

DIDATTICA EROGATA (A.A. 2025-26)

Corso di Laurea Magistrale Internazionale in PHYSICS

FIRST YEAR (57 CFU)

| INSEGNAMENTO | COD. ESAME | TAF | AMBITO DISCIPLINARE | SSD | CFU | Ore | | | | | SEMESTER | Docente |
|-----------------------------------|------------|-----|---|------------------|-----|-----|----|----|-----|-------|------------|--|
| | | | | | | Le | Es | La | Tot | St.l. | | |
| Physics Laboratory | A423184 | B | Sperimentale e applicativo | FIS/01 | 10 | 40 | | 60 | 100 | | ANNUAL | Fabio Marzaioli Raffaele Buompane |
| Computational Methods for Physics | A423183 | B | Microfisico e della struttura della materia | FIS/04 | 9 | 48 | | 36 | 84 | | 2nd | Nunzio Itaco |
| 2 Elective courses from Group A | | B | Teorico e dei fondamenti della fisica | FIS/02 | 8+8 | | | | | | 1st or 2nd | |
| 2 Elective courses from Group B | | B | Microfisico e della struttura della materia | FIS/03 FIS/04 | 6+6 | | | | | | 1st or 2nd | |
| 1 Elective course from Group C | | C | | | 6 | | | | | | 1st or 2nd | |

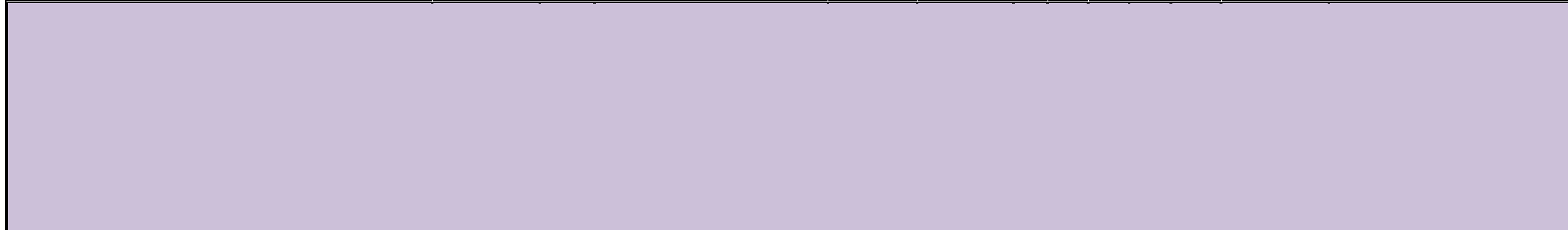
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|---|---------|---|--------------------------------------|--|---|--|--|--|--|--|--|--|-----|--|
| Further linguistic knowledge (Italian Course for non-italian citizens OR Scientific English) | A423999 | F | Ulteriori conoscenze linguistiche | | 4 | | | | | | | | 1st | |
|---|---------|---|--------------------------------------|--|---|--|--|--|--|--|--|--|-----|--|

Legenda Ore: Le: Lezioni; E: Esercitazioni numeriche; La: Esercitazioni di Laboratorio; St.I.: Studio individuale

ELECTIVE COURSES GROUP A

| INSEGNAMENTO | COD. ESAME | TAF | AMBITO DISCIPLINARE | SSD | CFU | | | | | SEMESTER | | |
|-------------------------------|---------------|-----|--|--------|----------|----|----|----|-----|----------|-----|--|
| | | | | | | Le | Es | La | Tot | | | |
| Theoretical Physics | A423178 | B | Teorico e dei fondamenti della fisica | FIS/02 | 8 | 56 | 12 | | 68 | | 1st | Luigi Coraggio |
| Theory of Quantum Computation | A424450 | B | Teorico e dei fondamenti della fisica | FIS/02 | 8 (6+ 2) | 48 | 24 | | 72 | | 1st | Giovanni de Gregorio |
| Statistical Mechanics | A423179 | B | Teorico e dei fondamenti della fisica | FIS/02 | 8 | 48 | 24 | | 72 | | 2nd | Lucilla de Arcangelis Eugenio Lippiello |

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|---|---------|---|--|--------|---|----|----|--|----|--|-----|---|
| Models and tools for weather prediction and climate | A424477 | B | Teorico e dei fondamenti della fisica | FIS/02 | 8 | 48 | 24 | | 72 | | 2nd | Mauro Rubino Eugenio Lippiello |
|---|---------|---|--|--------|---|----|----|--|----|--|-----|---|



ELECTIVE COURSES GROUP B

| INSEGNAMENTO | COD. ESAME | TAF | AMBITO DISCIPLINARE | SSD | CFU | | | | | SEMESTER | | |
|--|------------|-----|---|--------|-----|----|----|----|-----|----------|-----|--|
| | | | | | | Le | Es | La | Tot | | | |
| Nuclear and Subnuclear Physics | A423180 | B | Microfisico e della struttura della materia | FIS/04 | 6 | 40 | 12 | | 52 | | 1st | Lucio Gialanella Lizeth Morales-Gallego |
| Isotope physics and methods | A424480 | B | Microfisico e della struttura della materia | FIS/04 | 6 | 40 | 12 | | 52 | | 1st | Fabio Marzaioli |
| Quantum Electronics for atomic physics | A423533 | B | Microfisico e della struttura della materia | FIS/03 | 6 | 40 | 12 | | 52 | | 1st | Livio Gianfrani Antonio Castrillo |
| Condensed Matter Physics | A423532 | B | Microfisico e della struttura della materia | FIS/03 | 6 | 40 | 12 | | 52 | | 2nd | Luigi Moretti |
| Stochastic processes | A423187 | B | Microfisico e della struttura della materia | FIS/03 | 6 | 40 | 12 | | 52 | | 2nd | Alessandro Sarracino |

ELECTIVE COURSES GROUP C

| INSEGNAMENTO | COD. ESAME | TAF | AMBITO DISCIPLINARE | SSD | CFU | SEM | Ore | | | | | Mu tua to | | |
|--|------------|-----|----------------------|---------------------------|-----|-----|-----|----|----|-----|------|-----------------|--|--|
| | | | | | | | Le | Es | La | Tot | St.I | | | |
| Introduction to Optical sensing techniques | A424482 | C | Affini o Integrative | FIS/03 | 6 | 2nd | 48 | | | | | | | CNR INO (cgrat) |
| Astrophysics | A423188 | C | Affini o Integrative | FIS/05 | 6 | 2nd | 48 | | | | | | | INAF (cgrat) |
| Ecological climatology | A423189 | C | Affini o Integrative | FIS/07 | 6 | 2nd | 48 | | | | | | | Mauro Rubino |
| Applied Biophotonics | A424495 | C | Affini o Integrative | FIS/07 | 6 | 2nd | 48 | | | | | | | Maria Lepore |
| Complementary topics of theoretical physics | A425080 | C | Affini o Integrative | FIS/02 | 6 | 2nd | 48 | | | | | | | Luigi Coraggio Giovanni de Gregorio |
| Biophysical Mechanisms of Ionizing Radiation | A425508 | C | Affini o Integrative | FIS/07 | 6 | 1st | 48 | | | | | | | Lorenzo Manti |
| Aerospace physics methodologies | A423195 | C | Affini o Integrative | FIS/07- ING.IND /05 | 6 | 2nd | 48 | | | | | | | AFFIDAMENTO GRATUITO/CGRAT |

SECOND YEAR (63 CFU)

| INSEGNAMENTO | COD. ESAME | TAF | AMBITO DISCIPLINARE | SSD | CFU | SEMESTER |
|---------------------------------|------------|-----|--------------------------------------|-----|-----|----------|
| 1 Elective course from Group C | | C | | | 6 | 1st |
| 2 Elective courses from Group D | | D | | | 6+6 | 1st |
| Curricula Internship | A424520 | F | Tirocini formativi e di orientamento | | 3 | |
| Master Thesis and Dissertation | | E | Prova finale | | 42 | |

Legenda Ore: Le: Lezioni; E: Esercitazioni numeriche; La: Esercitazioni di Laboratorio; St.I.: Studio individuale

ELECTIVE COURSES GROUP C

| INSEGNAMENTO | COD. ESAME | TAF | AMBITO DISCIPLINARE | SSD | CFU | SEMESTER | ORE | | | | | |
|--------------------------------|------------|-----|----------------------|--------|-----|----------|-----|----|----|-----|------|-------------------------------|
| | | | | | | | Le | Es | La | Tot | St.I | |
| Photonics and Nanotechnologies | A423534 | C | Affini o Integrative | FIS/03 | 6 | 1st | 6 | | | 48 | | Luigi Moretti |

| | | | | | | | | | | |
|-------------------------------------|---------|---|----------------------|--------|---|-----|---|--|----|--|
| Modeling of complex systems | A423192 | C | Affini o Integrative | FIS/02 | 6 | 1st | 6 | | 48 | Lucilla de Arcangelis Eugenio Lippiello |
| Radiation Biophysics | A425512 | C | Affini o Integrative | FIS/07 | 6 | 1st | 6 | | 48 | SI ATTIVA NEL 26/27 |
| Particle astrophysics | A423193 | C | Affini o Integrative | FIS/04 | 6 | 1st | 6 | | 48 | INFN (cgrat) |
| Physics for Biomedical applications | A424488 | C | Affini o Integrative | FIS/07 | 6 | 1st | 6 | | 48 | Daniele Pistone |

ELECTIVE COURSES GROUP D:

ANY ELECTIVE COURSE FROM GROUPS A, B & C AND THE FOLLOWING COURSES

| INSEGNAMENTO | COD. ESAME | TAF | AMBITO DISCIPLINARE | SSD | CFU | SEMESTER | ORE | DOCENTE |
|-------------------------------|------------|-----|---------------------|--------|-----|----------|-----|--|
| Laser spectroscopy | A423199 | D | A scelta libera | FIS/03 | 6 | 1st | 48 | Eugenio Fasci Stefania Gravina |
| Nuclear astrophysics | A423203 | D | A scelta libera | FIS/04 | 6 | 1° | 48 | Lucio Gialanella Raffaele Buompane |
| Microscopic Nuclear Structure | A423535 | D | A scelta libera | FIS/04 | 6 | 1° | 48 | Luigi Coraggio Giovanni de Gregorio |

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|---|---------|---|-----------------|--------|---|----|----|--------------|
| Physics of the Sun and of the heliosphere | A424005 | D | A scelta libera | FIS/05 | 6 | 1° | 48 | INAF (cgrat) |
| Astrophysics of Galaxies | A424006 | D | A scelta libera | FIS/05 | 6 | 1° | 48 | INAF (cgrat) |

THE FOLLOWING COURSES BORROWED FROM THE MASTER DEGREE IN DATA SCIENCE

| INSEGNAMENTO | COD. ESAME | TAF | AMBITO DISCIPLINARE | SSD | CFU | SEMESTER | ORE | DOCENTE |
|---------------------------------------|------------|-----|---------------------|------------|-----|----------|-----|---|
| Network Analysis | | D | A scelta libera | SECS/S 01 | 6 | 1st | 48 | Antonio Irpino Erogato su Data Science |
| Advanced Operational Research | | D | A scelta libera | MAT/09 | 6 | 2nd | 48 | Gerardo Toraldo Erogato su Data Science |
| Numerical Models in Data Processing | | D | A scelta libera | MAT/08 | 6 | 2nd | 48 | Valentina De Simone Erogato su Data Science |
| Machine Learning and AI (Second Part) | | D | A scelta libera | INF/01 | 3 | 1st | 24 | Anna Esposito Erogato su Data Science |
| Machine Learning and AI (First Part) | | D | A scelta libera | ING-INF/05 | 6/9 | 2nd | 54 | Fiammetta Marulli Erogato su Data Science |