**The University of Jordan**

**Faculty of Agriculture Department of Plant protection**

**Undergraduate Program First Semester 2013-2014**

**Insect vectors of plant diseases (0606419)**

**-----------------------------------------------------------------------------------------------------------**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Credit hours** | **2** | **Level** | **2nd, 3rd or 4th year** | **Pre-requisite** | **Principles of Entomology (606212)** |
| **Coordinator/ Lecturer** | **Dr. Lara R. Jaber** | **Office number** | **268** | **Office phone** | **22514** |
| **Course website** |  | **E-mail** | **l.jaber@ju.edu.jo** | **Place** | **189** |

|  |
| --- |
| **Office hours** |
| **Day/Time** | **Sunday** | **Monday** | **Tuesday** | **Wednesday** | **Thursday** |
| **Day**  | **-** | **-** | **\*** | **\*** | **\*** |
| **Time** | **-** | **-** | **13-14** | **13-14** | **11-12** |

**Course Description**

This course deals with arthropods especially insects and insect’s role in plant disease transmission, their economic importance, and their control

**Learning Objectives**

1. To provide a meaningful exposure to the insect vector-plant pathogen relationship as an important component of the epidemiology and control of many plant diseases
2. To learn about the most important insect vectors of plant pathogens
3. To understand the principle methods to control crop disease transmitted by insect vectors

**Intended Learning Outcomes (ILOs):**

Successful completion of the course should lead to the following outcomes:

**A. Knowledge and Understanding:** Student is expected to

**A1-** To gain information about the insect vector-plant pathogen relationship

**A2-** To learn about the most important insect vectors of plant pathogens

**B. Intellectual Analytical and Cognitive Skills:** Student is expected to

B1- To realize how understanding the vector-plant interaction is important for controlling crop disease transmitted by insect vectors

**C. Subject- Specific Skills:** Students is expected to

C1- Applicable for controlling disease vectored by insects through understanding the transmission process

**D. Transferable Key Skills:** Students is expected to

D1- Knowledge and skills related to management of diseases transmitted by Insect vectors of pathogens

# ILOs: Learning and Evaluation Methods

|  |  |  |
| --- | --- | --- |
| **ILO/s** | **Learning Methods** | **Evaluation Methods** |
| 1. **Knowledge and Understanding**
2. **Intellectual Analytical and Cognitive Skills**
3. **C. Subject- Specific Skills**
4. **Transferable Key Skills:**
 | Lectures and discussion |  Exams |

**Course Contents**

|  |  |  |  |
| --- | --- | --- | --- |
| **Content** | **Reference**  | **Week** | **ILO/s** |
| 1. **Introduction**
* Definitions
* Vector transmission process
 | Articles & websites | 1-3 week | A1-2B 1C1D1 |
| 1. **Types of plant diseases transmitted by insect vectors**
* Viral
* Fungal
* Bacterial
* Mycoplasmal
* Phytoplasmal
* Spiroplasmal
* Trypanosomes and nematode
 | Articles & websites | * 1. week
 | A1-2B 1C1D1 |
| 1. **Insect vectors and viral diseases**
 | Articles & websites | 6-9 week | A1-2B 1C1D1 |
| 1. **Insect vectors and bacterial diseases**
 | Articles & websites | 9-11 week | A1-2B 1C1D1 |
| 1. **Insect vectors and fungal diseases**
 | Articles & websites | 11-13 week | A1-2B 1C1D1 |

**Learning Methodology**

## The course will be structured in lectures and discussions

# Evaluation

|  |  |  |
| --- | --- | --- |
| **Evaluation** | **Point %** | **Date** |
| **First Exam**  | 20% | 15.11.13 |
| **Second Exam** | 20% | 15.12.13 |
| **Participation** | 10% | During lectures |
| **Final Exam**  | 50% | To be announced |

**Main Reference/s:**

1. Walter Carter (1973) Insects in Relation to Plant Diseases, 2nd edition. Wiley
2. J.W. Brewer (1973) Readings in Insect-Plant Disease Relationships, 1st edition. MSS Information Corp.
3. Selected review articles, papers, and websites

**Intended Grading Scale (Optional)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **From (%)** | **To (%)** | **Scale** | **Mark** | **Result** |
| 0 | 44 | 0 | H | Fail |
| 45 | 47 | 0.75 | D- | Fail |
| 48 | 54 | 1 | D | Accepted |
| 55 | 60 | 1.5 | D+ | Accepted |
| 61 | 63 | 1.75 | C- | Good |
| 64 | 66 | 2 | C | Good |
| 67 | 72 | 2.5 | C+ | Good |
| 73 | 75 | 2.75 | B- | Very Good |
| 76 | 78 | 3 | B | Very Good |
| 79 | 84 | 3.5 | B+ | Very Good |
| 85 | 87 | 3.75 | A¯ | Excellent |
| 88 | 100 | 4 | A | Excellent |

**Notes:**

* Concerns or complaints should be expressed in the first instance to the module lecturer; if no resolution is forthcoming, then the issue should be brought to the attention of the module coordinator (for multiple sections) who will take the concerns to the module representative meeting. Thereafter, problems are dealt with by the Department Chair and if still unresolved the Dean and then ultimately the Vice President. For final complaints, there will be a committee to review grading the final exam.
* For more details on University regulations please visit:

 <http://www.ju.edu.jo/rules/index.htm>