

# DEPARTMENT OF LIFELONG LEARNING

## SYLLABUS FOR THE SESSION 2026-27

### ONE YEAR DIPLOMA IN HEALTH AND NUTRITION



## GURU NANAK DEV UNIVERSITY, AMRITSAR

The Diploma in Health and Nutrition is being conducted under the Department of Lifelong Learning, Guru Nanak Dev University, Amritsar. The course is of one year duration, and the examination shall be conducted once at the end of the academic session. After the successful completion of the course and passing the final examination, a candidate shall be awarded the One Year Diploma in Health and Nutrition by the Department of Lifelong Learning, Guru Nanak Dev University, Amritsar.

#### Note:

- Copy rights are reserved.
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## **PROGRAMME OBJECTIVES**

The objectives of this programme are to:

- Provide fundamental knowledge of nutrition, health, and the role of food in maintaining well-being.
- Develop understanding of nutrients, balanced diets, and meal planning for different age groups.
- Introduce students to the principles of therapeutic nutrition for common lifestyle-related disorders.
- Train students in preparing healthy recipes and modifying diets according to nutritional needs.
- Develop awareness of community nutrition, food hygiene, and preventive healthcare practices.

## **PROGRAMME OUTCOMES**

After completing this programme, students can explore the following career paths:

- Nutrition Assistant
- Diet Clinic Assistant
- Health and Wellness Educator
- Community Nutrition Worker
- Food and Nutrition Consultant (Basic Level)
- Health Programme Coordinator Assistant

## **ORDINANCES**

**1) Duration of Course:**

- a) Duration of the Course shall be One Year. Examination will be held once at the end of course after One Year as per GNDU schedule.

**2) Eligibility:**

The candidate who has passed the 12th Class examination with a minimum of 35% marks.

**3) Mode of Admission:**

- a) The admission will be made by a committee constituted by the Worthy Vice-Chancellor strictly on the basis of the merit of the candidates in 12<sup>th</sup> class.
- b) If any of the admitted student remains absent consecutively for 15 working days without prior information and permission of heading authority from the commencement of the course, the name of such candidate shall be struck off from the rolls of the department and the next candidate on the waiting list in order of merit of the respective course shall be admitted in his/her place with the permission of the Director of the department.

**4) Attendance Instructions:**

- a) The students admitted to One Year Diplomas/Six Month Certificate Courses, who remain absent consecutively for fifteen working days during the duration of the course without any information to the department their name(s) shall be struck off from rolls of the department with the permission of Dean Academic Affairs.
- b) The students admitted in One Year Diplomas, if they attain less than 25% of the total attendance in six months their name(s) shall be struck off from rolls of the department with the permission of Dean Academic Affairs.
- c) The students admitted in six-month certificate courses, if they attain less than 25% of total attendance in three months, the name(s) of such students shall be struck off from rolls of the department with the permission of Dean Academic Affairs.
- d) Attended not less than 75% of the full course of lectures delivered and practical arranged for the class.
- e) The Director of the department shall have the power to condone shortage of lectures in each paper up to 15% of total taken separately.

**5) Fees:**

- a) According to the schedule, every candidate shall pay such fees to the university, as per university rules.

**6) General Instructions:**

- a) He/ She bears good moral character.
- b) The examination shall be held in accordance with the syllabus prescribed by the Department from time to time.
- c) The examination shall consist of Practical and Exhibit Display.
- d) The Practical paper shall be set by examiner on the spot.
- e) The medium of instruction/examination shall be English/Punjabi/Hindi in general.
- f) The marks of exhibit display shall be based on House Test and performance of the students.

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- g) The marks of exhibit display shall be submitted to the Director of the Department fifteen days before the commencement of the examination.
- h) Minimum number of marks required to pass the examination shall be 35% in each Practical/Exhibit Display separately.
- i) If the candidate Absent/Fails in one or more Practical Examination her result shall be declared Fail.
- j) The result shall be declared and published by the Department.
- k) The successful candidates shall be awarded division according to the following criteria:
  - (i) Those who obtain 60% or more marks – First division.
  - (ii) Those who obtain 50% or more but less than 60% marks – Second Division.
  - (iii) Those who obtain 35% or more marks but less than 50% - Third Division
- l) Each successful candidate shall be awarded a Certificate Signed by the Director of the Department showing the division and the Aggregate Marks obtained.
- m) Fee for issuing of duplicate certificate shall be decided from time to time by the approval of the worthy Vice-Chancellor.

**Prof. Varinder Kaur**  
**Chairperson**

**CRITERIA FOR ADMISSION**

**The Committee makes the following recommendations after deliberations:**

<b>1.</b>	<b>Name of the Course</b>	<b>Diploma in Health and Nutrition</b>	
<b>2.</b>	<b>Duration</b>	One Year	
<b>3.</b>	<b>Commencement of Course</b>	July, Every Year	
<b>4.</b>	<b>Eligibility</b>	10+2 pass candidates from any recognized board	
<b>5.</b>	<b>Venue</b>	Department of Lifelong Learning, Guru Nanak Dev University, Amritsar.	
<b>6.</b>	<b>No. of Seats</b>	40 seats	
<b>7.</b>	<b>Mode of Admission</b>	<p>(i) The admission will be made by a committee duly constituted by the worthy Vice-Chancellor strictly on the basis of the merit of the candidates in 10+2.</p> <p>(ii) If any of the admitted student remains absent consecutively for fifteen days without prior information and permission of the heading authority, his/her name shall be struck off from the rolls of the Department and the next candidate on the waiting list in order of merit of the respective course shall be admitted in his/her place with the permission of the Director of the Department.</p>	
<b>8.</b>	<b>Fee Structure</b>	<b>Total Fee: Rs. 22450/-</b>	
	<b>Total Fee (July 2026 -June 2027)</b>	<p>Rs. 22450/- which includes: - (To be deposited at the time of Admission)</p> <p>Admission Fee = Rs. 2200/-</p> <p>Examination Fee = Rs. 1400/-</p> <p>Tuition Fee: Rs. 1550 * 12 Months = Rs.18600/-</p> <p>Identity Card Fee = Rs. 250/-</p>	
<b>9.</b>	<b>Late fee at the time of admission</b>	<b>July 2026 to June 2027</b>	<b>Fees</b>
		May 8 <sup>th</sup> 2026 to July 31 <sup>st</sup> 2026	<b>Nil</b>
		Aug 3 <sup>rd</sup> 2026 to Aug 11 <sup>th</sup> 2026	<b>Nil</b>
		Aug 12 <sup>th</sup> 2026 to Aug 20 <sup>th</sup> 2026	<b>Rs. 3000/-</b>
		Aug 21 <sup>st</sup> 2026 to Aug 31 <sup>st</sup> 2026	<b>Rs. 4000/-</b>
		Sep 1 <sup>st</sup> 2026 to Sep 10 <sup>th</sup> 2026	<b>Rs. 6000/-</b>
		Sep 11 <sup>th</sup> 2026 to Sep 18 <sup>th</sup> 2026	<b>Rs. 9000/-</b>
		Within 15 Days from the date of closing of admission.	<b>Rs. 10000/-</b>
<b>10.</b>	<b>Review of Course of Reading</b>	The syllabus committee constituted by the worthy Vice-Chancellor will review the course of reading for the session.	
<b>11.</b>	<b>Conduct of Examination Evaluation &amp; Award of Certificate.</b>	To be decided with the approval of worthy Vice-Chancellor.	

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**Chairperson**

**SCHEME OF STUDY AND EXAMINATION**

	<b>SCHEME OF STUDY</b>		<b>SCHEME OF EXAMINATION</b>	
<b>Course Code</b>	<b>Name of Paper</b>	<b>Credits/ Hrs. per week</b>	<b>Max. Marks</b>	<b>Examination Hrs.</b>
<b>DHN101</b>	<b>Paper-I (Theory) Fundamentals of Nutrition and Food Preservation</b>	<b>6 Hrs.</b>	<b>75</b>	<b>3 Hrs.</b>
<b>DHN102</b>	<b>Paper-II(Practical-I) Practical Applications in Food Science and Nutrition</b>	<b>5 Hrs.</b>	<b>100</b>	<b>4Hrs.</b>
<b>DHN103</b>	<b>Paper-III (Practical-II) Food Standardization for Therapeutic Nutrition</b>	<b>5 Hrs.</b>	<b>100</b>	<b>4 Hrs.</b>
<b>DHN104</b>	<b>Project/Field Visits</b>	<b>2 Hrs.</b>	<b>50</b>	<b>-</b>
<b>DHN105</b>	<b>Exhibit/Display</b>	<b>2 Hrs.</b>	<b>25</b>	<b>-</b>
	<b>Total</b>		<b>350</b>	

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**PAPER-I (THEORY)**

**DHN101: Fundamentals of Nutrition and Food Preservation**

**Time: 3 Hrs.**

**Max. Marks: 75**

**Instructions for the Paper Setters:**

- The paper setter is required to set 09 questions in all and the students are required to attempt 05 questions.
- First question is compulsory and will be composed of 15 short answer type questions from all the sections of one mark each.
- Section “A”, “B”, “C”, “D” consists of two questions each. Students are required to attempt one question from every section and all questions carry 15 marks each.

<b>Course Objectives</b>
The course aims to help students: <ul style="list-style-type: none"><li>• Understand the basic principles of human nutrition and the role of nutrients in maintaining health.</li><li>• Develop knowledge of balanced diet planning for individuals and families.</li><li>• Learn the importance of nutrition in community health and disease prevention.</li><li>• Understand dietary modifications for common clinical conditions.</li><li>• Gain awareness of food preservation, hygiene, and food safety practices</li></ul>



**SECTION A**

**Unit-I Basic Human Nutrition**

- **Introduction to Nutrition:** Food as a source of nutrients, functions of food, definition of nutrition and nutrients, adequate, optimum and good nutrition, malnutrition, relationship between nutrition and health, visible signs of good health, and use of the basic five food groups in meal planning.
- **Carbohydrates:** Composition, classification, food sources, functions, and storage of carbohydrates in the body.
- **Fats and Oils:** Composition of fats, saturated and unsaturated fatty acids, classification, food sources, and functions of dietary fats.
- **Proteins:** Composition, food sources, essential and non-essential amino acids, functions of proteins, and a brief introduction to protein deficiency.

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## **Unit-II Micronutrients and Water**

- **Minerals:** Major and trace minerals with special reference to calcium, Iron, iodine, sodium, potassium, food sources, functions, deficiency and toxicity, measurement, and recommended dietary allowances.
- **Vitamins:** Classification of fat-soluble and water-soluble vitamins, food sources, physiological functions, deficiency and toxicity, units of measurement, and recommended dietary allowances.
- **Water:** Water as an essential nutrient, its functions in the body, dietary sources, daily requirements, water balance, and effects of deficiency.

## **SECTION B**

### **Unit -III Meal Planning and Energy Balance**

- **Meal Planning:** Aims, Objectives, Principles & Factors Affecting Meal Planning.
- **Energy:** Introduction to energy, calorific value of foods, methods of determining calorific value, basal metabolic rate (BMR), energy requirements.
- **Recommended Dietary Allowances (RDA):** Definition of RDA, factors affecting RDA, practical application of RDA in meal planning, and the concept of reference man and reference woman.

### **Unit-IV Community Nutrition:**

- **Concept of community:** Types and factors influencing community health; role of nutrition and health in national development; causes of malnutrition and their preventive measures.
- **Role of regional, national, and international agencies in community nutrition such as:** World Health Organization (WHO), UNICEF, Indian Council of Medical Research (ICMR), National Institute of Nutrition (NIN).

## **SECTION C**

### **Unit V- Therapeutic Nutrition**

- Principles of Diet Therapy
- Nutrition in eating disorders: Obesity, Anorexia Nervosa, Bulimia Nervosa
- Nutrition in Diabetes Mellitus
- Nutrition in Cardiovascular Disorders: Coronary heart disease, Hypertension
- Nutrition in Liver Diseases: Jaundice, Cirrhosis
- Nutrition in Gastrointestinal Disorders: Irritable bowel syndrome, Lactose intolerance, celiac disease, Peptic ulcer, Diarrhoea, Constipation

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### **Unit VI- Maternal Nutrition**

- **Nutrition in Pregnancy:** Physiological adaptations during pregnancy, effect of maternal nutrition on pregnancy outcome, recommended dietary allowances during pregnancy, dietary and nutritional management.
- **Nutrition in Lactation:** Physiological changes during lactation, importance of lactation for infant growth and health, composition of colostrum and mature milk, special foods during lactation, nutritional requirements.

## **SECTION D**

### **Unit-VII Food Preservation, Hygiene & Sanitation**

- **Food Preservation:** Introduction, importance, principles, and types of food preservation; Preservation by high and low temperatures- Pasteurization, Sterilization, canning, freezing, refrigeration; Moisture removal methods such as concentration, drying, Preservation through fermentation, irradiation, microwave heating, and pickling techniques.
- **Hygiene and Sanitation:** Personal hygiene in food handling, sources and types of contamination, preventive measures, food safety practices, control of infestation, and hygienic methods of cleaning and dish-washing in food preparation and serving areas.

### **Unit II- Food Borne Disease and Illness**

- **Food Poisoning and Food-Borne Diseases:** Definition and classification of food-borne infections and intoxications, food hazards and their types, causes of food poisoning, methods of prevention and control
- **Common food-borne diseases:** Botulism, Hepatitis A, Typhoid Fever, Aflatoxin poisoning Salmonellosis.

<b>Course Outcomes</b>
After completing this course, students will be able to: <ul style="list-style-type: none"><li>• Explain the functions, sources, and requirements of major nutrients in the body.</li><li>• Plan balanced diets according to nutritional needs and recommended allowances.</li><li>• Describe the role of nutrition in community health and maternal care.</li><li>• Apply basic dietary principles in the management of common diseases.</li><li>• Demonstrate understanding of food safety, sanitation, and preservation methods.</li></ul>

**Reference Books:**

1. Bamji, M.S., Rao, N.P., Reddy, V., *Textbook of Human Nutrition*, ISBN:9788123922863, 2009.
2. Gopalan, C., Rama Sastri, B.V., Balasubramanian, S.C., *Nutritive Value of Indian Foods*, ISBN:9780195623006, 2012.
3. Antia, F.P., Abraham, Philip, *Clinical Dietetics and Nutrition*, ISBN:9780198063373, 2008.
4. Robinson, C.H., Lawler, M.R., Chenoweth, W.L., Garwick, A.E., *Normal and Therapeutic Nutrition*, ISBN:9780024038902, 1990.
5. Swaminathan, M., *Essentials of Food and Nutrition*, ISBN:9788172240017, 1998.
6. Srilakshmi, B., *Food Science*, ISBN:9788123921071, 2015.
7. Mudambi, S.R., Rajagopal, M.V., *Fundamentals of Foods and Nutrition*, ISBN:9788120417904, 2012.
8. Potter, N. N., & Hotchkiss, J. H. (1995). *Food Science* (5th ed.). Chapman & Hall.
9. Wardlaw, G.M., Smith, A.M., *Contemporary Nutrition*, ISBN:9780078021356, 2013.
10. McLauchlin, J., Little, C., & Hobbs, B. C. (2007). *Hobbs' Food Poisoning and Food Hygiene* (7th ed.). CRC Press.

**PAPER-II (PRACTICAL-I)**  
**DHN102: Practical Applications in Food Science and Nutrition**

**Time: 4Hrs.**

**Max. Marks:100**

**Instructions for the paper Setters:**

The paper will be set on the spot.

<b>Course Objectives</b>
<ul style="list-style-type: none"><li>• To develop understanding of food groups and nutrient composition of foods.</li><li>• To train students in nutritional assessment using BMI, household measures, and food records.</li><li>• To develop practical skills in preparing nutrient-rich and low-cost healthy recipes.</li><li>• To understand the effect of cooking and preservation methods on food quality and nutrient retention.</li><li>• To enhance the ability to calculate nutrient values and apply nutrition principles in practice</li></ul>



1. Identification of common food groups and classification of foods according to their nutrient content.
2. Preparation of a food composition chart showing major sources of carbohydrates, proteins, fats, vitamins, minerals, and water.
3. Calculation of Body Mass Index (BMI) and assessment of nutritional status.
4. Demonstration of standard household measures and conversion of raw to cooked food weights.
5. Preparation of nutrient-rich recipes based on:
  - High protein foods
  - Iron-rich foods
  - Calcium-rich foods
  - Vitamin D rich foods
  - High fibre foods
6. Demonstration of the effect of cooking methods on nutrient retention:
  - Boiling
  - Steaming

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- Roasting
  - Pressure cooking
7. Preparation of low-cost nutritious recipes for vulnerable groups
  8. Calculation of nutrient content of prepared recipes using food composition tables.
  9. Assessment of water intake and hydration status through dietary records and Preparation of oral rehydration solution and understanding fluid balance.
  10. Demonstration of food preservation techniques:
    - Drying
    - Pickling
    - Pasteurization and Sterilization
    - Fermentation

<b>Course Outcomes</b>
<ul style="list-style-type: none"><li>• After completing this practical course, students will be able to:</li><li>• Classify foods according to nutrient content and prepare food composition charts.</li><li>• Assess nutritional status using BMI and standard dietary measurement techniques.</li><li>• Prepare balanced, nutrient-dense recipes for different nutritional needs.</li><li>• Evaluate cooking and preservation methods for maintaining food safety and nutrient quality.</li><li>• Calculate nutrient content of recipes and apply practical nutrition knowledge effectively.</li></ul>



**Reference Books:**

- Jelliffe, D.B., *The Assessment of the Nutritional Status of the Community*, ISBN:9789241560962, 1966.
- Jabvala, R., Patel, K., *The Nutritious Recipe Book*, ISBN:9788184001262, 2010.
- Bajaj, S., *Healthy Cooking for Healthy Living*, ISBN:9788179915796, 2014.
- Foods That Heal, ISBN:9788172241885, 2003.
- The Complete Book of Ayurvedic Home Remedies, ISBN:9780609802867, 1999.

**PAPER–III (PRACTICAL-II)**

**DHN103: Food Standardization for Therapeutic Nutrition**

**Time: 4Hrs.**

**Max. Marks:100**

**Instructions for the paper Setters:**

The paper will be set on the spot.

<b>Course Objectives</b>
<ul style="list-style-type: none"><li>• To develop practical knowledge in planning and preparing therapeutic diets for various clinical conditions.</li><li>• To enhance skills in modifying food consistency and nutrient composition according to patient needs.</li><li>• To provide training in preparing nutrient-dense diets for maternal and weight management care.</li><li>• To develop competency in nutritional assessment and interpretation of dietary requirements.</li><li>• To strengthen the ability to standardize recipes and calculate their nutritive value accurately.</li></ul> <ol style="list-style-type: none"><li>1. Preparation of therapeutic diets: low-sodium diets, low-fat diets, Low glycaemic index diets.</li><li>2. Preparation of FODMAP diets, lactose free diet, gluten free diets.</li><li>3. Prepare soft, bland, Liquid diets using suitable cooking methods for different clinical conditions.</li><li>4. Preparation of heart-healthy recipes emphasizing low cholesterol and high-fibre ingredients.</li><li>5. Development and preparation of nutrient-dense recipes for pregnancy and lactation including iron-rich, calcium-rich, and protein-rich meals for maternal health.</li><li>6. Preparation of modified consistency diets such as clear fluids, full fluids, semi-solid, soft, and tube-feeding formulas for patients with special needs.</li><li>7. Standardization of therapeutic recipes and calculation of nutritive value of dishes.</li><li>8. Preparation of healthy snacks, beverages, and balanced meals for weight management</li><li>9. Assessment of nutritional status using anthropometric measurements, dietary surveys, and interpretation of recommended dietary allowances for individuals and groups.</li><li>10. Record maintenance of recipe standardization, cost calculation, and nutrient analysis of therapeutic meals.</li></ol>






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### **Course Outcomes**

After completing this practical course, students will be able to:

- Prepare therapeutic diets suitable for different disease conditions.
- Modify texture and consistency of foods according to individual health requirements.
- Develop nutrient-rich recipes for pregnancy, lactation, and weight management.
- Assess nutritional status using anthropometric and dietary evaluation methods.
- Standardize recipes and calculate the nutrient content of prepared diets.

### **Reference Books:**

1. Krause, M.V., Mahan, L.K., *Krause's Food and the Nutrition Care Process*, ISBN:9781437722334, 2012.
2. Williams, S.R., *Basic Nutrition and Diet Therapy*, ISBN:9780323035824, 2005.
3. Escott-Stump, S., *Nutrition and Diagnosis-Related Care*, ISBN:9780781741497, 2008.
4. Srilakshmi, B., *Dietetics*, ISBN:9788123923198, 2014.
5. Swaminathan, M., *Advanced Textbook on Food and Nutrition*, ISBN:9788172241229, 2007.
6. Robinson, C.H., Lawler, M.R., *Normal and Therapeutic Nutrition*, ISBN:9780024038902,

**DHN104**  
**PROJECT/FIELD VISITS**

**Total Marks: 50**

- Preparation of nutrition education materials such as posters, charts, pamphlets, and audio-visual aids for community nutrition programmes.
- Visit to hospitals, community health centres, diet clinics, or food service units for practical exposure to diet therapy and community nutrition services.
- Survey of nutritional status in selected community groups using simple assessment tools.
- Observation of hospital diet kitchens to understand large-scale therapeutic meal preparation.

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**DHN105**  
**EXHIBIT/DISPLAY**

**Total Marks: 25**

- Demonstration of hygienic food handling, kitchen sanitation, and safe food preparation practices.
- Demonstration of balanced diet models for different age groups.
- Preparation and display of nutrient-rich low-cost recipes.
- Demonstration of therapeutic diets for common health conditions.
- Display of food groups and portion size models for meal planning
- Preparation and exhibition of seasonal nutritious beverages and snacks.
- Demonstration of different cooking methods and their effect on nutrient retention.
- Display of micronutrients deficiency signs through educational charts.

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**Chairperson**

## **PANEL OF EXAMINERS**

**The panel of examiners recommended by the syllabus committee for the Final Examination of One Year Certificate Course in Health and Nutrition at University Campus, Amritsar for the session 2026-27.**

1. Ms. Minna Bagga, Assistant. Professor,  
S.R. Govt. College for Women, Amritsar.  
Ph. No. 9814834061, E-mail: [minnabagga1@gmail.com](mailto:minnabagga1@gmail.com)

2. Dr. Maninder Kaur, Professor,  
Deptt. of Food Sci. and Technology,  
Guru Nanak Dev University, Amritsar  
Ph. No.7973885590, E-mail:[manindergndu@gmail.com](mailto:manindergndu@gmail.com)

3. Dr. Rahul Thory, Assistant Professor,  
Deptt. of Food Sci. and Technology,  
Guru Nanak Dev University, Amritsar  
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4. Dr. Ravneet Sandhu, Assistant. Professor,  
Deptt. of Agriculture, GNDU, Amritsar.  
Ph. No. 9781624266, Email id: [ravneet86nutrition@gmail.com](mailto:ravneet86nutrition@gmail.com)

5. Dr. Gursharan Kaur Sandhu, Head,  
Deptt. Of Food Sci. and Technology,  
Khalsa College, Amritsar.  
Ph. No. 981507514

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