

PhD Physics course at Bari University (Cycle)

Title	Optical sensors and spectroscopic techniques
Proponent	Prof. Vincenzo Spagnolo
# CFU (1 CFU = 8 hours)	2 CFU
Schedule	June 2016
Brief Summary of the course	Short course on Raman and photoacoustic spectroscopies and optical trace gas sensing
Programme	Raman Spectroscopy bases. Raman spectroscopy of crystal sample and related selection rules, Raman spectroscopy applications. Raman AFM. Laser absorption spectroscopy of gases. Photoacoustic spectroscopy. Piezoelectric and pyroelectric sensors. Laser beam profiling. Quartz tuning fork design and realization. Quartz enhanced photoacoustic spectroscopy (QEPAS). QEPAS sensors for trace gas detection.
Recommended texts	Lessons Slide
Assessment methods	Oral examination