



UNIVERSITÀ DI PAVIA

Anno Accademico 2017/2018

ADVANCED MOLECULAR BIOLOGY

Anno immatricolazione	2017/2018
Anno offerta	2017/2018
Normativa	DM270
SSD	BIO/11 (BIOLOGIA MOLECOLARE)
Dipartimento	DIPARTIMENTO DI BIOLOGIA E BIOTECNOLOGIE "LAZZARO SPALLANZANI"
Corso di studio	MOLECULAR BIOLOGY AND GENETICS
Curriculum	PERCORSO COMUNE
Anno di corso	1°
Periodo didattico	Primo Semestre (01/10/2017 - 14/01/2018)
Crediti	6
Ore	48 ore di attività frontale
Lingua insegnamento	English
Tipo esame	ORALE
Docente	GIULOTTO ELENA (titolare) - 4.5 CFU SULLIVAN KEVIN FRANCIS - 1.5 CFU
Prerequisiti	Basic concepts in Molecular Biology, Genetics and Biochemistry
Obiettivi formativi	The objective of the course is to provide advanced knowledge in advanced molecular biology methods, including genomics and post-genomics. In addition, students will learn the english terminology in the field. Through journal clubs and scientific paper reading with the teacher, students will learn to critically evaluate the scientific literature in the field.
Programma e contenuti	Specific subjects include: organization of different genomes; DNA markers; genome maps; sequencing of entire genomes; next generation sequencing methods and applications; genome sequence interpretation (sequence analysis, experimental approaches, gene identification); defining gene function (gene inactivation, RNAi); genome modification

	by engineered nucleases; chromosome architecture (chromatin, centromeres, telomeres); comparative genomics; molecular mechanisms of genome evolution. Model organisms. Production of recombinant proteins.
Metodi didattici	Lectures, Journals clubs, Discussion with students
Testi di riferimento	"Genomes 3", TA Brown, Garland Science Publishing "From genes to genomes, Concepts and applications of DNA technology", JW Dale, MV Schantz, N Plant, third edition, Wiley-Blackwell "Gene cloning and DNA analysis, An Introduction" Fifth edition, TA Brown, Blackwell Publishing
Modalità verifica apprendimento	Written exam including open questions on general topics and multiple choice questions.
Altre informazioni	Written exam including open questions on general topics and multiple choice questions.
Obiettivi Agenda 2030 per lo sviluppo sostenibile	\$lbl_legenda_sviluppo_sostenibile