**The University of Jordan**

**School: Agriculture Department: Horticulture & Crop Sciences**

**Program: Horticulture & Crop Sciences Academic Year: ---------**

**Course Name: Industrial Crops (0601925)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Credit hours** | **3 credit hours**  | **Level** | **PhD** | **Pre-requisite** | **-** |
| **Coordinator/ Lecturer** | **Dr. Hani Saoub** | **Office hour** | **--------**  | **Office phone** | **-** |
| **Course website** | **--** | **E-mail** | **hanis@ju.edu.jo**  | **Place** | **--** |

**Course Description**

This course covers the management of important industrial crops, such as oil, sugar and fiber crops, discussing the environmental factors affecting the production (quantity and quality), in addition to the economic importance of these crops and its role in the strategic agricultural production.

**Learning Objectives**

1. Understand the principles of sound industrial crop management,

2. Assess the effect of environmental factors as related to crop growth and production.

3. Know and identify the role of industrial crops in sustainable agricultural systems.

**Intended Learning Outcomes (ILOs):**

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

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

A1- Describe why and how industrial crops can be managed.

A2- Identify the proper crop management practices.

A3- Memorize and recognize the major industrial crops.

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

B1- Examine the relationship between different environmental conditions and crop productivity.

B2- Explain the role of industrial crop management practices in integrated sustainable systems.

B3- Predict the possible production of different industrial crops.

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

C1- Search for new and highly productive industrial crops.

C2- Plan for industrial crop production.

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

D1- Train other peoples how to manage industrial crop.

D2- Operate and manage industrial crop fields.

D3- Develop and implement new policies and procedures.

D3- Deal with obstacles and solve problems.

# ILOs: Learning and Evaluation Methods

|  |  |  |
| --- | --- | --- |
| **ILO/s** | **Learning Methods** | **Evaluation Methods** |
| **A. Knowledge and Understanding** | Lectures and Discussions | Exam, Quiz,  |
| **B. Intellectual Analytical and Cognitive Skills** | Lectures and Discussions | Exam, Quiz, |
| **C. Subject- Specific Skills** | Project Development | Report + Presentation |
| **D. Transferable Key Skills** |  Case Study | Exam |

# Evaluation

|  |  |  |
| --- | --- | --- |
| **Evaluation** | **Point %** | **Date** |
| **Midterm Exam**  | 30 |  |
| **Report** | 20 |  |
| **Presentation** | 10 |  |
| **Final Exam**  | 40 | As scheduled by the University calendar |

# References:

# 1- Industrial Crops and Products – International Journal.

* 2- Industrial Crops and Uses. 2010. Ed. Singh, B.P. **ISBN** 9781845936167. USA

# 3- Handbook of Industrial Crops. 2005. V. Chopra, K. Peter. ISBN 9781560222835 - CAT# HW14690. CRC Press.

* 4- Industrial Oil Crops. 1st Edition. **Editors:**Thomas A. McKeon, Douglas G. Hayes, ... Randall J. Weselake. **eBook ISBN:** 9780128053850. Academic Press and AOCS Press

**Intended Grading Scale (Optional)**

**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>

**Course Contents**

|  |  |  |  |
| --- | --- | --- | --- |
| **Content** | **Reference** | **Week** | **ILO/s** |
| 1-Background: \*Terminology \* Importance  | Ref. No. 2 | 1 | A1+A2+A3 |
| 2-Environmental factors and crop growth | Ref. No. 2+3+4 | 2 | B1 |
| 3- Relationship between soil moisture and production | Ref. No. 2+3+4 | 3 | B1+B2 |
| 4- Relationship between temperature and production | Ref. No. 2+3+4 | 4 | B2+B3 |
| 5- Relationship between humidity and production | Ref. No. 2+3+4 | 5 | B3+C1+C2 |
| 6- Soil Fertility and fertilizers  | Ref. No. 2+3+4 | 6 | B1+B2+B3+C1 |
| 7- Nitrogen and growth | Ref. No. 2+3+4 | 7+8 | B3+C1+C2 |
| 8- Phosphorus and growth | Ref. No. 2+3+4 | 9+10 | B3+C1+C2 |
| 9- Potassium and growth  | Ref. No. 2+3+4 | 11+12 | B3+C1+C2 |
| 10- Trace elements | Ref. No. 2+3+4 | 13 | B3+C1+C2 |
| 11- Other factors | Ref. No. 2+3+4 | 14 | B3+C1+C2 |
| 12- Alternative new industrial crops | Ref. No. 2+3+4 | 15 | D1+D2+D3+D4 |
| 13- Legislation supporting industrial crop development | Ref. No. 2+3+4 | 16 | D1+D2+D3+D4 |
| **Note:** **All these environmental and management factors will be discussed as related to crop growth and industrial use.** |