

# Testi del Syllabus

Resp. Did. **MANFIOLETTI GUIDALBERTO** Matricola: **004082**

Docente **MANFIOLETTI GUIDALBERTO, 6 CFU**

Anno offerta: **2018/2019**

Insegnamento: **855SM - ESPRESSIONE GENICA**

Corso di studio: **SM53 - GENOMICA FUNZIONALE**

Anno regolamento: **2017**

CFU: **6**

Settore: **BIO/11**

Tipo Attività: **C - Affine/Integrativa**

Anno corso: **2**

Periodo: **Primo Semestre**

Sede: **TRIESTE**



## Testi in italiano

### Lingua insegnamento

Inglese.

### Contenuti (Dipl.Sup.)

The course is organized in two parts:  
I PART. One week intensive course on regulation of gene expression . The course is part of the Double Diploma programme with the Universities of Paris Diderot - Paris 7 and Paris Descartes - Paris 5.  
II PART. 1. How a Scientific paper is organized. Several papers will be discussed in this section. 2. RNA analyses. Extraction, purification and analysis of RNA from eukaryotic cells. 3. Protein-DNA interactions. 4. Eukaryotic RNA polymerases and promoters. 5. Eukaryotic general transcription factors. 6. Eukaryotic transcriptional activators. 7. Chromatin structure and its effects on transcription. 8. Post-transcriptional processes.

### Testi di riferimento

R. Weaver - Molecular biology - McGraw-Hill. Selected scientific papers and other didactical material will be provided through the Moodle platform.

### Obiettivi formativi

Knowledge and understanding.  
Understand mechanisms responsible for the regulation of gene expression in Eukaryotic organisms at the transcriptional and post-transcriptional level. Acquire the theoretical methodology used in gene expression studies.

Applying knowledge and understanding.  
Students will be able to critically read and understand scientific papers, learn how to present and discuss scientific results. They will also be able to design experiments aimed to characterize gene structure and regulation of gene expression both at transcriptional and post-transcriptional level. They will be able to adopt strategies to investigate gene expression both at single gene and using -omic approaches and to understand how gene expression is regulated by cells in different conditions.

Making judgements.

Judgment autonomy is developed through preparation on examination, which requires individual re-elaboration and assimilation of the material presented in the classroom; this goal will also be achieved through the scientific discussion of students' project organized as group activity (poster presentation).

Communication skills.

Lessons and group activities will be carried out by encouraging the students to interact each others in order to improve the scientific vocabulary and the ability to ask and answer scientific questions. The presence of international students coming from the University of Paris will improve dramatically the ability to discuss and interact with colleagues. The written test provides open questions in which the student must demonstrate ability to re-elaboration of the knowledge learned.

Learning skills.

The ability to learn is stimulated by the deepening of the knowledge learned during the lectures, from the seminars , from the discussion of scientific papers, from group work and from poster presentation and discussion under the supervision of italian and french teachers. The capacities of learning will be verified within the different modalities of evaluation.

### Prerequisiti

Basic concepts in Biochemistry, Molecular and cellular Biology.

### Metodi didattici

Frontal lessons: 3 ECTS (24 hours).  
Others (seminars, visits,etc.) 3 ECTS (24hours).

### Altre informazioni

Attendance of Part I is compulsory that one of Part II highly recommended. Students not able to attend the course should contact the teacher in advance.

Slides of the course, papers and protocols discussed during the course can be found at the Moodle website (password needed).

### Modalità di verifica dell'apprendimento

Written exam.

A written test is at the end of the "Erasmus week" (part I) and is the discussion of a scientific paper. The second test (part II) is based on three open questions and is given at the end of the course (look at the calendar of exams).

### Programma esteso

The course is organized in two parts:

I PART. One week intensive course on regulation of gene expression . The course is organized in seminars given by experts, professors of the University of Trieste, Udine, SISSA, ICGEB and visiting professors. The course (Erasmus week) is part of the Double Diploma programme with the Universities of Paris Diderot - Paris 7 and Paris Descartes - Paris 5. French students will be also present. The attendance is compulsory.

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## Testi in inglese

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