DEPARTMENT OF HORTICULTURE

FACULTY OF AGRICULTURAL SCIENCES

University of the Punjab, Lahore

Programme	B.Sc. (Hons.) HORTICULTURE	Course Code	HORT-405	Credit Hours	3
Course Title	**TEMPERATE FRUITS**				

Course Introduction

Temperate fruits are a diverse group of fruits that thrive in temperate climates, characterized by moderate temperatures, rainfall, and distinct seasons. These fruits are typically grown in regions with warm summers and cool winters, allowing for a wide range of species to flourish. Temperate fruits include popular varieties like apples, pears, peaches, plums, cherries, and grapes, among others. Temperate fruits are often associated with the Mediterranean region, but they are also grown in many other parts of the world, including North America, Europe, and Asia. These fruits are highly valued for their flavor, texture, and nutritional benefits, making them a staple in many cuisines. They are also used in various products, such as jams, juices, wines, and dried fruits.

Learning Outcomes

On the completion of the course, the students will:

1. Cultivation of temperate fruits
2. Nutritional value of temperate fruits

	Course Content	Assignments/Readings
Week 1	**Unit-I** 1.1 Introduction to temperate fruits	
	1.2 Classification of temperate fruits	
Week 2	**Unit-II** 2.1 cultivation with reference to acreage	
	2.2 Production of temperate fruits	
Week 3	**Unit-III** 3.1 Cultivars of temperate fruits	
	3.2 Botany of temperate fruits	
Week 4	**Unit-IV** 4.1 Propagation of temperate fruits	
	4.2 Climate of temperate fruits	
Week 5	**Unit-V**	

	5.1 Soil required for temperate fruits	
	5.2 Soil required for temperate fruits	
Week 6	**Unit-VI** 6.1 cultural practices of temperate fruits in (water ,nutrition,weeds)	
	6.2 cultural practices of temperate fruits in (water ,nutrition,weeds)	
Week 7	**Unit-VII** 7.1 Diseases in temperate fruits	
	7.2	
Week 8	**Unit-VIII** 8.1 Disorders of temperate fruits	
	8.2	
Week 9	**Unit-IX** 9.1 Pest management in temperate fruits	
	9.2	
Week 10	**Unit-X** 10.1 Maturity in temperate fruits in colors,stem, physiological,softening etc	
	10.2 Maturity in temperate fruits in colors,stem, physiological,softening etc	
Week 11	**Unit-XI** 11.1 Ripening of fruits	
	11.2 Ripening of fruits	
Week 12	**Unit-XII** 12.1 Prevention of quality assurance	
	12.2 Prevention of quality assurance	
Week 13	**Unit-XIII** 131 Harvesting of temperate fruits	

	13.2 Harvesting of temperate fruits	
Week 14	**Unit-XIV** 14.1 Economics importance of temperate fruits	
Week 15	**Unit-XV** 15.1 Marketing of major temperate fruits in pakistan	
Week 16	**Unit-XVI** 16.1 Food risks and hazards: technology	
	16.2 Food risks and hazards: world food needs	
PRACTICAL		
Week 1	Experiment in fruits health managements	
Week 2	Experiment in fruits health managements	
Week 3	Determination of pollination in commercial fruits	
Week 4	Determination of pollination in commercial fruits	
Week 5	Estimation of cost of production	
Week 6	Estimation of description commercial cultivars of temperate fruits	
Week 7	Estimation of description commercial cultivars of temperate fruits	
Week 8	Identification of description commercial cultivars of temperate fruits	
Week 9	Identification of description commercial cultivars of temperate fruits	
Week 10	Determination of fruits quality evaluation	
Week 11	Determination of fruits quality evaluation	
Week 12	Visit to research institutes	
Week 13	Visit to research institutes	
Week 14	Determination of commercial orchards	
Week 15	Determination of commercial orchards	
Week 16	Laboratory performance overview	
Textbooks and Reading Material		

• Bali, S.S. 2003. Fruit Growing, Kalyani Publishers, New Delhi.
• Bose, T.K. and S.K. Mitra (Eds.). 1990. Fruits: Tropical and Subtropical. Naya Prokash, Calcutta-Six.
• Mitra, S.K., D.S. Rathore, and T.K. Bose (Eds.). 1991. Temperate Fruits. Horticulture and Allied Publishers, Calcutta.
• Barooh, S. 1998. Modern Fruit Culture. Kalyani Publishers, Ludhiana, New Delhi, India.
• Chottopadhay, T.K. (Ed.). 2009. A Textbook on Pomology, Vol: IV. Temperate Fruits. Kalyani Publishers, Ludhiana, New Delhi, India.
• Yadav, P.K. 2007. Fruit Production Technology. International Book Distributing Co. (Publishing Division), Lucknow, India.
• Jackson, D.I., N. Looney, M. Morley-Bonker and G. Thiele. 2011. Temperate and Subtripical Fruit Production. CAB International Publishing, Wallingford, UK.
• Salunkhe, D.K., S.S. Kadam. 1995. Handbook of Fruit Science: production, composition, storage and processing. Marcel Dekker, Inc. New York

Teaching Learning Strategies

1. Lectures
2. Discussions
3. Presentations
4. Quiz
5. Assignments

Assignments: Types and Number with Calendar

1. Fruits Identification projects
2. Temperate fruits economics and environmental impacts assay
3. Cultivation and production reports

Assessment

Sr. No.	Elements	Weightage	Details
1.	Midterm Assessment	35%	Written Assessment at the mid-point of the semester.
2.	Formative Assessment	25%	Continuous assessment includes: Classroom participation, assignments, presentations, viva voce, attitude and behavior, hands-on-activities, short tests, projects, practical, reflections, readings, quizzes etc.
3.	Final Assessment	40%	Written Examination at the end of the semester. It is mostly in the form of a test, but owing to the nature of the course the teacher may assess their students based on term paper, research proposal development, field work and report writing etc.