**HRT 3107 SPICES**

Lecturers Dr. Mildred Ochwo-Ssemakula BSc. (MUK); MSc. (MUK); PhD (MUK)

Mr. David Wanyama BSc. (SUA); MSc. (JKUAT)

Course type: CORE (BSc. Horticulture III)

1. COURSE STRUCTURE

Course Credits (CU): 3 CU

Course Duration: 15 weeks (45 contact hours per Semester) i.e. 30 LH, 30 PH and 2 weeks of examination

Course description

Importance of spices; classification of spices; principles and practices in spice crop production; morphology and ecology of important spice crops such as: vanilla, chillies, ginger and cardamom, among others.

1. COURSE OBJECTIVES

General objective / aim: To emphasize the status of spice crops in the world economy and provide students with knowledge on trends in spice crop production and trade

Specific objectives

* + Elucidate the effect of spices on the development of human history and culture
	+ Describe the chemical, biological and ecological characteristics of spice crops
	+ Study the current uses of spice crops
1. RECOMMENDED REFERENCES FOR READING
	* 1. Purseglove J W, Brown E G, Green C L and Robbins S R J. 1990. Spices Volume 1 and 2. Tropical Agriculture Series, G Wringley (Ed.), AICTA.
		2. De Guzman C C and Siemonsma J S. (Eds.). 1999. Plant Resources of South-East Asia No. 13. Spices. Backhuys Publishers, Leiden, the Netherlands.
		3. Weiss E A. 2002. Spice Crops. Oxford University Press. ISBN-13: 9780851996059, ISBN: 0851996051
2. COURSE CONTENT, METHODS OF INSTRUCTION, TOOLS AND EQUIPMENT REQUIRED

|  |  |  |  |
| --- | --- | --- | --- |
| TOPIC | CONTENT | METHOD OF INSTRUCTION / Time allocated | TOOLS / EQUIPMENT NEEDED |
| 1. Introduction to spices | * Definitions
* Origin, distribution and classification
* Practical: Presentation using visual aids to facilitate lecture delivery
 | Interactive lecture (2hrs), Practical (1hr) | Computer, LCD Projector and Screen, BB, chalk |
| 2. Introduction to spices | * Importance
* General botany, properties and agronomy
* Ecological factors influencing growth and development
* Practical: Presentation using visual aids
 | Interactive lecture (2hrs), Practical (1hr) | Computer, LCD Projector and Screen, BB, chalk |
| 3. The Piperaceae family | * Major species and their uses
* Properties and botanical description
* Practical: Visual aids to facilitate spice identification
 | Interactive lecture (2hrs), Practical (1hr) | Computer, LCD Projector and Screen, BB, chalk |
| 4. The Piperaceae family | * Growth and development
* Ecological preferences
* Agronomic factors in production
* Practical: Field trip to a farmer’s field, where pepper is grown
 | Interactive lecture (2hrs), Practical (6hrs) | BB, chalkTransport to the farm (30-seater) |
| * Continuous assessment I
 | 0.5hr |
| 5. The Solanaceae family | * Family description and species composition
* Uses and properties
* Botanical description and distinction between species
* Ecology
* Practical: Visual aids to facilitate spice identification & distinction
 | Interactive lecture (2hrs), Practical (1hr) | Computer, LCD Projector and Screen, BB, chalk |
| 6. The Solanaceae family | * Agronomic practices
* Description of quality attributes of major products
* Production statistics
* Practical: Presentation using visual aids to facilitate lecture delivery
 | Interactive lecture (2hrs), Practical (1hr) | Computer, LCD Projector and Screen, BB, chalk |
| * Continuous assessment II
 | 0.5hr |
| 7. The Orchidaceae family | * Family description, major species and their history
* Uses and properties
* Botanical description and ecology
* Agronomy, production and trade
* Practical: Visual aids to facilitate spice identification and lecture delivery
 | Interactive lecture (2hrs), Practical (1hr) | Computer, LCD Projector and Screen, BB, chalk |
| 8. The Zingiberaceae family | * Family description and species composition
* Classification of major genera
* Description, history and uses of spices
* Practical: Presentation using visual aids
 | Interactive lecture (2hrs), Practical (1hr) | Computer, LCD Projector and Screen, BB, chalk |
| 9. The Zingiberaceae family | * Botanical description
* Properties of species in genera
* Production and trade
* Practical: Field trip to a firm that processes and exports spice
 | Interactive lecture (2hrs), Practical (6hrs) | BB, chalkTransport to the firm (30-seater) |
| 10. The Myrtaceae family | * Family description
* Classification of subfamilies: Myrtoideae and Leptospermoideae
* Botanical description
* Practical: Visual aids to facilitate spice identification
 | Interactive lecture (2hrs), Practical (1hr) | Computer, LCD Projector and Screen, BB, chalk |
| 11. The Myrtaceae family | * Description of a major species their uses and properties
* Ecology and agronomy
* Practical: Presentation using visual aids
 | Interactive lecture (2hrs), Practical (1hr) | Computer, LCD Projector and Screen, BB, chalk |
| 12. The Umbelliferae family | * Classification and description of major species
* Uses and properties
* Description, ecology and agronomy
* Practical: Presentation using visual aids
 | Interactive lecture (2hrs), Practical (1hr) | Computer, LCD Projector and Screen, BB, chalk |
| 13. Cruciferae spices | * Classification
* Description of the mustards: Uses, properties, ecology and agronomy
* Practical: Presentation using visual aids
 | Interactive lecture (2hrs), Practical (1hr) | Computer, LCD Projector and Screen, BB, chalk |
| 14. Minor spice crops (sesame, onion and garlic)  | * Classification
* General description of species
* Production and trade
* Practical: Visit to a major market where spices are sold
 | Interactive lecture (2hrs), Practical (6hrs) | Computer, LCD Projector and Screen, BB, chalk, Transport to the market (30-seater) |
| * Continuous assessment III
 | 1hr |

1. SUMMARY OF TIME NEEDED

Interactive lectures covering theory 28 hrs

Continuous assessment (I, II & III) 2 hrs

Lecture room-based practicals 12 hrs

Field-based practical sessions 18 hrs

1. OVERALL COURSE EVALUATION

Continuous Assessment:

* Tests I, II & III 30%
* Field Practicals 10%

Final examination 60%