UNIVERSITÀ DI PAVIA

Anno Accademico 2018/2019

MICROSENSORI, MICROSISTEMI INTEGRATI E MEMS

Anno immatricolazione	2017/2018
Anno offerta	2018/2019
Normativa	DM270
SSD	ING-INF/01 (ELETTRONICA)
Dipartimento	DIPARTIMENTO DI INGEGNERIA INDUSTRIALE E DELL'INFORMAZIONE
Corso di studio	BIOINGEGNERIA
Curriculum	PERCORSO COMUNE
Anno di corso	2°
Periodo didattico	Primo Semestre (01/10/2018 - 18/01/2019)
Crediti	6
Ore	45 ore di attività frontale
Lingua insegnamento	Italian
Tipo esame	SCRITTO E ORALE CONGIUNTI
Docente	ANNOVAZZI LODI VALERIO (titolare) - 1 CFU CARLI FABIO - 1 CFU MALCOVATI PIERO - 2 CFU MERLO SABINA GIOVANNA - 2 CFU
Prerequisiti	Principles of mechanics. electronic circuits. electromagnetic waves.
Obiettivi formativi	This course represents a general introduction to microelectromechanical systems.
Programma e contenuti	The principle of operation of linear accelerometers, resonators, gyroscopes, pressure sensors are described. A detailed analysis of electrostatic actuators is carried on. The basic elements of MEMS fabrication are described. MOEMS are then reviewed, in particular with regard to micromirrors for laser scanning and optical switches. Electrical and optical methods for device chracterization are illustrated. Electronic interfaces for MEMS devices are discussed. Biomedical applications

	such as Lab-on-chip are also covered. Specific seminars are proposed each year.
Metodi didattici	Lectures (hours/year in lecture theatre): 46 Practical class (hours/year in lecture theatre): 0 Practicals / Workshops (hours/year in lecture theatre): 0
Testi di riferimento	Copies of transparencies and supplementary material available on the course web-site
Modalità verifica apprendimento	The final exam consists in a close-book written test.
Altre informazioni	The final exam consists in a close-book written test.
Obiettivi Agenda 2030 per lo sviluppo sostenibile	$lbl_legenda_sviluppo_sostenibile