

LS 540A Molecular Cancer Biology 2 Credits Name of the Faculty : Dr. N. Mondal*, Prof. R.P. Singh, Dr. A.B.Tiku		
Sr.No.	Topic	Faculty Name/ Contact Hours
1.	Cancer incidence and mortality; origin of neoplastic cells; cancer as cellular disease; tumor cell growth kinetics	ABT, NM/3
2.	Oncogenes and tumor suppressor genes	RPS, NM/4
3.	Environmental carcinogens; carcinogen metabolism	ABT/2
4.	Chemical carcinogenesis; initiation, promotion and progression	ABT/3
5.	Mechanism of ultraviolet radiation carcinogenesis (melanoma and non-melanoma skin cancer)	RPS/2
6.	Animal models of cancer research; athymic nude mice model; syngeneic mouse model, transgenic mouse model etc.	RPS, ABT/3
7.	Heredity and cancer; genetic basis of carcinogenesis	NM/2
8.	Viral carcinogenesis mechanism	NM/2
9.	Immunological aspects of cancer; leukemia	RPS, ABT/2
10.	Deregulated cell cycle progression in cancer	RPS, NM/3
11.	Aberrant cell signaling in cancer	NM/3
12.	Antiapoptotic mechanisms for the survival of cancer cells	RPS, NM, ABT/3
13.	Tumor angiogenesis and its molecular mechanisms	RPS/2
14.	Mechanisms of cancer invasion and metastasis	RPS, NM/3
15.	Cancer therapeutics: surgery, radiation and chemotherapy	RPS, ABT/3
16.	Chemoprevention of cancer	RPS, ABT/2

Further Reading:

1. Eric Hall and Amato J. Giaccia: Radiobiology for the radiologist, 6th edn. Lippincott Wilkins & Williams, Philadelphia, USA, 2006
2. K N Prasad “Hand book of Radiobiology “<https://doi.org/10.4324/9781003067825>
3. Alison P. Casarett Radiation and Its Effects: Radiation Biology. Prentice Hall, Englewood Cliffs, N.J.,
4. United Nations Scientific Committee on the Effects of Atomic Radiations (UNSCEAR Reports).