UNIVERSITY OF SARGODHA

DEPARTMENT OF AGRONOMY, COLLEGE OF AGRICULTURE

COURSE OUTLINE Spring 2020

Course Title: General crop production

Course Code: AGRO-5902

Credit Hours: 3(2-1)

Instructor: Dr Amjed Ali

Email: amjed.ali@uos.edu.pk

|  |
| --- |
| **DESCRIPTION** |

The course provides the students theoretical and practical knowledge and skills to production of different crops and identify their characteristics and classify them according to their nature. Students practically trained to land preparation, sowing methods, nurseries transplanting methods, fertilizer application methods, weed management strategies, plant protection measures and harvesting methods. This course will help students gain an insight into the crop production and their latest techniques.

|  |
| --- |
| **LEARNING OUTCOMES** |

The key objectives/outcomes of this course are;

* To acquaint the students with the basic concepts of Agronomy and crop production
* To aware the students about concept of modern sowing techniques.
* To familiarize students about various steps involved in crop production e.g. land preparation, sowing methods, nurseries transplanting methods, fertilizer application methods, weed management strategies, plant protection measures and harvesting methods.

|  |
| --- |
| **CONTENTS** |

**THEORY**

1. Concept of crop production.
2. Classification of field crops.
3. Cropping scheme, Cropping patterns, Cropping systems, Cropping intensity.
4. Production technology of major field crops:
5. Cereals (wheat, rice, maize, barley),
6. Sugar crops (sugarcane, sugar beet)
7. Fiber crops (cotton, jute)
8. Oil seed crops (*i-Traditional*: rapes and mustards, groundnut, linseed, sesame, castor bean; *ii-Non-traditional*: sunflower, soybean, safflower)
9. Grain legumes, (chickpea, lentil, green gram, black gram)
10. Fodders (berseem, lucerne, oats, sorghums, millets, mott grass, cowpea)
11. Special crops (tobacco)
12. Green manure crops (Guara, Dhancha, Pigeon pea, Senji etc.).

**PRACTICAL**

1. Identification of crops and their seeds.
2. Demonstration of improved sowing methods of crops.
3. Delinting of cotton seed.
4. Raising of crop nurseries and transplanting.
5. Intercultural practices.
6. Seed Inoculation.
7. Seed treatment with fungicides.
8. Demonstration of harvesting and threshing operations.
9. Field visits.

|  |
| --- |
| **READINGS** |

1. Abbas, M.A. 2006. General Agriculture. Emporium Urdu Bazar, Lahore.
2. Balasubramaniyan. 2004. Principles and Practices of Agronomy. Agrobios, Jodhpur, India.
3. Khalil, I.A. and A. Jan. 2002. Cropping Technology. National Book Foundation, Islamabad.
4. Kirkham, M.B. (Editor). 2004. Water Use in Crop Production. Narosa Publishing House Pvt. Ltd. New Dehli, India.
5. Martin, J.H., R.P. Waldren and D.L. Stamp. 2006. Principles of Field Crop Production 4th Ed. The McMillan Co., New York.
6. Michael, A. M. 1990. Irrigation theory and practices. 2nd Ed., Vikas Pub. House Pvt. Ltd., New Delhi.
7. Nazir, M.S., E. Bashir and R. Bantel. (Eds.) 1994. Crop Production. Ed. E. Bashir & R. Bantel. National Book Foundation, Islamabad.
8. Reddy, .S.R. 2004. Principles of Crop Production. Kalyani Publishers, New Delhi.

|  |  |  |
| --- | --- | --- |
| COURSE SCHEDULE | | |
| **Week** | **Topics and Readings** | **Book with page no.** |
| 1. | Concept of crop production. | Book # 7 page 3-11 & 15-23 |
| Purpose of Crop Classification | Book # 7 page 16-18 |
| 2. | Classification of field crops; Agronomic use classification. On the basis of season, life cycle, pollination, growth habit, climate, photoperiod, photosynthesis, mode of reproduction, nutrient uptake. | Book # 7 page 19-23 |
| Classification of field crops; special purpose classification. Classification of field crops; Botanical |
| 3. | Cropping scheme, Cropping patterns | Book # 3 page 87-98 |
| Cropping systems, Cropping intensity. |
| 4. | Production technology of major field crops: Wheat | Book # 7 page 234-244 & 251-258 |
| Production technology of major field crops: Rice |
| 5. | Production technology of major field crops: Maize | Book # 7 page 261-268 & 244-248 |
| Production technology of major field crops: Barley. |
| 6. | Production technology of sugar crops: Sugarcane | Book # 7 page 421-445 & 451-463 |
| Production technology of sugar crops: Sugar beet. |
| 7. | Production technology of fiber crops: Cotton | Book # 3 page 256-264 |
| 8. | Production technology of fiber crops: Jute | Book # 3 page 256-264 |
| 9. | **MID TERM** |  |
| 10. | Production technology of oil seed crops; *i-Traditional*: Rapes and Mustard | Book # 7 page 330-383 |
| 11. | Production technology of oil seed crops; and Linseed and Sesame  Production technology of oil seed crops; Groundnut | Book # 7 page 330-383 |
| 12. | Production technology of oil seed crops; *ii-Non-traditional*: Sunflower  Production technology of oil seed crops; *ii-Non-traditional*: Soybean | Book # 7 page 330-342  Book # 7 page 342-350 |
| Production technology of oil seed crops; *ii-Non-traditional*: Safflower |
| 13. | Production technology of grain legumes (Pulses), Chickpea, Lentil | Book # 7 page 285-301 |
| Production technology of grain legumes, Mung bean, Mash bean |
| 14. | Production technology of Rabi fodders; Berseem, Lucerne | Book # 7 page 391-397 |
| Production technology of fodders; Oat, Rye grass |
| 15. | Production technology of Kharif fodders; Sorghums, Millets, Maize, Mott grass, Kallar grass, Sada Bahar | Book # 7 page 397-398 |
| Book # 7 page 270-273 & 400-412 |
| 16. | Production technology of special crop; Tobacco. | Book # 7 page 0-412 |
| Book #7 page 467-480 |
| 17. | Green manure crops; Guara (Cluster bean) | Book # 7 page 313-314 |

|  |
| --- |
| **RESEARCH PROJECT/PRACTICAL/ LABS** |

1. Identification of crops and their seeds.
2. Demonstration of improved sowing methods of crops.
3. Delinting of cotton seed.
4. Raising of crop nurseries and transplanting.
5. Intercultural practices.
6. Seed Inoculation.
7. Seed treatment with fungicides.
8. Demonstration of harvesting and threshing operations.
9. Field visits.

|  |
| --- |
| **ASSIGNMENT CRITERIA** |

Write here the distribution of the marks. You can choose any or all from below for the purpose.

Quizzes and test: 02

Attendance: 02

Assignments and presentations: 04

Mid-term: 12

Final term: 20

Practical: 20