Department of Plant Horticulture

Agriculture College

Salahaddin University

Subject: Weeds and Weed Control

Course Book: 4th Stage/ Spring Semester

Lecturer's name: Raad Hussein Salih (MSc)

Academic Year: 2018-2019

Course Book

1. Course name	Weeds and Weed Control
2. Lecturer in charge	Raad Hussein Salih
3. Department/ College	Horticulture/ Akre Technical College
4. Contact	e-mail :raad.salih@su.edu.krd Tel: (optional) 07504513067
5. Time (in hours) per week	Practical: 14
6. Office hours	Thursday from 9:30 to 2:30
7. Course code	
8. Teacher's academic profile	BSc Plant Production, Salahaddin University, 2005-2006 MSc Crops Ecology, Salahaddin University- Erbil, 2015
9. Keywords	Weed Science, Prevention, Weed Control, Eradication, Noxious Weeds, Herbicide, Formulation, Mode of action

10. Course overview:

- Studying this course provides an opportunity for the student to understand the term of weed and weed control and its derivatives.
- This course lead student to understand many harmful and beneficial aspects about weeds.
- Other important of studying this course is to understand ecological aspects of weeds and weed control.
- This course is to understand the methods for weed control.
- This is to obtain adequate experience about herbicide and how we can safely work with harmful effect of herbicide.
- Obtain enough information about selectivity of herbicide.
- This course is to understand the type of herbicide and their formulations.
- It is to learn the practical method of preparation of herbicides calibration.

11. Course objective:

The course will cover texts on Weed plants and their Biology, ecology, weeds impact on crops and environment, weed identification, weed management and Control. Weed control is the segment of weed science that most people are familiar with and where the greater part of education and training is focused. The methods employed to manage weeds vary, depending on the situation, available research information, tools, economics, and experience. Weeds should be everybody's business, as they affect everyone in one way or another. They not only reduce crop production and increase the cost of agricultural products, but they also cause problems for the general public in many other ways—for example, in regard to health and maintaining home landscaping recreational areas and other non-crop areas. Specific problems include lower crop and animal yields, less efficient land use, higher costs of insect and plant disease control, poorer-quality products, more water management problems, and lower human efficiency. In the future, weed control methods presently being intensively researched will allow expanded weed control options beyond herbicides and mechanical methods in both agricultural and nonagricultural weed management. Biological control by insects and plant disease organisms, predictive modeling of weed/crop interactions, and the use of herbicide antidotes, more competitive

crops, allelopathy, and genetic engineering/genomics will become more common as their reliability is improved. The overall objective of additional approaches is to discover new, more environmentally acceptable weed management tools that not only control weeds effectively, but improve our understanding of weed ecology/biology and allow more sustainable management of the agro-ecosystem.

12. Student's obligation

The obligation of the student in this course includes attendance in the lectures and listening teachers carefully, asking about new terms in the class, preparation for the exam by studying the material, make a report about weeds and weed control and present it for the other students at the clas.

13. Forms of teaching

The form of teaching is including use of Microsoft PowerPoint at the class to present the lecture, using white board, using data show, and give the lectures to the student by Microsoft word for each lecture

14. Assessment scheme

Theory part: Two exams: 20 mark

Practical part: two exam 15, quiz and report with presentation from 5, total is 20 mark

15. Student learning outcome:

- Student will be able to distinguish between weeds and cultivars.
- Students can familiar with weed terms and their relations.
- Students understand the advantage and disadvantage of weed and weed control.
- Student will be familiar with the scientific names of plants and the families.
- Students can be able to prepare herbicide with considering their safety.

16. Course Reading List and References:

1. Weed ecology in natural and agricultural systems. 2003. Barbara D. Booth, Stephen D. Murphy, and Clarence J. Swanton.

2. Weed Management Handbook. 2002. Robert E.L. Naylor.

3. Fundamentals of weed science. 2007. Robert L. Zimdahl.

4. Weeds and Weed Management on Arable Land (An Ecological Approach). 2003. Sigurd Håkansson.

5. Weed science (Principles and practices).2002. Thomas J Monaco, Stephen C Weller, Floyed M Ashton.

6. Applied Weed Management. 2009. Merrill a. Ross & Carole A. Lembi, 3rd edition. Pearson Hall. USA.

17. The Topics:	Raad Hussein Salih
Introduction ; Weed Identification and Weed Impact	2 hours 3/2/2019
Weed Ecology and Biology	2 hours 10/2/2019
Integrated Weed Management- Mechanical Methods	2 hours 17/2/2019
Cultural Control	2 hours 24/2/2019
Biological control	2 hours 3/3/2019
Herbicides- Classification of Herbicides	2 hours 10/3/2019
Herbicides Mode of action	2 hours 24/4/2019
Urea Herbicides	2 hours 31/4/2019
Herbicides Resistance Weeds	2 hours 7/4/2019
Herbicides and Plants & Herbicides and soil	2 hours 14/4/2019
Spray application methods	2 hours 21/4/2019
Future of weed control	2 hours 28/4/2019
Selectivity and fate of herbicides	2 hours 5/5/2019
Plant growth inhibitors	2 hours 12/5/2019
Weed Management System in Kurdistan Region	2 hours 19/5/2019

18. Practical Topics (If there is any)	Raad Hussein Salih
Practical part is just showing plant examples to recognize them and introduce their scientific name, family name, life cycle and reproduction methods.	

19. Examinations:

1. Compositional:

Q: Tillage increases perennial weeds: Why?

Answer: Tillage breaks vegetative structures into pieces that can regenerate into new plants, potentially spreading the infestation within or between fields.

Q: Explain, Biological control is not well suited for weed control in crops land?

Answer: (1) They affect one weed species only; cropland almost always contains a complex of weeds.

   (2) The effect of biological control slowly.

2. Answer by True or false for the following sentences with correct the false sentences?

Q:

1- Contact herbicide usually effective for perennial weeds.   False

2- 2,4-D is a POST, selective, systemic, foliar absorbed herbicide.   True

3. Select the correct words:

Q:

1- ………………………………….is the complete elimination of all living plants.

   a- Prevention   b- Eradication   c- Weed control   d- Noxious Weeds

Answer: Eradication

21. Peer review