

NIRMA UNIVERSITY

Institute:	Institute of Technology
Name of Programme:	B. Tech. (All Programmes)
Semester:	I / II
Course Code:	XXXXX
Course Title:	Health, Wellness & Yoga
Course Type:	Common
Year of Introduction:	2022 – 23

Credit Scheme

L	T	Practical component				C
		LPW	PW	W	S	
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Course Learning Outcomes (CLOs):

At the end of the course, students will be able to –

1. explain the concept of health and nutrition and describe the significance of macronutrients and micronutrients (BL2)
2. list risk factors, causes, signs, symptoms, and diagnosis of selected disorders (BL4)
3. discuss the prevention and general management of lifestyle disorders & elaborate on substance abuse, their prevention, and management (BL5)
4. relate to the importance of Yoga in health and well-being and perform different Asanas properly (BL3)
5. practice pranayama and meditation in their life (BL3)

Syllabus:

Teaching Hours: 30 (lectures) +30 (Lab)

UNIT I	Introduction to health and nutrition	11 hours
	Basic concepts of Health, nutrition, and nutritional status indicators, Macronutrients: Carbohydrates (including dietary fibers), fats and proteins, Micronutrients: Vitamins, minerals, anti-oxidants, gut flora, Significance of macronutrients and micronutrients for optimal health, Functional foods: Definition of functional foods, Role of functional ingredients and food in nutrition, Health attributes of functional foods	
UNIT II	Fundamentals, prevention, and management of certain lifestyle diseases:	11 hours
	Hypertension and Heart attack, Diabetes and Obesity, Anxiety and Depression, Constipation, Diarrhea and Acidity	
UNIT III	Addiction and drug abuse:	8 hours
	Nature of drug abuse and addiction, diagnostic criteria and factors associated with the development of addiction, General prevention and treatment approaches for addiction and abuse, Alcohol, smoking, cannabis, marijuana, opiates addiction and abuse, Mental health and psychological support for drug abuse and addiction	
UNIT IV	Health and Wellness through Yoga	04 hours
	Introduction to Yoga - Nature of Yoga science, Definition of yoga, Characteristics of a Yogi, Importance of balanced diet	

UNIT V Asanas 18 hours

Benefits and limitations of the Asanas, Performance of Asanas: Sarvangasan, Uttanapadasan, Halasan, Naukasan, Vajrasan, Shashakasan, Mandukasan, Paschimotasan, Gomukhasan, Janusirasan, Ardhatichkrasan, Tadasan, Vrikshasan, Trikonasan, Bhujangasan, Shalabhasan

UNIT VI Pranayama and meditation 08 hours

Different types of Pranayama, meditations, and Bandhas, the advantages and the limitations of all these practices.

Laboratory Work:

This shall consist of at least 10 practicals based on the above syllabus.

Suggested Reading:

1. *Yogi Svatmarama*, The Hatha Yoga Pradipika, Motilal Banarsidass publishers.
2. *Swami Ramdev*, Yog Its Philosophy and Practice, Divya Prakashan.
3. *Swami Ramdev*, Pranayama Rahasya, Divya Prakashan
4. Michelle McGuire and Kathy Beerman. Nutritional Sciences: From fundamental to food. Cassio.
5. Pressman, Alan H., Sheila Buff, and Gary Null. The Complete Idiot's Guide to Vitamins and Minerals. New York: Alpha Books.
6. Carolyn D. Berdanier, Lynnette A. Berdanier, Janos Zempleni. Advanced Nutrition: Macronutrients, Micronutrients, and Metabolism. Publisher: CRC Press.
7. Functional Foods and Nutraceuticals By Aluko, Rotimi E. Publisher: Springer
8. Egger, G., Binns, A., Rossner, S., & Sagner, M. *Lifestyle medicine: Lifestyle, the environment and preventive medicine in health and disease*. Academic Press, USA.
9. Kumar, M. K. R. *Guide to Prevention of Lifestyle Diseases*. Deep and Deep Publications, India
10. DiPiro, J. T., Talbert, R. L., Yee, G. C., Matzke, G. R., Wells, B. G., & Posey, L. M. *Pharmacotherapy: A Pathophysiologic Approach*. McGraw-Hill Medical, USA.
11. Walker, R. *Clinical pharmacy and therapeutics*. Elsevier Health Sciences, Netherland.

**Suggested List of Exercises (not restricted to the following):
(Only for Information)**

1. To introduce the Yoga system and its impact on the human body and mind
2. To prepare the body for the performance of the Asanas through sukshma vyayam and loosening exercises
3. To introduce and perform the standing position Asanas.
4. To explain and perform the sitting position Asanas.
5. To explain and perform the supine position Asanas.
6. To describe and perform the prone position Asanas.
7. To learn and perform relaxation practices.
8. To explain and practice the pranayama.
9. To introduce and practice Bandhas.
10. To explain and practice the Jyoti Tratak and Meditation.

L = Lecture, T = Tutorial, P = Practical, C = Credit

w.e.f. the academic year 2022 - 23 and onwards