

Neoplasia Lectures by Dr.Heyam Awad

ILOS of lecture 1

- 1. To understand the burden of cancer, worldwide and in Jordan.
- 2.To be aware that cancer can be prevented.
- 3. To realize that prevention and early detection are the most important factors in decreasing cancer burden.
- 4. To know the basic concepts about epidemiology of cancer.
- 5. To understand the basic nomenclature of neoplasia.

[lecture 01: part 1](#)

[lecture 01: part 2](#)

[lecture 01: part 3](#)

ILOS of lecture 2

- 1. List the differences between benign and malignant tumors.
- 2. Recognize the histological features of malignancy.
- 3. Define dysplasia and understand its behavior.
- 4. Define carcinoma in situ and understand its difference from micro invasive carcinoma.

[lecture 02: part 1](#)

[lecture 02: part 2](#)

ILOS of Lecture 3

- 1. List types of genes mutated or altered during carcinogenesis.
- 2. Differentiate between oncogenes and tumor suppressor genes.
- 3. Understand the mutational and non mutational genetic changes responsible for carcinogenesis.

[lecture 03: part 1](#)

[lecture 03: part 2](#)

[lecture 03: part 3](#)

ILOS if Lecture 4

- 1.list the main environmental causative agents of cancer.
- 2. understand the difference between direct and indirect acting chemical carcinogens.
- 3. understand the pathogenesis of cancer development due to several etiologic agents.

[lecture 04](#)

ILOS of Lecture 5

- To understand the concept of the hallmarks of cancer and that they are phenotypic changes needed in all cancer cells.
- To list the tumor enablers
- To understand the role of host cells in carcinogenesis
- In depth understanding of the first hallmark: self sufficiency in growth signals.

[lecture 05: part 1](#)

[lecture 05: part 2](#)

ILOS if Lecture 6

- 1. Understand that insensitivity to growth inhibition is an important cancer hallmark.
- 2. List the tumor suppressor genes that if mutated result in this insensitivity.
- 3. Understand the role of RB and TP53 in carcinogenesis.

[lecture 06: part 1](#)

[lecture 06: part 2](#)

ILOS if Lecture 7

- 1. Understand the role of TGF beta pathway, Contact inhibition and APC gene in carcinogenesis.

[lecture 07](#)

ILOS of Lecture 8

- 1. understand the basic concepts of cell aging.
- 2. realize the importance of avoiding senescence as a hallmark of cancer.
- 3. understand evading apoptosis as a hallmark of cancer.
- 4. listing changes in the apoptotic pathways that can lead to cancer.
- 5. apply this knowledge in clinical scenarios, like follicular lymphoma.
- 6. understand the metabolic changes occurring during tumorigenesis
- 7. understand the basic concepts behind PET scan examination
- 8. understand the effect of autophagy in cancer development
- 9. understand the concept of oncometabolites and their targeted therapy.

[lecture 08: part 1](#)

[lecture 08: part 2](#)

ILOS of Lecture 9

- 1. understand the angiogenic switch in tumors and factors that stimulate and inhibit angiogenesis.
- 2. list the steps important for tumor metastasis and the mediators and genes responsible for them.
- 3. understand the concept of tumor dormancy and its clinical implications.

[lecture 09: part 1](#)

[lecture 09: part 2](#)

[lecture 09: part 3](#)

ILOS of Lecture 10

- 1. understand the concept of immune surveillance.
- 2. list the most common tumor antigens and understand their origins.
- 3. understand the mechanisms through which tumor cells evade the immune system.
- 5. understand the role of inflammation as an enabler of malignancy.
- 6 list the most important DNA repair genes and understand their role in carcinogenesis.

[lecture 10](#)