

**Department of Plant Pathology
Faculty of Agricultural Sciences
University of the Punjab, Lahore
Course Outline**



Programme	B.Sc. (Hons.) Agriculture (Plant Pathology) 4 Year program	Course Code	PP-301	Credit Hours	3(2-1)
Course Title	INTRODUCTORY MYCOLOGY				
Course Introduction					
The course "Introductory Mycology" is to make students familiar with the basics of fungi, its evaluation, classification and general features of different phylum.					
Learning Outcomes					
On the completion of the course, the students will:					
1. To study the basic and applied aspects of fungi and fungi like organisms					
Course Content				Assignments/Readings	
Week 1	<u>THEORY</u> Unit-I: 1.1 History and significance of fungi			<u>Reading</u> 1.Alexopoulos, C.J., C.W. Mims and M. Blackwell. 1996. Introductory Mycology. 4 edition, John Wiley & Sons, Inc. New York, USA. 2, Lecture handouts	
	<u>PRACTICAL</u> Sampling and handling of biotic and abiotic disease samples				
Week 2	<u>THEORY</u> Unit-II: 1.1. methods of reproduction in different fungi			<u>Reading</u> 1. Deacon, J. 2006. Fungal Biology, 4 edition. Blackwell. 2. Agrios, G.N. 2005. Plant Pathology, 5 th edition, Academic Press, New York, USA.	
	<u>PRACTICAL</u> - Types of sterilization used for different Lab equipments and disease samples - Maintenance of aseptic conditions				
Week 3	<u>THEORY</u> Anamorph, teleomorph and holomorph stages of fungi			<u>Reading</u> 1. Deacon, J. 2006. Fungal Biology, 4 edition. Blackwell.	

	<u>PRACTICAL</u> Media Preparation (MEA and PDA)	
Week 4	Unit-IV: evolution of classification of fungi and fungi-like organisms <u>PRACTICAL</u> Sample inoculation on different media	<u>Reading</u> 1. Johri, R.M. 2005. A Textbook of Fungi. Dominant Publishers and Distributors, India.
Week 5	<u>THEORY</u> Unit-V: ecology, genetics and dissemination of fungi	<u>Reading</u> 1. Alexopoulos, C.J., C.W. Mims and M. Blackwell. 1996. Introductory Mycology. 4 edition, John Wiley & Sons, Inc. New York, USA. 2. Lecture handouts
	<u>PRACTICAL</u> Purification of isolated Fungi	
Week 6	<u>THEORY</u> Unit-VI: interaction of fungi with hosts/vectors	<u>Reading</u> 1. Kendrick, B. 2000. The Fifth Kingdom. (3rd ed.). Focus Publishing/R. Pullins Company, Incorporated. 373 pp. 2. Lecture handouts
	<u>PRACTICAL</u> Slide Preparation of isolated Fungi	<u>Assignment (Practical)</u> Diseased sample collection and preservation.
Week 7	<u>THEORY</u> Unit-VII: Quiz test General characters; economic importance of various phyla	<u>Assignment (Theory):</u> Topics will be assigned to individual or group of students.

	<u>PRACTICAL</u> Macro and Micro characteristic of isolated fungi	<u>Reading</u> 1. Internet and Research Articles. 2. Lecture handouts.
Week 8	<u>THEORY</u> Unit-VIII: Study of life histories of fungi of agricultural, scientific and industrial importance.	<u>Reading</u> 1. Lecture handouts
	<u>PRACTICAL</u> Quiz test Revision of concepts of different practical	
Week 9	MID-TERM	
Week 10	<u>THEORY</u> Unit-IX: Study of morphology and classification of economically important fungi and fungi-like organisms belonging to <i>Plasmodiophoromycota</i>	<u>Reading</u> 1. Alexopoulos, C.J., C.W. Mims and M. Blackwell. 1996. Introductory Mycology. 4 edition, John Wiley & Sons, Inc. New York, USA. 2. Lecture handouts <u>Assignment (Theory):</u> Topics will be assigned to individual or groups.
	<u>PRACTICAL</u> use of diagnostic keys for identification of soil fungi	
Week 11	<u>THEORY</u> Unit-X: Study of morphology and classification of economically important fungi and fungi-like organisms belonging to <i>Oomycota</i> <u>PRACTICAL</u> use of diagnostic keys for identification of diseased fungi	<u>Reading</u> 1. Alexopoulos, C.J., C.W. Mims and M. Blackwell. 1996. Introductory Mycology. 4 edition, John Wiley & Sons, Inc. New York, USA. 2. Lecture handouts
Week 12	Unit-XI: study of morphology and classification of economically important fungi and fungi-like organisms belonging to <i>Chytridiomycota</i> <u>PRACTICAL</u> use of diagnostic keys for identification of molds	
Week 13	<u>THEORY</u>	

	Group Discussion Unit XII: study of morphology and classification of economically important fungi and fungi-like organisms belonging to <i>Glomeromycota</i>	1. Alexopoulos, C.J., C.W. Mims and M. Blackwell. 1996. Introductory Mycology. 4 edition, John Wiley & Sons, Inc. New York, USA. 2. Lecture handouts
	<u>PRACTICAL</u> Comparative study of representatives of various phyla	<u>Project (Practical)</u> Isolation and purification of pathogens.
Week 14	REVISION/TEST	
	<u>THEORY</u> Study of morphology and classification of economically important fungi and fungi-like organisms belonging to <i>Ascomycota</i>	
	<u>PRACTICAL</u> Different preservation techniques used for different Fungi	
Week 15	<u>THEORY</u> Unit XIII: Study of morphology and classification of economically important fungi and fungi-like organisms belonging to <i>Basidiomycota</i> and Mitosporic fungi	<u>Reading</u> 3. Alexopoulos, C.J., C.W. Mims and M. Blackwell. 1996. Introductory Mycology. 4 edition, John Wiley & Sons, Inc. New York, USA. 3. Lecture handouts
	<u>PRACTICAL</u> Demo test to identify unknown fungi	
Week 16	<u>THEORY</u> Unit XIV:	
	Group Discussion/ class presentations <u>PRACTICAL</u> Revision	
	FINAL-TERM	
Textbooks and Reading Material		
Suggested Readings		
BOOKS		
1. Alexopoulos, C.J., C.W. Mims and M. Blackwell. 1996. Introductory Mycology. 4 edition, John Wiley & Sons, Inc. New York, USA.		
2. Barnett, H.L. 1998. Illustrated Genera of Imperfect Fungi. 4 ed. ACS, Washington, DC, USA.		
3. Carlile, M.J., S.C. Watkinson and G.W. Gooday. 2001. The Fungi. Academic Press.		
4. Deacon, J. 2006. Fungal Biology, 4 edition. Blackwell.		

5. Johri, R.M. 2005. A Textbook of Fungi. Dominant Publishers and Distributors, India.
6. Kendrick, B. 2000. The Fifth Kingdom. (3 ed.). Focus Publishing/R. Pullins Company, Incorporated. 373 pp.
7. Liliane Elisabeth Petrini-Klieber, L.E. and O. Petrini. 2013. *Identifying Moulds: A Practical Guide*. Gebruder Borntraeger Verlagsbuchhandlung, Science Publishers.
8. Rai, M. 2010. Progress in Mycology. Springer.
9. Swanton, E.W. 2004. Hand Book of Fungi. Reprint Publication, India.

Journal Articles/ Reports

Resources will be shared during class

Teaching Learning Strategies

1. Class lectures
2. Discussions
3. Practical demonstrations
4. Hands on training where applicable

Assignments: Types and Number with Calendar

Assignments

Types and Number with calendar

Sr. No.	Elements	Weightage	Details
1.	Midterm Assessment	35%	Written Assessment at the mid-point of the semester.
2.	Formative Assessment	25%	Continuous assessment includes: Classroom participation, assignments, presentations, viva voce, attitude and behavior, hands-on-activities, short tests, projects, practical, reflections, readings, quizzes etc.
3.	Final Assessment	40%	Written Examination at the end of the semester. It is mostly in the form of a test, but owing to the nature of the course the teacher may assess their students based on term paper, research proposal development, field work and report writing etc.