



**FORMAT FOR COURSE CURRICULUM**

**Course Title: INTEGRATED FARMING SYSTEM MANAGEMENT**

**Course Code: AGRI615**

**Course Level: PG**

**Credit Units: 3**

L	T	P/S	SW/FW	No. of PSDA	TOTAL CREDIT UNITS
2	-	-	2	3	3

**Course Objectives:**

To familiarize students about types of cropping and integrated farming systems under different agro-ecosystems, farming systems research and optimization methodologies

**Pre-requisites:**

Knowledge of the basic concepts and types of cropping system and integrated farming system

**Course Contents/Syllabus:**

	Weightage (%)
<b>Module I Introduction</b>	20%
<b>Descriptors/Topics</b> Cropping systems – definition, indices, production potential, resource management in cropping systems, production potential under monoculture, multiple cropping, alley cropping, intercropping, mutli-storeyed	

cropping. Yield advantages in intercropping systems.	
<b>Module II Concept of Farming Systems</b>	<b>30%</b>
<b>Descriptors/Topics</b> Farming systems - definition and importance; classification of farming systems, characteristics, objectives and principles. Concept of sustainability in farming systems; efficient farming systems; natural resources - identification and management.	
<b>Module III Components and Interactions in Farming Systems</b>	<b>35%</b>
<b>Descriptors/Topics</b> Production potential of different components of farming systems. Cropping systems as an important component of farming systems, remunerative cropping systems, crop diversification. Integrated farming systems for different agro-ecosystems, interactions and resource recycling among different enterprises. Farming system research methodologies: on-farm research, on-station research and system modeling. Preparation of different farming system models; evaluation of different farming systems. Case studies on different farming systems.	
<b>Module IV Designing Farming Systems</b>	<b>15%</b>
<b>Descriptors/Topics</b> Multi-criteria decision making and optimization methodologies for designing integrated farming systems.	

**Course learning outcome:**

Student will be able to:

- Understand about the concepts and types of different cropping system.
- Study the concepts and types of farming systems.
- Design farming system for resource optimization

**Pedagogy for Course Delivery:**

The course pedagogy will include lectures, discussion on applications of the topics covered.

**List of Professional Skill Development Activities (PSDA):**

- Preparation of different farming system models
- Cost;Benefit analysis of various cropping systems to estimate their feasibility.
- Development of integrated farming system models for small and marginal farms.
- Report preparation on various farming research methodologies

**Lab/ Practical’s details, if applicable:NA**

**Assessment/ Examination Scheme:**

Theory L/T (%)	Lab/Practical/Studio (%)
100	NA

**Theory Assessment (L&T):**

<b>Continuous Assessment/Internal Assessment (40%)</b>	<b>End Term Examination (60%)</b>
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<b>Components (Drop down)</b>	<b>HA</b>	<b>Q</b>	<b>C</b>	<b>A</b>	<b>End Sem Exam</b>
<b>Linkage of PSDA with Internal Assessment Component, if any</b>	<b>PSDA-1 to 4</b>		<b>PSDA-1 to 4</b>		
<b>Weightage (%)</b>	10	15	10	05	60

**Lab/ Practical/ Studio Assessment: NA**

	<b>Continuous Assessment/Internal Assessment</b>				<b>End Term Examination</b>
<b>Components (Drop down)</b>	<b>Q</b>	<b>Viva Voce</b>	<b>P</b>	<b>A</b>	<b>End Sem Exam</b>
<b>Weightage (%)</b>	-	-	-	-	-

**Mapping Continuous Evaluation Components/PSDA with CLOs:**

Bloom's Level >	Remembering	Understanding and Applying	Analysing and Evaluating	Creating
Course Learning Outcomes	CLO1	CLO2	CLO3	CLO4
Assessment type/PSDA				
Assessment Component 1	✓		✓	
•		✓		
•	✓			
•	✓	✓	✓	✓
•				
•			✓	✓
Assessment Component 'n'	✓	✓		✓

**Text Reading:****References:**

1. Behera, U.K., Das, T.K. and Sharma A.R. 2009. Manual on Multicriteria Decision Making and Optimization Methodology for Sustainable Farming. Division of Agronomy, IARI, New Delhi.
2. Mahapatra, I.C., Mahapatra, P.K. and Batra, P.K. 2002. Field Manual for On-farm Adaptive Research. Agroecosystem Directorate (Rainfed farming). National Agricultural Technology Project. Central Research Institute for Dryland Agriculture, Hyderabad.
3. Malcolm, Hall. 2001. Farming Systems and Poverty: Improving Farmers Livelihood in Changing World. FAO and World Bank, Rome and Washington, D.C.
4. Palaniappan, S.P. and Sivaraman, K. 1996. Cropping Systems in the Tropics: Principles and Management. New Age Publ.
5. Panda, S.C. 2004. Cropping Systems and Farming Systems. Agribios.
6. Raman, K.V. and Balguru, T. 1992. Farming Systems Research in India: Strategies for Implementation. Proceedings of the National Workshop, November 25-28, 1991, NAARM, Hyderabad, India

**Additional Reading:****Any other Study Material:**

