	4	2
HSC 413	Human Physiology	4	0	0	4
HSC 413L	Human Physiology Lab	0	0	2	1
HSC 417	Research Methods in Food Science and Nutrition	4	0	0	4
HSC 419	Scientific writing and nutrition communication	4	0	0	4
HSC 419L	Scientific writing and nutrition communication Lab	0	0	2	1
	<b>Total</b>	<b>20</b>	<b>0</b>	<b>12</b>	<b>26</b>

Common practical examination for HSC 413L and HSC 419L.

Proposed					
Course Code	Course Name	L	T	P	C
CS 422/422L	Introduction to computers	4	0	4	6
HSC 402/402L	Advanced Food Science	4	0	4	6
HSC 413/413L	Human Physiology	4	0	2	5
HSC 417	Research Methods in Food Science and Nutrition	4	0	0	4
HSC 419/419L	Scientific writing and nutrition communication	4	0	2	5
	<b>Total</b>	<b>20</b>	<b>0</b>	<b>12</b>	<b>26</b>

### Semester II

Existing					
Course Code	Course Name	L	T	P	C
HSC 405	Biochemistry-I: Biomolecules and Energetics	4	0	0	4
HSC 405L	Biochemistry-I: Biomolecules and Energetics Lab	0	0	4	2
HSC 409	Food Microbiology	4	0	0	4
HSC 409L	Food Microbiology Lab	0	0	2	1
HSC 414	Nutrition Epidemiology Paediatric and Geriatric Nutrition	4	0	0	4
*HSC 414L	Nutrition Epidemiology Paediatric and Geriatric Nutrition Lab	0	0	2	1
HSC 415	Problems in Human Nutrition	4	0	0	4
HSC 415L	Problems in Human Nutrition Lab	0	0	4	2
HSC 422	Statistical methods in Food Science and Nutrition	4	0	0	4
HSC 428P	Work experience/ Internship	0	0	4	2
	<b>Total</b>	<b>20</b>	<b>0</b>	<b>16</b>	<b>28</b>

Common practical examination for HSC 414L and HSC 409L

Proposed					
Course Code	Course Name	L	T	P	C
HSC 405/405L	Biochemistry-I: Biomolecules and Energetics	4	0	4	6
HSC 409/409L	Food Microbiology	4	0	2	5
HSC 414/414 L	Nutrition Epidemiology Paediatric and Geriatric Nutrition	4	0	2	5
HSC 415 /415L	Problems in Human Nutrition	4	0	4	6
HSC 422	Statistical methods in Food Science and Nutrition	4	0	0	4
HSC 428P	Work experience/ Internship	0	0	4	2
	<b>Total</b>	<b>20</b>	<b>0</b>	<b>16</b>	<b>28</b>

### Semester III

Existing					
Course Code	Course Name	L	T	P	C
HSC 505	Advanced Nutrition	4	0	0	4
HSC 505L	Advanced Nutrition Lab	0	0	2	1
HSC 506	Applied and Community Nutrition	4	0	0	4
HSC 506L	Applied and Community Nutrition Lab	0	0	2	1
HSC 519	Institutional Food Administration (IFA) and Country & Continental Cuisines	4	0	0	4
HSC 519L	Institutional Food Administration (IFA) and Country & Continental Cuisines Lab	0	0	2	1
HSC 521	Metabolism and diagnostic Biochemistry	4	0	0	4
HSC 521L	Metabolism and diagnostic Biochemistry Lab	0	0	4	2
HSC 524	Nutrition in Diseases and Disorders	4	0	0	4
HSC 524L	Nutrition in Diseases and Disorders Lab	0	0	2	1
	<b>Total</b>	<b>20</b>	<b>0</b>	<b>12</b>	<b>26</b>
Common practical examination for HSC 505L and HSC 506L					
Common practical examination for HSC524L and HSC519L					

Proposed					
Course Code	Course Name	L	T	P	C
HSC 506 / 506L	Applied and Community Nutrition	4	0	2	5
HSC 519/ 519L	Institutional Food Administration (IFA) and Country & Continental Cuisines	4	0	2	5
HSC 521/ 521L	Metabolism and diagnostic Biochemistry	4	0	4	6
	Discipline Elective	4	0	2	5
	Open Elective	4	0	2	5
	Reading Elective I	0	0	0	2
	<b>Total</b>	<b>20</b>	<b>0</b>	<b>12</b>	<b>28</b>

List of Discipline Electives	
HSC 505/505L	Advanced Nutrition
HSC 524/524L	Nutrition in Diseases and Disorders
	Food Standards, Safety and Regulations(Newly Introduced)
	Media Planning and Social Marketing(Newly Introduced)

**Semester IV**

Existing					
Course Code	Course Name	L	T	P	C
HSC 523	Nutrition for Physical Health and Fitness	4	0	0	4
HSC 523L	Nutrition for Physical Health and Fitness Lab	0	0	2	1
HSC 530	Techniques and Instrumentation in Nutrition Research	4	0	0	4
HSC 530L	Techniques and Instrumentation in Nutrition Research Lab	0	0	2	1
	Specialization (I/II) Course 1	4	0	0	4
	Specialization (I/II) Course 2	4	0	0	4
	Specialization (I/II) Course 3	0	0	4	2
HSC 528P	Project	0	0	12	6
	Total	16	0	20	26

Proposed					
Course Code	Course Name	L	T	P	C
HSC 523/ 523L	Nutrition for Physical Health and Fitness	4	0	2	5
HSC 530/ 530L	Techniques and Instrumentation in Nutrition Research	4	0	2	5
	Elective Specialization Course 1	4	0	0	4
	Elective Specialization Course 2	4	0	0	4
	Elective Specialization Course 3	0	0	4	2
	Reading Elective -II	0	0	0	2
HSC 528P	Project	0	0	12	6
	Total	16	0	20	28

Common practical examination for HSC 530L and HSC 523L

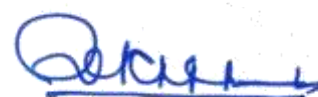
Specialization I: Food Processing					
HSC 515	Food Processing and Technology	4	0	0	4
HSC 516	Food Product Development Safety and Quality Control	4	0	0	4
HSC535L	Food Processing and Quality Assurance Lab	0	0	4	2
Specialization II: Therapeutic Nutrition					
HSC 509	Clinical Nutrition and Dietetics	4	0	0	4
HSC 522	Nutrition and Critical Care	4	0	0	4
HSC538L	Therapeutic Nutrition Lab	0	0	4	2

Specialization I: Food Processing					
HSC 515	Food Processing and Technology				
HSC 516	Food Product Development Safety and Quality Control				
HSC535L	Food Processing and Quality Assurance Lab				
Or					
Specialization II: Therapeutic Nutrition					
HSC 509	Clinical Nutrition and Dietetics				
HSC 522	Nutrition and Critical Care				
HSC538L	Therapeutic Nutrition Lab				



List of Reading Electives for Home Science	
Course Code	Course Name
	Safe and Healthy Environments For Young Children (Newly Introduced)
	Nanotechnology in Textile(Newly Introduced)
	Introduction to Nutrigenomics / Online course in lieu - Nutrigenomics for Disease Prevention and Intervention <a href="https://www.nutrigenomics.arizona.edu/home.html">https://www.nutrigenomics.arizona.edu/home.html</a>
	Textile Conservation (Newly Introduced)
	Onconutrition (Newly Introduced)
	Colour Science and Instrumentation(Newly Introduced)
	Inclusive Education (Newly Introduced)
	Novel Technologies for Food Processing and Shelf Life Extension Online course in lieu - Novel Technologies For Food Processing And Shelf Life <a href="https://nptel IIT, Kharagpur Management">https://nptel IIT, Kharagpur Management</a>
	Food Biotechnology (Newly Introduced)
	Science of Clothing Comfort Online course in lieu - Science of Clothing Comfort <a href="http://swayam.gov.in I I T, Delhi">http://swayam.gov.in I I T, Delhi</a>
	Ergonomic Applications in Interior Design (Newly Introduced)
	Functional Clothing(Newly Introduced)
	Content Development and Food Labelling(Newly Introduced)
	Emerging Technologies for Personalized Nutrition(Newly Introduced)
	Sports Nutrition(Newly Introduced)

Verified



Offg. Secretary  
Banasthali Vidyapith  
P.O. Banasthali Vidyapith  
Distt. Tonk (Raj.)-304022