

LS 537A Fungal Biology and Biotechnology 2 Credits Name of the Faculty: Prof. A. K Mondal*, Dr. S.L. Panwar, Prof. A.S. Kharat		
S.No.	Topic	Faculty Name/ Contact Hours
1.	Introduction to Fungi	AKM/1
2.	Fungal diversity, classification, ecology and evolution	AKM/2
3.	Fungal genetics (haploid-diploid life cycle, mating type locus: organization and regulation, mutant isolation, complementation, suppressors and synthetic lethal screen	AKM/3
4.	Signal transduction pathways in fungi	AKM/3; SLP/2
5.	Fungal Cell wall – architecture and biosynthesis	AKM/2
6.	Protein sorting, secretion and ER stress response in yeast	AKM/1; SLP/1
7.	Vacuolar morphogenesis, vesicle trafficking in fungi Cell Biology of Hyphal growth Autophagic processes in yeast -mechanism, machinery and regulation	AKM/4
8.	Pathogenic fungi, pathogenicity and virulence factors	AKM/1; SLP/1
9.	Antifungal agents and their mode of actions, drug targets	AKM/2
10.	Molecular mechanism of Emergence of drug resistance in fungi	AKM/1
11.	Biotechnological importance of fungi, industrially important enzymes from fungi	ASK/2
12.	Fungal expression system and production of recombinant protein	AKM/1
13.	Engineering protein glycosylation pathway in fungi for humanised protein therapeutics	AKM/1

Further Reading:

1. Yeast Book <https://academic.oup.com/genetics/pages/yeastbook> Genetic Society of America
2. The Fungal Kingdom (2017)- ASM Press. Joseph Heitman et al. (editor)