

**Title of the programme**

"Normal and abnormal growth of tissues and organs",

**Discipline**

Hematology - Oncology

**Period**

June 2013

**Teaching language**

English

**Maximum number of students**

10 +10

**Programme co-ordinators**

Overall teaching planning and Institutional tasks  
Antonio Cuneo (Hematology), Giovanni Lanza (Pathology)

Practical teaching  
Paolo Carcoforo (Surgery),  
Gian Matteo Rigolin (Hematology)  
Francesco Cavazzini (Laboratory)  
Massimo Negrini (Molecular Oncology)

Ferrara University, ITALY

**Contactperson**

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**Participating departments/institutes**

Hematology – Pathology - Oncology – Molecular genetics – Surgery

## **Background information: Main Topics**

- Basic principles of normal and abnormal cell growth,
- Invasion, metastasis and immune response
- The revolution in cancer treatment: understanding genetic lesions and target therapy
- Practical approach to the patient with tumor
- The tumor in the surgical room: the paradigm of breast cancer

## **Learning goals**

### Pathophysiology of Cancer

- normal and abnormal cell cycle
- angiogenesis and metastasis
- the cell and its defence
- sequential development of genetic lesions

### Approach to the patient

- visiting a patient with tumor
- communication skills
- recognize tumor cells
- principles of modern medical treatment
- principles of surgical treatment

## **Outline of the programme**

Two case/problem-based tutorials per week

Three lectures by basic and clinical specialists per week

### Practicals in the field

- Laboratory hematology and oncology: identifying leukemia cells and tumor cells
- Laboratory genetics: basic molecular genetic techniques
- Patient with tumor in the ward and in the DH setting
- Patient with breast cancer and surgery

## **International health themes (ITM major / minor)**

English is THE language!

## **Required knowledge**

Basic knowledge of cell biology, anatomy, biochemistry and physiology;

Interest in laboratory activities

Motivation to meet patients and understand their needs

## **Feedback**

The Ferrara Dept.s involved have a long tradition in PBL and PB Teaching

## **Way of assessment and Final assessment**

Activity in the practical training; final multiple choice test

All teaching activities will be hold at the University Hospital in Cona unless otherwise specified

Week 1 (3-7 June) Basic principles of normal and cancer cell biology	Subject	Teacher and venue
Mon 3 10.00 -12.30	Registration of the external students at: University, Office International Affairs Dott.C. Santoro; Ferrara, Via Savonarola 9	
15.00 – 16.00	Introduction to the course	A. Cuneo Aula T34.23
16.00 – 17.00	Lecture 1: Cell & Cyclus	M. Tognon AulaT34.23
Tue 4 14.00 – 15.00	Lecture 2: Classification of hemopoietic neoplasms	A. Cuneo Aula T34.23
15.00 – 16.30	Case 1 (discussion)	Tutors: M. Ciccone, O. Sofritti, S. Martinelli Room 1.16.5
Wdn 5 15.00 – 16.00	Lecture 3 “Molecular cell biology”	M. Negrini Aula T34.23
Thu 6 14.00 – 15.00	Lecture 4 Invasion and metastasis a) biologic mechanisms excluding angiogenesis	F. Di Virgilio Aula T34.23
15.00 – 16.30	Practical: Identifying normal and abnormal blood cells (1)	F. Cavazzini, M Ciccone, S. Martinelli, O. Sofritti Hematology Department 1B3
Fri 7 11.00 – 13.00	Practical: Molecular genetic techniques	M. Negrini (Cubo – FE)
14.30 – 16.00	Reporting Case 1.  Discussion Case 2.	Tutors Room 1.16.5

Week 2 (10-14 June) Cancer cell growth and interaction with the host	Subject	Teacher and venue
Mon 10		
14.00-15.00	Lecture 5: Invasion and metastasis b) Angiogenesis	G. Rigolin Aula T 34.23
15.00-16.30	Practical: identifying normal and abnormal blood cells (2)	F. Cavazzini, M Ciccone, S. Martinelli, O. Sofritti Hematology Department 1B3
Tue 11		
14.00-15.00	Lecture 6: Invasion and metastasis c) how and where metastatic spread occurs	G. Lanza Aula T 34.23
15.00-16.30	Reporting case 2 Discussion case 3	Tutors Room 1.16.5
Wdn 12		
14.00-15.00	Lecture 7: "The cell and its defence"	F. Di Virgilio Aula T 35.33
15.00-16.30	Practical: identifying tumor cells in tissue sections (1)	G. Lanza and co- workers Pathology Institute
Thu 13		
14.00-15.00	Lecture 8 Sequential development of genetic lesions: the example of colorectal and breast cancer	G. Lanza Aula T 35.33
Fri 14		
14.00 – 15.30	Practical: identifying tumor cells in tissue sections (2)	G. Lanza and co- workers Pathology Institute
15.30 – 17.00	Reporting Case 3. Discussion Case 4.	Tutors Room 1.16.5

Week 3 (17-21 June) Cancer in the clinic	Subject	Teacher and venue
Mon 17 14.00 – 15.00	Lecture 9 The breast cancer model: from bed to bench and back	A. Frassoldati Aula T 35.33
Tue 18 14.00 – 15.00  15.00 – 16.30	Lecture 10 Surgical approach to cancer treatment  <a href="#">Reporting case 4</a> <a href="#">Discussion case 5</a>	P. Carcoforo Aula T 35.33  <a href="#">Tutors Room 1.16.5</a>
Wdn 19 9.00 – 13.00 (to be defined)	<a href="#">Practical: surgery</a>	<a href="#">P. Carcoforo Surgery department</a>
Thu 20 14.00-15.00	Lecture 11 Medical approach to cancer treatment: from the genetic lesion to target therapy	F. Cavazzini Aula T 35.33
Fri 21 14.00-15.00  15.00-16.30	Lecture 12/training: <a href="#">"Communication skills"</a>  <a href="#">Reporting Case 5</a> <a href="#">Discussion Case 6</a>	R. Stockbrugger Aula T 35.33  <a href="#">Tutors Room 1.16.5</a>

Week 4 (24-28 June) Cancer in the clinic	Subject	Teacher(s)
Mon 24 9.00-13.00 To be defined	Practical: Visiting patients with hemopoietic neoplasms	G. Rigolin Hematology Department 1B3
Tue 25 9.00-13.00 To be defined  14.00 – 15.30	Practical: Visiting patients with hemopoietic neoplasms  Reporting case 6	G. Rigolin Hematology Department 1B3  Tutors Room 1.16.5
Wdn 26 9.00 – 13.00 (to be defined)	Practical: surgery	P. Carcoforo Surgery department
Thu 27	Self study	
Fri 28 09.00 – 12.00	Exam (multiple choice) and course evaluation.	Prof. R. Stockbrugger Aula T 35.33