



Code	Subject Title	Cr. Hrs	Semester
BOT-302	Higher Fungi Lab	1	V
Year	Discipline		
3	Botany		

Syllabus Outline: Learning Techniques related to study of different Fungal Groups.

Course Outline:

1. Introduction to Microscopy, Light Microscope, Polarizing Microscope, Electron Microscope and Scanning Electron Microscope, Microphotography.
2. Isolation and Study of various Saprophytic, Parasitic and Mutualistic Forms in higher Fungi.
3. Study of various types of Ascocarps and Asci in various Representative Groups using Fresh/Preserved Specimens or Prepared Slides.
4. Basidiomycetous Fungal Forms using Fresh/Preserved Specimens or Prepared Slides.
5. Hyphal Systems in Polyporaceae.
6. Rusts and Smuts of Various Types.
7. Ectomycorrhizae.
8. Morphological and Anatomical Features of Lichens.
9. Isolation of Lichen Crystals in various Solvent Systems.

Module Aims: Basic aim of this course is to familiarize students with Fungi possessing Septate Hyphae, Prominent Fruiting Bodies, their Identification and Biology with relation to Economic Importance.

Learning Strategies:

1. Lectures
2. Group Discussion
3. Laboratory work
4. Seminar/ Workshop

Learning Outcome: Students would be able to distinguish between different Taxa of Ascomycota and Basidiomycota. They will be become familiar with edible and poisonous fungi and their association with trees.

Assessment Strategies:

1. Lecture Based Examination (Objective and Subjective)
2. Assignments
3. Class discussion
4. Quiz
5. Tests

Books Recommended:

1. **Webster, J. (2009).** *Introduction to the Fungi*. (4th Ed), Cambridge University Press.



2. **Sharp, R.F. (2006).** *Investigative Mycology*. (2nd Ed.). Heinemann Edu. Books. London. U. K.
3. **Saleem, A. and Nasir, M.A. (2001).** *Culture Media for Fungal Growth*. Government of the Punjab, Agriculture Department.
4. **Alexopoulos, C.J., Mims, C.W. and Blackwell, M. (1996).** *Introductory Mycology*. (4th Ed.), John Wiley and Sons, New York.
5. **Ahmad, S. (1982).** *Gastromycetes of West Pakistan*. Publication of Department of Botany P.U. Lahore.
6. **Ahmad, S. (1980).** *A Contribution to the Agaricales of Pakistan*. Biological Society of Pakistan.
7. **Ahmad, S. (1980).** *Ascomycetes of Pakistan*. (Vol. I and II), Biological Society of Pakistan.
8. **Ahmad, S. (1972).** *Basidiomycetes of Pakistan*. Biological Society of Pakistan.