



UNIVERSITY
GWALIOR • MP • INDIA

"CELEBRATING DREAMS"

Experiential Learning Programme

Experiential Learning (ELP) with business mode helps the student to develop competence, capability, capacity building, acquiring skills, expertise, and confidence to start their own enterprise and turn job creators instead of job seekers. This is a step forward for "Earn while Learn" concept. Experiential Learning is an important module for high quality professional competence and practical work experience in real life situation to Graduates. The module with entrepreneurial orientation of production and production to consumption pattern is expected to facilitate producing Job Providers rather than Job Seekers. The ELP provides the students an excellent opportunity to develop analytical and entrepreneurial skills, and knowledge through meaningful hands-on experience, confidence in their ability to design and execute project work. The main objectives of ELP are:

- To promote professional skills and knowledge through meaningful hands-on experience.
- To build confidence and to work in project mode.
- To acquire enterprise management capabilities.

List of ELP Modules

S. No.	Subject code	Subject Name	Discipline	Credit
1.	ELP-ENT-401	Commercial Beekeeping	Entomology	10 (0+10)
2.	ELP- ENT-402	production Technology for Bio-agents and Bio-fertilizer	Entomology	10 (0+10)
3.	ELP- GPB-401	Seed Production Technology	Genetics	10 (0+10)
4.	ELP-HORT-403	Processing of fruits and vegetables for value addition	Horticulture	10 (0+10)
5.	ELP- HORT-401	Commercial Horticulture (Vegetable and Spices Crop Production)	Horticulture	10 (0+10)
6.	ELP- HORT-402	Floriculture and landscaping	Horticulture	10 (0+10)
7.	ELP- HORT-404	Commercial Nursery Establishment and Mass Multiplication of Horticultural Crops	Horticulture	10 (0+10)
8.	ELP- HORT-405	Protected Cultivation of High-value Horticulture Crops	Horticulture	10 (0+10)
9.	ELP- PP-401	Mushroom Cultivation Technology	Plant Pathology	10 (0+10)
10	ELP- SS-401	Soil, Plant, Water and Seed Testing	Soil Science	10 (0+10)
11	ELP- ABM-402	Industrial Training On Product Development and Marketing		10 (0+10)
12	ELP- AGRON-402	Organic Production Technology	Agronomy	10 (0+10)
13	ELP- AHS-401	Poultry Production	Animal Husbandry	10 (0+10)
14	ELP- ABM-401	Agribusiness and Industrial Management	Agribusiness	10 (0+10)

ELP on Commercial Beekeeping

Course Code: ELP- ENT-401	Course Name: Commercial Beekeeping	Credit- 10 (0+10)
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Objective: To ensure a high yield and high-quality Honey production.

Course outcomes: Through this course, students will be able to:

COs- Level	Course Outcomes	Bloom's Level
CO-1	Students will acquire training in the fields of Beekeeping, Pollination, and quality Honey production.	2
CO-2	Evaluation of various Beekeeping tools and develop management strategy.	3
CO-3	Analyze the challenges of commercial Beekeeping.	4
CO-4	Evaluate the role of quality Honey and their effect on farming society.	5

Syllabus

The Importance of Beekeeping- Bee Biology and behavior of honey bee- Pollination- Beekeeping Systems- Beekeeping Equipment - Apiary Management-Bee Stings and Management -Hive Inspection -Populating the Hive -Catching Swarm -Transferring Bees- Dividing and Uniting Colonies -Feeding of Bees -Bee Insect Pests, Predators and Diseases -Hive Products- Quality Honey Harvesting- Processing Honey- Beeswax- Cost Economics



ELP on Production Technology for Bio-agents and Bio-fertilizer

Course Code: ELP- ENT-402	Course Name: Production Technology for Bio-agents and Bio-fertilizer	Credit- 10 (0+10)
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Objective: To provide hands-on training on mass multiplication and formulation methods of Bio-agents and Bio-fertilizers.

Course outcomes: Through this course, students will be able to:

COs- Level	Course Outcomes	Bloom's Level
CO-1	Describe the importance scope and limitations of bio-agents and bio-fertilizers	1
CO-2	Explain the different types of bio-fertilizers and bio-agents and their mechanism of action	2
CO-3	Demonstrate the procedure for Isolation, identification, and purification of different bio-agents and bio-fertilizers	3
CO-4	Explore the various methods of mass multiplication and formulation of bio-agents and bio-fertilizers	4
CO-5	Develop skills for evaluation and performance of bio-agents and bio-fertilizers in vitro and field application.	5

Syllabus

Introduction, history, Importance, and scope of bio-fertilizers and bio-agents; Isolation and identification of fungal bio-control agents i.e. *Trichoderma spp*, and *Beauveria bassiana* from rhizosphere; Isolation and identification of bacterial bio-control agents i.e. *Pseudomonas fluoresces* and *Bacillus subtilis* from the soil, *Azospirillum* from plant roots; Isolation and identification of bio-fertilizer i.e. *Rhizobium* from root nodules and *Azotobacter* from soil; Mass production and formulation technology of bio-agent *Trichoderma viride* and *Pseudomonas fluoresces*; Mass production and formulation technology of bio-fertilizers *Rhizobium* and *Azotobacter spp*; Methods of application technology of bio-agents and bio-fertilizer in vitro and field condition; Develop the methods of increase Storage, shelf life, quality control and marketing of bio-agents and bio-fertilizers.



ELP on Seed Production Technology

Course Code: ELP- GPB-401	Course Name: Seed Production Technology	Credit- 10 (0+10)
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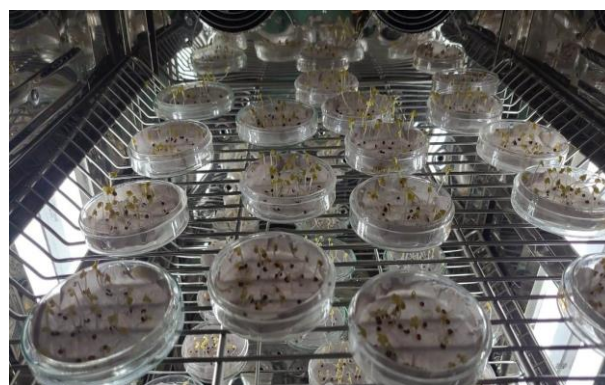
Objective: To ensure a high yield and high-quality seed production, to assess the period when the seed is most vital and ready to be harvested, and to study the role of the seed micro-biome in seed quality and seedling resilience.

Course outcomes: Through this course, students will be able to:

COs- Level	Course Outcomes	Bloom's Level
CO-1	Students will acquire training in the fields of crop improvement, plant breeding, and quality seed production.	2
CO-2	Evaluation of various seed diversity based on Seed Morphology, Genetic & Biochemical nature, and reproductive behavior.	3
CO-3	Analyze the challenges of commercial Seed production	4
CO-4	Evaluate the role of quality seeds and their effect on farming society	5

Syllabus

Selection of seed production area /land; Agronomical practices; Crop management; Harvesting & threshing; Bagging, packing & storage; Seed quality test & Seed procuring economical evaluation; Exposure visit to Seed Production Unit & Lab test for hybrid seed & Varieties.



ELP on Processing of Fruits and Vegetables for Value Addition

Course Code: ELP- HORT-403	Course Name: Processing of fruits and vegetables for value addition	Credit- 10 (0+10)
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Objective: The students will gain hands-on expertise in the commercial processing of fruits and vegetables for value addition.

Course outcomes: Through this course, students will be able to:

COs- Level	Course Outcomes	Bloom's Level
CO-1	Students will acquire training on processed fruits and vegetables product quality.	2
CO-2	Evaluation and maintenance of the processed product quality.	3
CO-3	Analyze the stored products for	4
CO-4	Evaluate the role of food processor in food safety parameters	5

Syllabus

Study extraction and preservation of pulps and juices; Preparation of osmotically dried products, fruit bars, and candy; Preparation of jam and jelly; Preparation of jam and jelly and Pickles, Chutneys, and Fermented Products; Preparation of RTS, nectar, and squash from different kinds of fruits; Physico-chemical and sensory quality evaluation of products; Planning and execution of a market survey and preparation of processing schedule and formulation of project module based on market information; Identification of sources for procurement of raw material, production and quality analysis of fruits and vegetable products at commercial scale; Calculation of capital costs assessment of working capital requirements and other financial aspects; Exposure visits to a food processing unit.



ELP on Commercial Horticulture (Vegetable and Spices Crop Production)

Course Code: ELP- HORT-401	Course Name: Commercial Horticulture (Vegetable and Spices Crop Production)	Credit- 10 (0+10)
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Objective: The students will gain hands-on expertise in the commercial processing of fruits and vegetables for value addition.

Course outcomes: Through this course, students will be able to:

COs- Level	Course Outcomes	Bloom's Level
CO-1	Describe the importance and scope of vegetable and spices cultivation.	3
CO-2	Explain the knowledge regarding various crop productions under commercial Horticultural.	3
CO-3	Demonstrate various vegetable and spices crops.	4
CO-4	Analyse the challenges of cultivation establishment and management along with the possible practical solutions.	5
CO-5	Evaluate the hybrid seed production of vegetables and spices.	5

Syllabus

Project preparation for establishment of various vegetable and spices crops.- Practices in preparatory operations, different types of growing media, soil decontamination techniques. - Preparation of field for cultivation of brinjal and tomato- Hands on training of various intercultural operations under the brinjal and tomato cultivation- Use/application drip irrigation system in vegetable and spices crops- Practices of hybrid seed production of vegetables and spices- Estimation of cost of cultivation for brinjal and tomato- Village survey to study about the major constant faced by the farmers in adopting drip irrigation system in cultivation under gird-region- Visit to established drip irrigation system in gird region- Preparation of project report and presentation



ELP on Floriculture and landscaping

Course Code: ELP- HORT-402	Course Name: Floriculture and landscaping	Credit- 10 (0+10)
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Objective: The students will gain hands-on expertise in the commercial processing of fruits and vegetables for value addition.

Course outcomes: Through this course, students will be able to:

COs- Level	Course Outcomes	Bloom's Level
CO-1	Describe the importance and scope Floriculture and Landscape designing .	3
CO-2	Explain the basic concept of landscape architecture	3
CO-3	Demonstrate various Software for landscape architecture	3
CO-4	Analyse the challenges of value addition of commercial floriculture crops	4
CO-5	Evaluate the role of value addition and essential oil extraction in floriculture industry	4
CO-6	Design landscape layout by utilizing Software and Create value added products from waste.	5

Syllabus

Introduction to Floriculture and Landscaping-To understand the basic concept of floriculture-Identification of Ornamental Crops-To identify the major ornamental crops in locality-Propagation of Ornamental Crops-To understand the propagation methods for flower crops-Landscape design and planning-To learn about the landscape architecture and planning-Specialized Garden design-To understand the concept of UPH- To learn about the package and practices of major flower crops-Production of cut/loose flower -Dry flower production technology of flower crops- To learn about the various drying methods -Post harvest handling of Flower crops-To study the post-harvest handling of flower crops-Value addition of flower crops-Breeding Achievements of flower crops and morphological study of flower-Processing and extraction of essential oil from flower crops.



ELP on Commercial Nursery Establishment and Mass Multiplication of Horticultural Crops

Course Code: ELP- HORT-404	Course Name: Commercial Nursery Establishment and Mass Multiplication of Horticultural Crops	Credit- 10 (0+10)
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Objective: To provide hands-on training on various mass multiplication methods of different horticultural Crops and commercial nursery management

Course outcomes: Through this course, students will be able to:

COs- Level	Course Outcomes	Bloom's Level
CO-1	Describe the importance and scope of Commercial Nursery in horticultural Crops.	2
CO-2	Explain the suitability of Multiplication methods in different horticultural crops	3
CO-3	Demonstrate various plant propagation techniques in the field	4
CO-4	Analyse the challenges of commercial nursery establishment and management along with the possible practical solutions	4
CO-5	Evaluate the role of PGR and media in the mass multiplication of horticultural crops	5

Syllabus

Design/layout of commercial nursery and preparation of nursery beds; Preparation of various growing media; Enrichment of growing media with various amendments; Nursery raising of various horticultural crops; Mass multiplication of various horticultural crops through cuttings; Hands-on practices on layering and stooling; Hands-on practices on various methods of budding and grafting; Marketing of nursery plants and seedlings; On field survey on the present status and prospects of farm-based plant nursery entrepreneurs in gird regions; Exposure visits to commercial nurseries and tissue culture laboratories.



ELP on Protected Cultivation of High Value Horticulture Crops

Course Code: ELP- HORT-405	Course Name: Protected Cultivation of High-value Horticulture Crops	Credit- 10 (0+10)
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Objective: To ensure a high yield and high quality horticultural production, to assess the period off season and adverse conditions, adopt special techniques to increase the production of horticultural crops with proper care and best quality for become commercially competent.

Course outcomes: Through this course, students will be able to:

COs- Level	Course Outcomes	Bloom's Level
CO-1	Students prepare fields and make proper use of various techniques in them for crop production.	2
CO-2	To boost crop production under various adverse conditions. To observe intercultural operations and new technology.	3
CO-3	Analyze the complete cost of cultivation.	4
CO-4	Evaluate the role of protected cultivation, mulching, and vertical farming systems.	5

Syllabus

Project preparation for establishment of various protected structures (Poly house and net house)- Practices in preparatory operations, different types of growing media, soil decontamination techniques in polyhouse- Preparation of beds under the polyhouse for cultivation of cucumber and tomato- Hands on training on various intercultural operation under the polyhouse (staking, training and pruning, fertigation)- Application of Low Tunnel Technology for off season cultivation of vegetable crops and flower crops- Practices of hybrid seed production of vegetables under protected condition-Estimation of cost of cultivation for cucumber and tomato under the polyhouse condition- Village survey to study about the major constant faced by the farmers in adopting protected cultivation in gird region- Visit to established green/ polyhouses/ shade net houses in gird region- Visit to established green/ polyhouses/ shade net houses in gird region.



ELP on Mushroom Cultivation Technology

Course Code: ELP- PP-401	Course Name: Mushroom Cultivation Technology	Credit- 10 (0+10)
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Objective: To provide hands-on training on cultivation technology of different types of edible mushrooms and spawns production.

Course outcomes: Through this course, students will be able to:

COs- Level	Course Outcomes	Bloom's Level
CO-1	Describe the importance and scope of mushroom cultivation	1
CO-2	Explain the different types of mushrooms and their nutritional content	2
CO-3	Demonstrate the spawn production and cultivation of various types of mushrooms	3
CO-4	Explore various cultivation methods, such as indoor and outdoor cultivation	4
CO-5	Develop skills to identify and prevent contamination issues during mushroom cultivation.	5

Syllabus

Introduction to mushrooms -Taxonomical rank -History and Scope of mushroom cultivation - Edible and Poisonous Mushrooms-Vegetative characters; Identification of common edible, medicinal and poisonous mushrooms; Health benefits of mushrooms, Nutritional and medicinal values of mushrooms. Therapeutic aspects- antitumor effect; Spawn production - Culture media preparation- production of pure culture, mother spawn preparation; Sterilization and sanitation of mushroom house, Selection of substrate for mushroom cultivation, Composting technology, mushroom bed preparation; Spawning, spawn running, Cultivation technology of oyster, milky and paddy straw mushroom and harvesting; Problems in mushroom cultivation - diseases, pests and nematodes, moulds and their management strategies; Post-harvest technology; Preservation of mushrooms - freezing, dry freezing, drying, canning, quality assurance and entrepreneurship



ELP on Soil, Plant, Water and Seed Testing

Course Code: ELP- SS-401	Course Name: Soil, Plant, Water and Seed Testing	Credit- 10 (0+10)
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Objective: To generate income via the establishment of a lab and testing of farmer samples and also improve the skill development of students through the testing of soil and water.

Course outcomes: Through this course, students will be able to:

COs- Level	Course Outcomes	Bloom's Level
CO-1	Students will acquire knowledge in the field of soil testing for crop and soil health improvement.	2
CO-2	Evaluation of various type of Soil Indexes seed diversity on the basis of seed morphology, Biochemical nature and reproductive behavior.	3
CO-3	Evaluate the challenges of commercial Seed production	4
CO-4	Evaluate the role of quality soil, seed & water availability and their effect on farming society	5

Syllabus

Soil sampling and soil testing procedure; Quality enhancement of soil; Water sampling and water testing; Soil quality enhancement; Evaluate of GIS and RS-based soil mapping; Development of soil and plant testing laboratory; Development of irrigation water testing laboratory; Development of Soil Salinity management center; Development of seed testing laboratory; Development of GIS and RS based soil mapping.



ELP on Industrial Training On Product Development And Marketing

Course Code: ELP- ABM-402	Course Name: Industrial Training On Product Development and Marketing	Credit- 10 (0+10)
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Objective: To estimate the Cost of production, Marketing efficiency, and BC ratio.

Course outcomes: Through this course, students will be able to:

COs- Level	Course Outcomes	Bloom's Level
CO-1	Students will acquire training in Industrial production and marketing.	2
CO-2	Evaluation of various Industrial products, marketing channels, and cost of production.	3
CO-3	Analyze the challenges in the cost of production and marketing	4
CO-4	Evaluate the role of industries and investors	5

Syllabus

Basics of industrial marketing; Understanding industrial markets; Economic issues in industrial marketing; Industrial buying behavior; Industrial marketing research; Product development strategy; Pricing in industrial marketing; Industrial distribution channel; Sales promotions in industrial marketing; Personal selling and advertisement.



ELP on Organic Production Technology

Course Code: ELP- AGRON-402	Course Name: Organic Production Technology	Credit- 10 (0+10)
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Objective: To provide hands-on training on various Organic Production Technologies.

Course outcomes: Through this course, students will be able to:

COs- Level	Course Outcomes	Bloom's Level
CO-1	Students will receive training in the area of organic crop production.	2
CO-2	Enhance the suitability of the crop production through organic amendments	3
CO-3	Analyse the challenges of crop production and management along with the possible practical solutions	4
CO-4	Evaluate organic farming in terms of profitability and production quality.	5

Syllabus

Principle of organic farming in the agricultural field; Production and application of vermicompost and other organics amendments; Enrichment of vermicompost with various amendments (bio-fertilizers, bio-pesticides); Preparation and application of Jeevamrit and Bijamrit; Preparation of design/layout for organic farm management for various crops along with suitable conversion plan; On field practices on Bio-fumigation and soil solarisation processes; On field application of green manuring; Nutrient and microbial assessment of various organic various amendments and bio-enhancers; Documentation and certification processes for organic products; Villages survey to study about the major constraints faced by the farmers in adopting organic farming or zero budget farming in Gird Region; Exposure visits to organic fields, certification and marketing centers



ELP on Poultry Production

Course Code: ELP- AHS-401	Course Name: Poultry Production	Credit- 10 (0+10)
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Objective:

- To study the significance of Poultry production in Indian economy.
- To study poultry development programs of Govt of India.
- To study important exotic and Indian breeds of poultry.
- To study feeding management.
- To study diseases control measures etc.
- To develop the students as better entrepreneurs.

Course outcomes: Through this course, students will be able to:

COs- Level	Course Outcomes	Bloom's Level
CO-1	Describe the role of poultry production in the national economy	3
CO-2	Explain and demonstrate important practices at a poultry farm	3
CO-3	Interpret important Indian and exotic breeds of poultry	3
CO-4	Classification of classes of poultry	2
CO-5	Evaluate livestock and poultry diseases.	5

Syllabus

Skills of identifying good layer and broiler breeds and poultry- Layout of poultry houses for meat-type breeds and egg type breeds, planning and construction of poultry houses in deep litter system and cage system of rearing floor space, requirement, bedding material preparation etc.- sterilization techniques- Feeding & watering techniques/skills of broiler birds and layer birds- preparation of breeding houses for new born/day old chicks, monitoring temperature and humidity in case of better of boarders in different seasons, skills of protecting the chicks from predators- Transfer technique in case of layer and broiler birds- feed and water requirement at different stages- collection of eggs to prevent breakage of eggs, care of eggs in post laying period, cleanliness and preservation till marketing- Computation techniques for preservation and poultry feeds for boilers and layers- scheme of layer unit for rural youth for maximum profit.



ELP on Agribusiness and Industrial Management

Course Code: ELP- ABM-401	Course Name: Agribusiness and Industrial Management	Credit- 10 (0+10)
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Objective: To expose learners to the environment in which the agri-business is conducted. Focus will be on understanding the concepts of financing, and marketing, imparting knowledge of the basic concepts, tools, and functions of production management.

Course outcomes: Through this course, students will be able to:

COs- Level	Course Outcomes	Bloom's Level
CO-1	Students will acquire knowledge about various aspects of agribusiness and also understand the structure and working of an enterprise.	2
CO-2	Utilize the knowledge in the fields of project management and entrepreneurship development.	3
CO-3	Analyze the challenges and problems of agroindustry, examining the quality of products of agroindustry and their role in agriculture.	4
CO-4	Evaluate various policies, strategies, and decisions relating to marketing that are developed by agribusiness firms.	5

Syllabus

Study extraction and preservation of pulps and juices; Preparation of osmotically dried products, fruit bars, and candy; Preparation of jam and jelly; Preparation of jam and jelly and Pickles, Chutneys, and Fermented Products; Preparation of RTS, nectar, and squash from different kinds of fruits; Physico-chemical and sensory quality evaluation of products; Planning and execution of a market survey and preparation of processing schedule and formulation of project module based on market information; Identification of sources for procurement of raw material, production and quality analysis of fruits and vegetable products at commercial scale; Calculation of capital costs assessment of working capital requirements and other financial aspects; Exposure visits to a food processing unit.

