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| LOGO-ATENEO-FONDO TRASPARENTE | **UNIVERSITÀ DEGLI STUDI DELL’INSUBRIA** |

## CORSO DI LAUREA MAGISTRALE IN FISICA

**PERCORSO ASTROFISICA / DATA SCIENCE FOR ASTROPHYSICS**

**per gli studenti immatricolati nell’A.A. 2022/23**

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| Cognome e Nome | Matr. | Anno di corso |
| e-mail | Cell/Tel | |

**PIANO STUDI A.A. 2022/2023**

PRIMO ANNO -

* 5 esami caratterizzanti (30 CFU)
* 1 esame a scelta libera (6 CFU)
* 1 esame affine/integrativo (6 CFU)

Il numero di crediti indicato in parentesi per ognuno degli ambiti deve essere raggiunto sommando gli esami del primo e del secondo anno.

### Indicare gli insegnamenti caratterizzanti a scelta per i seguenti ambiti:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ***Ambito “Sperimentale applicativo” (6-12 CFU)*** | | | *SSD* | | *cfu* |
|  | Optics with laboratory | FIS/01 | | 6 | |
|  | Non-Linear Optics | FIS/01 | | 6 | |
|  | Scripting And Programming Laboratory For Data Analysis | FIS/01 | | 6 | |
|  | Advanced Experimental and Data Analysis Techniques in Particle and Nuclear Physics | FIS/07 | | 6 | |
| ***Ambito “Teorico e dei Fondamenti della Fisica” (6-12 CFU)*** | | | *SSD* | | *cfu* |
|  | Quantum Physics III | FIS/02 | | 8 | |
|  | General Relativity | FIS/02 | | 8 | |
|  | Statistical Physics I | FIS/02 | | 6 | |
|  | Statistical Physics II | FIS/02 | | 6 | |
| ***Ambito “Microfisico e della Struttura della Materia” (6-12 CFU)*** | | | *SSD* | | *cfu* |
|  | Laser Physics | FIS/03 | | 6 | |
|  | Solid State Physics | FIS/03 | | 6 | |
|  | Metamaterials | FIS/03 | | 6 | |
|  | Elementary Particle Phenomenology | FIS/04 | | 8 | |
|  | [Radiation and Detectors](https://www.uninsubria.it/ugov/degreecourse/132862) | FIS/04 | | 6 | |
|  | Collective Properties of Condensed Matter Systems | FIS/03 | | 6 | |
| ***Ambito “Astrofisico” (12-24 CFU)*** | | | *SSD* | | *cfu* |
|  | Elements of Astrophysics | FIS/05 | | 6 | |
|  | Introduction to cosmology | FIS/05 | | 6 | |
|  | Computational Astrophysics | FIS/05 | | 6 | |
|  | Time-domain Astrophysics | FIS/05 | | 6 | |
|  | Artificial Intelligence for Astrophysical Problems | FIS/05 | | 6 | |

### Indicare un insegnamento affine e integrativo a scelta:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ***Corsi Affini e Integrativi*** | | | *SSD* | | *cfu* |
|  | [Detection And Characterization Of Optical States](https://www.uninsubria.it/ugov/degreecourse/132798) Laboratory | ING-INF/05 | | 6 | |
|  | [Optical Signal Analysis](https://www.uninsubria.it/ugov/degreecourse/132825) | ING-INF/05 | | 6 | |
|  | [Applied Electronics](https://www.uninsubria.it/ugov/degreecourse/132805) | ING-INF/01 | | 6 | |
|  | [Aspects Of Chemical, Biological, Radiological And Nuclear Security](https://www.uninsubria.it/ugov/degreecourse/132801) | FIS/07 | | 6 | |
|  | [L](https://www.uninsubria.it/ugov/degreecourse/132801)aboratory of biophysics and photopharmacology | FIS/07 | | 6 | |
|  | [Analytical And Probabilistic Methods In Mathematical Physics](https://www.uninsubria.it/ugov/degreecourse/132494) B | MAT/07 | | 8 | |
|  | [Numerical Solution of PDE’s](https://www.uninsubria.it/ugov/degreecourse/132491) B | MAT/08 | | 8 | |
|  | Nanomaterials | CHIM/02 | | 6 | |
|  | Computational Chemical Physics | CHIM/02 | | 6 | |
|  | Intelligent systems | INF/01 | | 9 | |

### Indicare una attività a scelta tra gli insegnamenti attivati

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SECONDO ANNO

* tanti esami caratterizzanti quanti servono per arrivare a 42CFU
* 1 esame a scelta libera (6 CFU)
* 1 esame affine/integrativo (6 CFU)

### Indicare gli insegnamenti caratterizzanti a scelta per i seguenti ambiti:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ***Ambito “Sperimentale applicativo” (6-12 CFU)*** | | | *SSD* | | *cfu* |
|  | Optics with laboratory | FIS/01 | | 6 | |
|  | Non-Linear Optics | FIS/01 | | 6 | |
|  | Scripting And Programming Laboratory For Data Analysis | FIS/01 | | 6 | |
|  | Advanced Experimental and Data Analysis Techniques in Particle and Nuclear Physics | FIS/07 | | 6 | |
| ***Ambito “Teorico e dei Fondamenti della Fisica” (6-12 CFU)*** | | | *SSD* | | *cfu* |
|  | Quantum Physics III | FIS/02 | | 8 | |
|  | General Relativity | FIS/02 | | 8 | |
|  | Statistical Physics I | FIS/02 | | 6 | |
|  | Physics of Complex Systems | FIS/02 | | 6 | |
| ***Ambito “Microfisico e della Struttura della Materia” (6-12 CFU)*** | | | *SSD* | | *cfu* |
|  | Laser Physics | FIS/03 | | 6 | |
|  | Solid State Physics | FIS/03 | | 6 | |
|  | Metamaterials | FIS/03 | | 6 | |
|  | Elementary Particle Phenomenology | FIS/04 | | 8 | |
|  | [Radiation and Detectors](https://www.uninsubria.it/ugov/degreecourse/132862) | FIS/04 | | 6 | |
|  | Collective Properties of Condensed Matter Systems | FIS/03 | | 6 | |
| ***Ambito “Astrofisico” (12-24 CFU)*** | | | *SSD* | | *cfu* |
|  | Elements of Astrophysics | FIS/05 | | 6 | |
|  | Introduction to cosmology | FIS/05 | | 6 | |
|  | Computational Astrophysics | FIS/05 | | 6 | |
|  | Time-domain Astrophysics | FIS/05 | | 6 | |
|  | Artificial Intelligence for Astrophysical Problems | FIS/05 | | 6 | |

### Indicare un insegnamento affine e integrativo a scelta:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ***Corsi Affini e Integrativi*** | | | *SSD* | | *cfu* |
|  | [Detection And Characterization of Optical States](https://www.uninsubria.it/ugov/degreecourse/132798) Laboratory | ING-INF/05 | | 6 | |
|  | [Optical Signal Analysis](https://www.uninsubria.it/ugov/degreecourse/132825) | ING-INF/05 | | 6 | |
|  | [Applied Electronics](https://www.uninsubria.it/ugov/degreecourse/132805) | ING-INF/01 | | 6 | |
|  | [L](https://www.uninsubria.it/ugov/degreecourse/132801)aboratory of biophysics and photopharmacology | FIS/07 | | 6 | |
|  | Intelligent Systems | INF/01 | | 9 | |
|  | [Analytical And Probabilistic Methods In Mathematical Physics](https://www.uninsubria.it/ugov/degreecourse/132494) A | MAT/07 | | 8 | |
|  | [Numerical Solution of PDE’s](https://www.uninsubria.it/ugov/degreecourse/132491) A | MAT/08 | | 8 | |
|  | Nanomaterials | CHIM/02 | | 6 | |
|  | Computational Chemical Physics | CHIM/02 | | 6 | |
|  | Models for Biological Systems | INF/01 | | 6 | |

### Indicare una attività a scelta tra gli insegnamenti attivati

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**Attività obbligatorie**

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| Cfu 6 | Tirocinio |
| Cfu 48 | Prova Finale |

Como, FIRMA …………………………………………………

Approvato nella seduta del CCD del

IL PRESIDENTE