



FORMAT FOR COURSE CURRICULUM

Course Title: AGRONOMY OF CEREAL CROPS

Course Level: PG

Course Code: AGRI616

L	T	P/S	SW/FW	No. of PSDA	TOTAL CREDIT UNITS
2	-	2	2	4	4

Credit Units: 4

Course Objectives:

The objective of the course is to familiarize students about the agronomy of *kharif* and *rabi* cereal crops

Pre-requisites:

Basic and applied knowledge of agronomic practices of cereal crops

Course Contents/Syllabus:

	Weightage (%)
Module I Agronomy of <i>Kharif</i> Cereals	15%
Descriptors/Topics Origin, history, production trends, adaptability, classification, varietal improvement, climate and soil requirements, cultural, nutritional, weed and water management, quality components for maximum production of <i>kharif</i> cereals - rice, maize, sorghum and pearl millet.	
Module II Agronomy of <i>Rabi</i> Cereals	30%
Descriptors/Topics	

Origin, history, production trends, adaptability, classification, varietal improvement, climate and soil requirements, cultural, nutritional, weed and water management, quality components for maximum production of <i>rabice</i> ereals - wheat and barley.	
Module III Cereal based Cropping Systems	35%
Descriptors/Topics Cereal-based cropping systems – their role in food security, productivity patterns. Physiological aspects of yield formation, approaches for breaking yield barrier and the role of agronomy.	
Module IV Management Strategies	20%
Descriptors/Topics Integrated nutrient, water and weed management in cereal-based cropping systems. Agronomic management in problematic soils. Recent advances in research on cereal crops.	

Course learning outcome:

Student will be able to:

- Understand the basic agronomic practices of cereal crops.
- Study the basic aspects of cereal based cropping system.
- Comprehend the integrated past management approach in cereal based cropping system.

Pedagogy for Course Delivery:

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

List of Professional Skill Development Activities (PSDA):

- Identification and collection of cereal crops and their seeds
- Fertilizer management in cereal crops
- Identification of various weeds of cereal crops
- Identification of various insects and pests of cereal crop

Lab/ Practical's details:

- Phenological studies at growth stages of crops. Growth indices analysis: CGR, RGR, NAR, LAD, LAI, and root growth.
- Calculation of cropping and rotational intensity.

- Physiological maturity and crop yield estimation. Estimation of crop yield on the basis of yield attributes.
- Planning and layout of experiments. Nutrient, water and weed management practices.
- Study of seed production techniques in various crops.
- Determination of harvest index and economics of different crops.
- Nutrient-use efficiency and nutrient balance studies in cereal-based systems.

Assessment/ Examination Scheme:

Lab/ Practicals details, if applicable:

Assessment/ Examination Scheme:

Theory L/T (%)	Lab/Practical/Studio (%)
75	25

.Theory Assessment (L&T):

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

Lab/ Practical/ Studio Assessment:

	Continuous Assessment/Internal Assessment				End Term Examination
Components (Drop down)	Q	Viva Voce	P	A	End Sem Exam
Weightage (%)	15	10	10	5	60

Mapping Continuous Evaluation Components/PSDA with CLOs:

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

Text Reading:

References:

- Das, N.R. 2007. *Introduction to Crops of India*. Scientific Publ.
- Hunsigi, G. and Krishna, K.R. 1998. *Science of Field Crop Production*. Oxford & IBH.
- Khare, D. and Bhale, M.S. 2000. *Seed Technology*. Scientific Publ.
- Kumar, Ranjeet and Singh, N.P. 2003. *Maize Production in India: Golden Grain in Transition*. IARI, New Delhi.
- Pal, M., Deha, J. and Rai, R.K. 1996. *Fundamentals of Cereal Crop Production*. Tata McGraw Hill.
- Prasad, Rajendra. 2002. *Text Book of Field Crop Production*. ICAR Publ.
- Singh, C., Singh, P. and Singh, R. 2003. *Modern Techniques of Raising Field Crops*. Oxford & IBH.
- Singh, S.S. 1998. *Crop Management*. Kalyani Publ.
- Smith, D.L and Hamel, C. 1999. *Crop Yield – Physiology and Processes*. Springer-Verlag, Berlin, Heidelberg.

Additional Reading:
Any other Study Material: