

# **Applied Nutrition Science**

## **Course Information**



**2024**

**The University of Trans-Disciplinary Health Sciences and Technology**  
(Private University established in Karnataka by ACT 35 of 2013)  
74/2, Jarakabande kaval, Attur PO,  
Via Yelahanka, Bangalore 560064  
[tdu.edu.in](http://tdu.edu.in)

**The University of Trans-Disciplinary Health Sciences and Technology**  
#74/2, Jarakabande Kaval, Post Attur via Yelahanka, Bengaluru, Karnataka 560064

**3. COURSE PROPOSAL TEMPLATE**

- New Credit Course*
- Revision of Credit course*
- Change of course title*

**3.1. Introduction**

*Provide the background and need for such a course to be offered at The University of Trans-disciplinary Health Sciences and Technology (TDU). Provide the name of the centre/Partner Organization that is offering the course and its experience and capacity to deliver.*

The importance of a wholesome diet to prevent illness is globally recognised. Given the diversity of foods, processing methods and cultural habits, it is difficult for practitioners to provide dietary advice that is easily understandable or adoptable by clients and patients. Further complication in this area is that nutrition science typically focuses on specific nutrients in food ingredients, and not the whole diet which includes a range of food ingredients, that are combined and consumed according to geography, economic status and traditional practices. We have also observed through our Ayurveda Dietetics courses and MSc program that despite a strong emphasis on food in traditional medicine, nutrition science is not rigorously covered in BAMS training. TDU's strength is its transdisciplinary approach to food which combines nutrition science, Ayurvedic food concepts and holistic wellbeing. This course seeks to provide knowledge and upskilling to medical practitioners keen to make dietary advice a cornerstone of their practice. In the first of the series, we will cover fundamental concepts in nutrition science and how they can be used along with Ayurvedic principles in diet design. Through case studies and practical examples students will learn how to deploy evidence-backed nutritional advice in their practice. Additionally, they will be trained on making diet charts which would make it easier for them to communicate their advice to clients. The format of the course will include games, quizzes, assignments and group discussions. We anticipate laddering on to this course with intermediate and advanced topics based on student feedback and practitioner interests.

This course will be offered by Dr Megha (Associate Professor). Expert resource persons such as a registered dietician will be sourced for Unit 3.

**3.2. Program / Course coordinator:** Megha, PhD

**3.3. Title of Credit Course:** Applied Nutrition Science (Basic)

Level of program: Credit Certificate

## New Credit Course Program Handbook

Number of credits<sup>1</sup>: 1

Duration in terms of days and months: 15 days (1 hour per session/day) or as per participant needs

### 3.4. Student enrolment criteria:

Can be any of the following -

- a) Enrolled or completed any medical degree such as MBBS, BAMS, BSMS etc
- b) Enrolled or completed Bachelor's in Yoga
- c) Enrolled or completed Bachelor's in nutrition, dietetics or any subject falling within the domain of biological sciences including but not limited to botany, ecology, conservation.

Maximum intake of students/batch in this program: 100 / batch

### 3.5. Learning objectives ( what will the student *know and be able to do* by completing this program):

- a. Understand the biochemistry of nutrients as observed in food ingredients and knowledge about these through a life course approach.
- b. Learn how Ayurveda food principles and modern nutrition can be integrated at dietary level.
- c. Become aware of current guidelines in relation to macro and micronutrient intakes. Be able to advise clients on foods and dietary habits to meet these requirements.
- d. Learn about dietary guidelines for major public health nutrition issues specific to India – micronutrient deficiency [Vitamin D, Vitamin B12], protein malnutrition, diabetes, hypertension – and traditional foods, dietary habits that can help tackle these issues.
- e. Design a diet chart.

### 3.6. Faculty details:

a. List of core faculty

Sl. NO.	Name, address, email of faculty (Attach CV of faculty member)	Qualification (Formal & experiential)	Years of experience
1.	Megha, <a href="mailto:megha@tdu.edu.in">megha@tdu.edu.in</a>	PhD, ePGD Public Health Nutrition	20
2.	Sonia Velarsan, <a href="mailto:sonia@tdu.edu.in">sonia@tdu.edu.in</a>	MSc, CDE, RD	4

<sup>1</sup> Credit: 1 credit is equivalent to 15 hours of teaching.

## New Credit Course Program Handbook

### 4. Details of curriculum

#### 4.1. Detailed description of course.

<b>Course Code</b>	:			
<b>Title of the course</b>	:	<b>'Applied Nutrition Science (Basic)'</b>		
<b>Number of credits</b>	:	<b>1</b>		
<b>Name of course co-ordinator</b>	:	<b>Megha, PhD</b>		
<b>Units</b>		<b>Credits</b>	<b>Hours of teaching &amp; Practice</b>	<b>Resource person</b>
1 - Nutrients - Biochemistry & Food perspective		0.5	8	Megha
2 - Dietary solutions for selected India-specific nutritional problems		0.2	3	Megha
2 - Prepare a diet chart		0.3	4	Sonia

*Note: Proponent can replicate the tables as required for the proposed course.*

#### 4.2. Lesson plan or Lecture plan for delivery of topics in different units

<b>Title of topic</b>	<b>Mode of delivery theory, practical, field visits</b>	<b>Duration (hrs)</b>	<b>Competency based assessment system</b>
<b>Unit 1 - Nutrient Biochemistry : Biochemistry &amp; Food perspective</b>			
1.1 Nutrients, diets and foods. Definitions. Diet diversity. <i>Asthaaharaviddhi</i>	Theory	1	# 1 Quiz
1.2 Macronutrient - Lipids & Sterols	Theory	2	
1.3 Macronutrient - Proteins	Theory	1	# 2 Quiz
1.4 Macronutrient - Carbohydrates	Theory + Practical	1	# 1 Assignment
1.5 Micronutrients - Vitamins	Theory	2	# 3 Quiz
1.6 Micronutrients - Minerals	Theory	1	# 2 Assignment
<b>Unit 2 - Dietary solutions for selected India-specific nutritional problems</b>			
2.1 Protein malnutrition	Theory + Practical	1	

## New Credit Course Program Handbook

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2.2 Vit D & Vit B12	Theory + practical	1	
2.3 Diabetes [DoHAD] & Hypertension	Theory	1	# 4 Quiz
<b>Unit 3 - Prepare a diet chart</b>			
3.1 Dietary recall strategies	Theory	1	
3.2 Nutritional assessment	Theory + Practical	1	# 3 Assignment: DQQ calculation
3.3 Diet planning	Practical	1	# 4 Assignment: 24h recall
3.4 Diet planning	Practical	1	# 5 Assignment: Nutritional information calculation
		15	

### 4.3. Competence based assessment:

As this is an online class, assessment will be based on student's level of participation in assignment (which involve interviewing subjects, making diet based conversations, designing diets etc) rather than didactic knowledge. However, to help information retention, classically used assessments such as quizzes will be used. The following will be the grade system.

Absolute Score	Grade
90-100	A
80-89	B
70-79	C
60-69	D
<60	Incomplete