**The University of Jordan**

**Faculty: Agriculture Department: Plant Protection**

**Program: Ph.D. Academic Year/ Semester: 2014/2015 – 2nd Semester**

**Fungal Taxonomy (0606965)**

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| --- | --- | --- | --- | --- | --- |
| **Credit hours** | **3** | **Level** | **Ph.D.** | **Pre-requisite** | **606322** |
| **Coordinator/ Lecturer** | Prof. Hifzi Abu – Blan | **Office number** | **226** | **Office phone** | **22520** |
| **E-mail** | **hifzi@ju.edu.jo** | **Course website** |  | **Place** |  |

|  |
| --- |
| **Office hours** |
| **Day/Time** | **Sunday** | **Monday** | **Tuesday** | **Wednesday** | **Thursday** |
|  | **Jordan Valley** | **10 - 12** | **10 - 12** | **10 – 12**  | **10 – 12**  |

**Course Description**

This course includes the study of fungal taxonomy with the study of nomenclature terms and definitions, systematic literature, taxonomic procedures, use of identification keys, diagnostic morphological features of fungal classes with brief information about their sexual and a sexual fruiting bodies.

**Learning Objectives**

The main objectives of this course are :

1. To emphasize the importance of fungi in the continuum of life on this planet and their importance to man.
2. To provide fundamental facts on the morphology, physiologv, and genetics of the fungi .
3. To acquire proficiency in application and understanding of mycological terminology.
4. To study life cycles of representatives of major fungus taxa.
5. To correlate morphology, classification, and phylogeny.

**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 know the importance of fungi in nature.

**A2-** Understand systematic study of fungi.

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

B1- Be able to illustrate morphology of somatic structures of fungi.

B2- Able to study taxonomic variations in fungal classes.

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

C1- Know reproduction in fungi.

C2- Be able to identify fungi with plasmodial thallus.

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

D1- Learn how to classify fungi with sporangia.

D2- Learn how to classify fungi with asci & ascospores .

D3- Learn how to classify fungi with basidium & basidiospores .

D4- Learn how to classify fungi with steril mycelium or conidia.

# ILOs: Learning and Evaluation Methods

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| --- | --- | --- |
| **ILO/s** | **Learning Methods** | **Evaluation Methods** |
| **A, B, C, D.** | **Lectures and Discussions, Homework and Assignments, Projects, Presentation, …** | **Exam, Quiz, presentation, project, assignments, ..** |

**Course Contents**

|  |  |  |  |
| --- | --- | --- | --- |
| **Content** | **Reference**  | **Week** | **ILO/s** |
| Fungal taxonomy concept. | 1,2 | 1 | A1, A2 |
| History of fungi, Types of fungi. |  | 2 | A1, A2 |
| Mycological terms. |  | 3 | A1, A2 |
| Reproduction in fungi; Sexual and asexual reproductive Structures |  | 4 | B1, C1 |
| General charcters of the major groups of fungi. |  | 5 | B1, B2, C1, C2 |
| Classification of slime mold fungi , Class : Myxomycetes. |  | 6 | D1, D2, D3, D4 |
| Classification of lower fungi, class: Chytridiomycetes. |  | 7 | D1, D2, D3, D4 |
| Classification of lower fungi, class: Hyphochytridiomycetes |  | 8 | D1, D2, D3, D4 |
| Classification of fungi with plasmodium, class:Plasmodio -phoromycetes. | 1,2 | 9 | D1, D2, D3, D4 |
| Classification of fungi with sporangia & Oospores, Class:Oomycetes. | 2,7 | 10 | D1, D2, D3, D4 |
| Classification of fungi with sporangia & zygospores, Class:Zygomycetes. | 2,7 | 11 | D1, D2, D3, D4 |
| Classification of fungi with asci and ascospores, Class : Ascomycetes. | 4 | 12 | D1, D2, D3, D4 |
| Classification of fungi with asci and ascospores, Class:Ascomy . Cont. | 4 | 13 | D1, D2, D3, D4 |
| Classification of fungi with basidium and basidiospores, Class: Basidiomycetes.  | 5 | 14 | D1, D2, D3, D4 |
| Classification of fungi with steril mycelium or conidia, Class: Deuteromycetes. | 3,4 | 15 | D1, D2, D3, D4 |

**Learning Methodology**

A- Duration of the course : 16 weeks in the semester, 64 hours in total, which

 includes :

1. Lectures : 16 hours, 1 per week ( including one hour midterm exams ).
2. Laboratory : 15 lab. Periods, 3 hours per week (including a midterm exam and

a final exam ).

1. Report: Scientific drawing of fungal specimens that exposed in the 15 laboratory periods, to be reported in a notebook.
2. Assignments : In each laboratory . period , students mount fungi on glass slides to test under microscope.

B- Teaching tools include transparencies, mounting fungi on glass slides , projection slides and note book .

# Evaluation

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| --- | --- | --- |
| **Evaluation** | **Point %** | **Date** |
| **Midterm Exam**  | **30** | **To be assigned later** |
| **Midterm Lab. Exam** | **15** |
| **Assignments** | **5** |
| **Final Lab. Exam**  | **20** |
| **Final Exam**  | **30** |

**Main Reference/s:**

1. Talbot, P. H. B. (1978) Principles of Fungal Taxonomy. The Macmilan Press LTD. London. 274 pages.

# References:

1. Alexopoulos, C.L.; Mims , C.W. and Blackwell, M.(1998)

Introductory Mycology. 4th Edition, John Wiley & Sons, 880 pages.

1. Ainsworth, G. C. (1978) Dictionary of the Fungi, 6th Edition. Commonwealth Mycological Institute. Kew and Surrey. United Kingdom. 663 pp.
2. Ainsworth, G. C.; Sparrow, K. F. and Sussman, S.F. (1973) The Fungi : Vol. IV A : A Toxonomic Review with Keys : Ascomycetes and Fungi Imperfecti , Academic Press Inc., New York, London. 621 pages.
3. Ainsworth, G. C.;Sparrow, K.F. and Sussman, S.F. (1973) The Fungi :

Vol.IVB: A Taxonomic Review with Keys : Basidomycetes and Lower Fungi. Academic press Inc., London, San Diego. 504 pages.

1. Martin, G. and Alexopoulos, C. (1979) The Myxomycetes, Univ. of Iowa Press, lowa City . 561 pages .

7. Webster, J. (1999) Introduction to Fungi. Third Edition, Cambridge University Press, Cambridge, 669 pages.

**Intended Grading Scale (Optional)**

0-74 C

74-76 C+

76-78 B-

78-80 B

80-82 B+

82-84 A-

84-100 A

**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>