

Training Activities plan - XL cycle

Lectures/activities first year

| <i>Activity/Lectures</i> | CFU | SSD | Hours of lectures |
|---|--------------|------------|--------------------------|
| Lectures | | | |
| 1. Theoretical and computational physics of the liquid state of matter (S. Prestipino Giarritta – G. Munaò) | 2 CFU | PHYS-04/A | 12 |
| 2. Structural and dynamic characterization of complex systems by spectroscopic techniques (V. Crupi – C. Corsaro) | 2 CFU | PHYS-03/A | 12 |
| 3. Nonequilibrium statistical mechanics (A. Sergi) | 1CFU | PHYS-02/A | 6 |
| 4. Complex quantum systems and nano-optics (O. Di Stefano - R. Saija - S. Savasta) | 2 CFU | PHYS-04/A | 12 |
| 5. Experimental physics applied to environmental and cultural heritage, biology and medicine (D. Majolino – V. Venuti – F. Caridi) | 2 CFU | PHYS-06/A | 12 |
| 6. Interaction of radiation with matter, plasmas, analysis and processing of materials (L. Torrisi - L. Silipigni – M. Cutroneo) | 2 CFU | PHYS-03/A | 12 |
| 7. Micro- and nanomaterials (F. Neri – E. Fazio) | 2 CFU | PHYS-03/A | 12 |
| 8. Nanomaterials and devices (S. Patanè – C. Triolo) | 1 CFU | PHYS-03/A | 6 |
| 9. Physics of disordered systems, polymers and biophysics (U. Wanderlingh – C. Branca) | 2 CFU | PHYS-03/A | 12 |
| 10. Physical methodologies for the study of condensed matter and the modeling of complex systems. (S. Magazù) | 1 CFU | PHYS-03/A | 6 |
| 11. Dynamics of nuclear reactions (A. Trifirò – M. Trimarchi) | 2 CFU | PHYS-01/A | 12 |
| 12. Baryonic resonances and hadronic cross sections in particle physics (G. Mandaglio) | 1 CFU | PHYS-01/A | 6 |
| 13. Geophysical and geodynamic studies using physical methodologies (B. Orecchio - D. Presti) | 2 CFU | GEOS-04/A | 12 |
| OTHER TRAINING ACTIVITIES | | | |
| Individual research activity to be discussed for passing to the second year | 23 CFU | | |
| Annual Report (Activity Report, ISSN 2038-5889) | 10 CFU | | |
| Participation to seminars, conferences, schools, stage abroad and in Italy | Max 8 CFU | | |
| Free-Choice activities | Max 8 CFU | | |
| Total | Up to 60 CFU | | |

22 CFU (132 hours) – 13 lectures; 1 CFU = 6 hours

Activities second year

| <i>Activity</i> | CFU |
|--|--------------|
| Individual research activity to be discussed for passing to the third year | 25 CFU |
| Annual Report (Activity Report, ISSN 2038-5889) | 10 CFU |
| Participation to seminars, conferences, schools, stage abroad and in Italy | Max 23 CFU |
| Free-Choice activities | Max 8 CFU |
| Total | Up to 60 CFU |

Activities third year

| <i>Activity</i> | CFU |
|--------------------------------|--------------|
| Drafting thesis and discussion | 35 CFU |
| Individual research activity | 23 CFU |
| Free choice activity | max CFU 8 |
| Total | Up to 60 CFU |