FACULTY OF SCIENCES
LIST OF ENGLISH-TAUGHT COURSES OPEN TO INTERNATIONAL EXCHANGE STUDENTS

The course list and timetable are subject to be updated each year. Therefore, we ask students to be flexible with their course selections (learning agreement). Please be aware that the number of places may be restricted for some courses. Please check the academic requirements. Proof of language proficiency in English is required : IELTS/TOEFL/TOEIC equivalent to B2 level minimum

Code	Course name	Level	ECTS credits	TD / Tutorial	CM / Lecture	Semester	Department / Institute	Program	Academic requirements
S05MA55	Mathematics in English 1	Bachelor (L3)	3	18 hours	12 hours	Fall	Department of Mathematics	Bachelor program in Mathematics	English B2 level
SBYCU12L	Dynamics of living systems	Master 2	3	10 hours	20 hours	Fall	Department of Biology	M.Sc. Integrative Biology and Physiology / Gene to Pathology	English B2 level
SBYCU04L	Research project	Master 2	6	48 hours	12 hours	Fall	Department of Biology	M.Sc. Integrative Biology and Physiology / Gene to Pathology	English B2 level
SBYCU03L	Stem cell biology : hype and hope	Master 2	6	20 hours	40 hours	Fall	Department of Biology	M.Sc. Integrative Biology and Physiology / Gene to Pathology	English B2 level
SBYCU02L	Hallmarks of cancer	Master 2	6	30 hours	30 hours	Fall	Department of Biology	M.Sc. Integrative Biology and Physiology / Gene to Pathology	English B2 level
SBYCU01L	Problem based learning in neurobiology	Master 2	6	50 hours of practical works		Fall	Department of Biology	M.Sc. Integrative Biology and Physiology / Gene to Pathology	English B2 level
SBICU03L	Biological Interaction Networks	Master 2	3	10 hours + 8 hours of practical works	12 hours	Fall	Centre for Living Systems (CENTURI)	Master Bio-informatics / Master Math et Applications / Master Math appliquees Stat / Computational and mathematical biology (CMB)	English B2 level
SCMA07AL	Probabilities and statistics for modelling 1	Master 1	3	6 hours + 6 hours of practical work	6 hours	Fall	Centre for Living Systems (CENTURI)	Master Bio-informatics / Computational and mathematical biology (CMB)	English B2 level
SCMA07BL	Continuous dynamical systems and modelling : examples	Master 1	3	6 hours + 6 hours of practical work	6 hours	Fall	Centre for Living Systems (CENTURI)	Master Bio-informatics / Computational and mathematical biology (CMB)	English B2 level
SCMAU01L	Fundamentals in Biology	Master 1	3		18 hours	Fall	Centre for Living Systems (CENTURI)	Master Bio-informatics / Master Math et Applications / Master Math appliquees Stat / Computational and mathematical biology (CMB)	English B2 level

Code	Course name	Level	ECTS credits	TD / Tutorial	CM / Lecture	Semester	Department / Institute	Program	Academic requirements
SCMAU02L	Professional perspectives for biological systems modelling	Master 1	3		18 hours	Fall	Centre for Living Systems (CENTURI)	Master Bio-informatics / Master Math et Applications / Master Math appliquees Stat / Computational and mathematical biology (CMB)	English B2 level
SCMAU03L	Genomics	Master 1	3	9 hours	9 hours	Fall	Centre for Living Systems (CENTURI)	Master Bio-informatics / Computational and mathematical biology (CMB)	English B2 level
SCMAU04L	Discrete modelling of dynamical biological systems 1	Master 1	3	6 hours + 6 hours of practical work	6 hours	Fall	Centre for Living Systems (CENTURI)	Master Bio-informatics / Master Math et Applications / Master Math appliquees Stat / Computational and mathematical biology (CMB)	English B2 level
SCMAU05L	Programming and algorithms	Master 1	6	12 hours + 12 hours of practical work	12 hours	Fall	Centre for Living Systems (CENTURI)	Master Bio-informatics / Master Math et Applications / Master Math appliquees Stat / Computational and mathematical biology (CMB)	English B2 level
SCMAU06L	Computational Biology	Master 1	3	16 hours of Practical works	14 hours	Fall	Centre for Living Systems (CENTURI)	Master Bio-informatics / Master Math et Applications / Master Math appliquees Stat / Computational and mathematical biology (CMB)	English B2 level
SCMAU08L	Basics in algebra and analysis	Master 1	3	6 hours + 6 hours of practical work	6 hours	Fall	Centre for Living Systems (CENTURI)	Master Bio-informatics / Computational and mathematical biology (CMB)	English B2 level
SCMAU10L	Probability	Master 1	3	6 hours + 6 hours of practical work	6 hours	Fall	Centre for Living Systems (CENTURI)	Master Math et Applications / Master Math appliquees Stat / Computational and mathematical biology (CMB)	English B2 level
SCMAU11L	Continuous dynamical systems, linear algebra and modelling	Master 1	6	12 hours + 12 hours of practical work	12 hours	Fall	Centre for Living Systems (CENTURI)	Master Math et Applications / Master Math appliquees Stat / Computational and mathematical biology (CMB)	English B2 level
SCMAU12L	Functional analysis	Master 1	3	6 hours + 6 hours of practical work	6 hours	Fall	Centre for Living Systems (CENTURI)	Master Math et Applications / Master Math appliquees Stat / Computational and mathematical biology (CMB)	English B2 level
SCMCU01L	Advanced Biology: Developmental Biology	Master 2	3	6 hours + 6 hours of practical works	6 hours	Fall	Centre for Living Systems (CENTURI)	Master Bio-informatics / Master Math et Applications / Master Math appliquees Stat / Computational and mathematical biology (CMB)	English B2 level
SCMCU02L	Advanced Biology: Immunology	Master 2	3	6 hours + 6 hours of practical works	6 hours	Fall	Centre for Living Systems (CENTURI)	Master Bio-informatics / Master Math et Applications / Master Math appliquees Stat / Computational and mathematical biology (CMB)	English B2 level
SCMCU03L	Advanced biology: Neurobiology	Master 2	3	6 hours + 6 hours of practical works	6 hours	Fall	Centre for Living Systems (CENTURI)	Master Bio-informatics / Master Math et Applications / Master Math appliquees Stat / Computational and mathematical biology (CMB)	English B2 level
SCMCU04L	Biological databases	Master 2	3	6 hours + 6 hours of practical works	6 hours	Fall	Centre for Living Systems (CENTURI)	Master Bio-informatics / Computational and mathematical biology (CMB)	English B2 level
SCMCU05L	Statistical inference and big data in biology	Master 2	3	6 hours + 6 hours of practical works	6 hours	Fall	Centre for Living Systems (CENTURI)	Master Bio-informatics / Master Math et Applications / Master Math appliquees Stat / Computational and mathematical biology (CMB)	English B2 level
SCMCU06L	Applications of mathematical modelling	Master 2	3	6 hours + 6 hours of practical works	6 hours	Fall	Centre for Living Systems (CENTURI)	Master Bio-informatics / Computational and mathematical biology (CMB)	English B2 level

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SCMCU07L	Interdisciplinary project in modelling	Master 2	6			Fall	Centre for Living Systems (CENTURI)	Master Bio-informatics / Computational and mathematical biology (CMB)	English B2 level
SCMCU08L	UE professionnalisante 3: CenTuri Seminars	Master 2	3	10 hours + 10 hours of practical works	10 hours	Fall	Centre for Living Systems (CENTURI)	Master Bio-informatics / Computational and mathematical biology (CMB)	English B2 level
SCMCU11L	Optimization and numerical calculus	Master 2	3	6 hours + 6 hours of practical works	6 hours	Fall	Centre for Living Systems (CENTURI)	Master Math et Applications / Master Math appliquees Stat / Computational and mathematical biology (CMB)	English B2 level
SMQCU43G	Scaling, Similarity and Self-Organization	Master 2	4	20 hours	20 hours	Fall	Department of Mechanics UNIMECA	Master Mechanics : Fluids and solids	English B2 level
SMQCU42G	Bio-inspired Engineering	Master 2	4	20 hours	20 hours	Fall	Department of Mechanics UNIMECA	Master Mechanics : Fluids and solids	English B2 level
SMQCU40G	Trends in Mechanics	Master 2	4	20 hours	20 hours	Fall	Department of Mechanics UNIMECA	Master Mechanics : Fluids and solids	English B2 level
SMQCU39G	Machine Learning Systems for Mechanics	Master 2	4	25 hours of practical works	15 hours	Fall	Department of Mechanics UNIMECA	Master Mechanics : Fluids and solids	English B2 level
SMQCU38G	Complex and Heterogeneous Materials	Master 2	4	20 hours	20 hours	Fall	Department of Mechanics UNIMECA	Master Mechanics : Fluids and solids	English B2 level
SMQCU37G	Fluid-Structure Interactions	Master 2	4	20 hours	20 hours	Fall	Department of Mechanics UNIMECA	Master Mechanics : Fluids and solids	English B2 level
SNECU06C	From perception to action	Master 2	6	10 hours + 10 hours of practical works	30 hours	Fall	Department of Biology	Master's degree in NeuroscienceType course: Neurosciences and biotechnologies (NEB)	English B2 level
SNECU07C	Computationnal Neurosciences and neural networks	Master 2	3	10 hours + 10 hours of practical works	10 hours	Fall	Department of Biology	Master's degree in NeuroscienceType course: Neurosciences and biotechnologies (NEB)	English B2 level
SNNAU02J	Organic Chemistry of Nanomaterials	Master 1	3	9 hours + 3 hours of practical works	15 hours	Fall	Department of Chemistry	Master Nanosciences and nanotechnologies : Chemical Nano-Engineering (CNE)	English B2 level. Max 1 or 2 exchange students/year. Subject to academic background
SNNAU03J	Basic Quantum Chemistry Modelling	Master 1	3	9 hours + 3 hours of practical works	15 hours	Fall	Department of Chemistry	Master Nanosciences and nanotechnologies : Chemical Nano-Engineering (CNE)	English B2 level. Max 1 or 2 exchange students/year. Subject to academic background
SNNAU04J	Computational Modelling of Nano-Systems	Master 1	7	21 hours + 18 hours of practical works	24 hours	Fall	Department of Chemistry	Master Nanosciences and nanotechnologies : Chemical Nano-Engineering (CNE)	English B2 level. Max 1 or 2 exchange students/year. Subject to academic background
SNNAU05J	Nano-electrochemistry	Master 1	3	9 hours + 3 hours of practical works	15 hours	Fall	Department of Chemistry	Master Nanosciences and nanotechnologies : Chemical Nano-Engineering (CNE)	English B2 level. Max 1 or 2 exchange students/year. Subject to academic background
SNNAU06J	Solid-state chemistry	Master 1	7	21 hours + 6 hours of practical works	36 hours	Fall	Department of Chemistry	Master Nanosciences and nanotechnologies : Chemical Nano-Engineering (CNE)	English B2 level. Max 1 or 2 exchange students/year. Subject to academic background

Code	Course name	Level	ECTS credits	TD / Tutorial	CM / Lecture	Semester	Department / Institute	Program	Academic requirements
SNNAU07J	Thermodynamics of Materials – Interactions and Surface Forces	Master 1	3	9 hours + 3 hours of practical works	15 hours	Fall	Department of Chemistry	Master Nanosciences and nanotechnologies : Chemical Nano-Engineering (CNE)	English B2 level. Max 1 or 2 exchange students/year. Subject to academic background
SPHCU07C	Quantum Field Theory	Master 2	6	30 hours	30 hours	Fall	Department of Physics	• Master of Physics / Physics • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level
SPH4U04C	Quantum Mechanics	Master 1	6	30 hours	30 hours	Fall	Department of Physics	• Master of Physics / Physics track • European Master in Nuclear Fusion and Engineering Physics • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level
SPH4U05C	Mathematics for Physics	Master 1	4	20 hours	20 hours	Fall	Department of Physics	• Master of Physics / Physics track • European Master in Nuclear Fusion and Engineering Physics • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level
SPH4U06C	Electromagnetism and optics	Master 1	4	20 hours	20 hours	Fall	Department of Physics	• Master of Physics / Physics track • European Master in Nuclear Fusion and Engineering Physics • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level
SPHAU01C	Scientific watch	Master 1	2	24 hours		Fall	Department of Physics	• Master of Physics / Physics track • European Master in Nuclear Fusion and Engineering Physics • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level
SPHAU02C	Laboratory and numerical methods	Master 1	4	40 hours		Fall	Department of Physics	• Master of Physics / Physics track • European Master in Nuclear Fusion and Engineering Physics • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level
SPHAU03C	Statistical Physics	Master 1	6	30 hours	30 hours	Fall	Department of Physics	• Master of Physics / Physics track • European Master in Nuclear Fusion and Engineering Physics • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level
SPHCU02C	Plasma-Wall Interaction, Discharge Plasmas	Master 2	6	30 hours	18 hours	Fall	Department of Physics	• Master of Physics / Physics track • European Master in Nuclear Fusion and Engineering Physics • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level

Code	Course name	Level	ECTS credits	TD / Tutorial	CM / Lecture	Semester	Department / Institute	Program	Academic requirements
SPHCU03C	Magnetic Confinement Fusion	Master 2	6	30 hours	30 hours	Fall	Department of Physics	• Master of Physics / Physics track • European Master in Nuclear Fusion and Engineering Physics • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level
SPHCU06C	Atomic and Molecular Physics, Spectroscopy	Master 2	6	30 hours	30 hours	Fall	Department of Physics	• Master of Physics / Physics track • European Master in Nuclear Fusion and Engineering Physics • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level
SPHCUF8C	Magnetohydrodynamics in Plasmas	Master 2	4	20 hours	20 hours	Fall	Department of Physics	• Master of Physics / Physics track • European Master in Nuclear Fusion and Engineering Physics • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level
SPHCUF9C	Plasma Kinetics, Turbulence and Transport	Master 2	4	20 hours	20 hours	Fall	Department of Physics	• Master of Physics / Physics track • European Master in Nuclear Fusion and Engineering Physics • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level
SPHCUG1C	Strong Heat Flux and Irradiation Effects on Materials	Master 2	4	20 hours	20 hours	Fall	Department of Physics	• Master of Physics / Physics track • European Master in Nuclear Fusion and Engineering Physics • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level
SPHCUG2C	Superconductors for Fusion	Master 2	4	20 hours	20 hours	Fall	Department of Physics	• Master of Physics / Physics track • European Master in Nuclear Fusion and Engineering Physics • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level
SPHCUG5C	Planetary Systems	Master 2	4	20 hours	20 hours	Fall	Department of Physics	• Master of Physics / Physics track • European Master in Nuclear Fusion and Engineering Physics • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level
SPHCU01C	The Relativistic Universe	Master 2	6	30 hours	30 hours	Fall	Department of Physics	• Master of Physics / Physics track • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level
SPHCU04C	Galaxies and Cosmology	Master 2	6	30 hours	30 hours	Fall	Department of Physics	• Master of Physics / Physics track • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level
SPHCU05C	Stars and Galaxies	Master 2	6	26 hours + 8 hours of practical works	26 hours	Fall	Department of Physics	• Master of Physics / Physics track • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level

Code	Course name	Level	ECTS credits	TD / Tutorial	CM / Lecture	Semester	Department / Institute	Program	Academic requirements
SPHCU08C	Advanced Particle Physics	Master 2	6	30 hours	30 hours	Fall	Department of Physics	• Master of Physics / Physics track • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level
SPHCU09C	General Relativity	Master 2	6	30 hours	30 hours	Fall	Department of Physics	• Master of Physics / Physics track • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level
SPHCUD1C	Advanced Quantum Statistical Physics	Master 2	6	30 hours	30 hours	Fall	Department of Physics	• Master of Physics / Physics track • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level
SPHCUD2C	Statistical Physics II	Master 2	6	30 hours	30 hours	Fall	Department of Physics	• Master of Physics / Physics track • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level
SPHCUD8C	Dynamical Systems and Non-Linear Physics	Master 2	6	30 hours	30 hours	Fall	Department of Physics	• Master of Physics / Physics track • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level
SPHCUE9C	Complex Systems and Introduction to Machine Learning	Master 2	4	20 hours	20 hours	Fall	Department of Physics	• Master of Physics / Physics track • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level
SPHCUF1C	Advanced Quantum Field Theory	Master 2	4	20 hours	20 hours	Fall	Department of Physics	• Master of Physics / Physics track • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level
SPHCUF2C	Soft Matter	Master 2	4	20 hours	20 hours	Fall	Department of Physics	• Master of Physics / Physics track • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level
SPHCUF3C	Out of Equilibrium Quantum Statistical Physics	Master 2	4	20 hours	20 hours	Fall	Department of Physics	• Master of Physics / Physics track • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level
SPHCUF4C	Standard Model & Gauge Theory	Master 2	4	20 hours	20 hours	Fall	Department of Physics	• Master of Physics / Physics track • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level
SPHCUF5C	Astroparticles and Primordial Cosmology	Master 2	4	20 hours	20 hours	Fall	Department of Physics	• Master of Physics / Physics track • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level
SPHCUF6C	Experimental Test of Standard Model and Beyond	Master 2	4	20 hours	20 hours	Fall	Department of Physics	• Master of Physics / Physics track • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level
SPHCUF7C	Radiation Matter Interaction, Radiative Transfer	Master 2	4	20 hours	20 hours	Fall	Department of Physics	• Master of Physics / Physics track • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level

Code	Course name	Level	ECTS credits	TD / Tutorial	CM / Lecture	Semester	Department / Institute	Program	Academic requirements
SPHCUG3C	Power Sources: HF, Laser	Master 2	4	20 hours	20 hours	Fall	Department of Physics	European Master in Nuclear Fusion and Engineering Physics	English B2 level
SPHAU06C	Electromagnetism	Master 1	4	20 hours	20 hours	Fall	Department of Physics	Master de Physique	English B2 level
SPHCD8AC	Dynamical Systems and Non-Linear Physics 1	Master 2	4	20 hours	20 hours	Fall	Department of Physics	Master Mechanics : Fluids and solids	English B2 level
SNNC03J	Hybrid electronics 1 : Organig optoelectronics	Master 2	2	6 hours	12 hours	Fall	Department of Physics	Master Nanosciences & nanotechnologies - Nanoscale and Quantum Engineering (NQE)	English B2 level
SNNC25J	Nano-objects	Master 2	36	9 hours	44 hours	Fall	Department of Physics	Master Nanosciences & nanotechnologies - Nanoscale and Quantum Engineering (NQE)	English B2 level
SNNCU03J	Quantum Nanoelectronics	Master 2	8	40 hours	45 hours	Fall	Department of Physics	Master Nanosciences & nanotechnologies - Nanoscale and Quantum Engineering (NQE)	English B2 level
SNNCU05J	Student seminars	Master 2	2	18 hours		Fall	Department of Physics	Master Nanosciences & nanotechnologies - Nanoscale and Quantum Engineering (NQE)	English B2 level
SNNCU09J	Hybrid electronics 1 : Advanced memories	Master 2	2	6 hours	12 hours	Fall	Department of Physics	Master Nanosciences & nanotechnologies - Nanoscale and Quantum Engineering (NQE)	English B2 level
SNNCU19J	Nanomagnetism & spintronics	Master 2	6	30 hours	24 hours	Fall	Department of Physics	Master Nanosciences & nanotechnologies - Nanoscale and Quantum Engineering (NQE)	English B2 level
SNNCU21J	Hybrid electronics 1 : Sensors	Master 2	2	6 hours	12 hours	Fall	Department of Physics	Master Nanosciences & nanotechnologies - Nanoscale and Quantum Engineering (NQE)	English B2 level
SPHAU58J	Fundamental in Optics	Master 1	6	40 hours	40 hours	Fall	Department of Physics	Master of Physics / Europhotonics track	English B2 level - Max 5 exchange students Bachelor degree in Physics or Engineering Solid academic background in the general fields of physics
SPHAU59J	Light Emission, Laser sources	Master 1	3	10 hours	30 hours	Fall	Department of Physics	Master of Physics / Europhotonics track	English B2 level - Max 5 exchange students Bachelor degree in Physics or Engineering Solid academic background in the general fields of physics
SPHAU60J	Imaging and Instrumentation in Optics	Master 1	3	10 hours	20 hours	Fall	Department of Physics	Master of Physics / Europhotonics track	English B2 level - Max 5 exchange students Bachelor degree in Physics or Engineering Solid academic background in the general fields of physics
SPHAU61J	Laboratory Practice	Master 1	3	40 hours		Fall	Department of Physics	Master of Physics / Europhotonics track	English B2 Level - Max 5 exchange students Only if combined with all the other ECTS from Europhotonics track

Code	Course name	Level	ECTS credits	TD / Tutorial	CM / Lecture	Semester	Department / Institute	Program	Academic requirements
SPHAU62J	Personal Project	Master 1	6	80 hours		Fall	Department of Physics	Master of Physics / Europhotonics track	English B2 Level - Max 5 exchange students Only if combined with all the other ECTS from Europhotonics track
SPHAU63J	Physics for Photonics	Master 1	6	20 hours	40 hours	Fall	Department of Physics	Master of Physics / Europhotonics track	English B2 level - Max 5 exchange students Bachelor degree in Physics or Engineering Solid academic background in the general fields of physics
SPHAU65J	Francais Langue Etrangere	Master 1	3	24 hours		Fall	Department of Physics	Master of Physics / Europhotonics track	English B2 level - Max 5 exchange students Bachelor degree in Physics or Engineering Solid academic background in the general fields of physics
SPHCUH6J	Tutorials	Master 2	2		20 hours	Fall	Department of Physics	Master of Physics / Europhotonics track	English B2 Level - Max 5 exchange students Bachelor degree + 1st year Master in Physics or Engineering. Solid academic background in physics & optics
SPHCUH7J	Quantum Optics	Master 2	3		22 hours	Fall	Department of Physics	Master of Physics / Europhotonics track	English B2 Level - Max 5 exchange students Bachelor degree + 1st year Master in Physics or Engineering. Solid academic background in physics & optics
SPHCUH8J	Analysis on research or technological intelligence	Master 2	2		20 hours	Fall	Department of Physics	Master of Physics / Europhotonics track	English B2 Level - Max 5 exchange students Bachelor degree + 1st year Master in Physics or Engineering. Solid academic background in physics & optics
SPHCUH9J	Laser sources and application / matter interaction	Master 2	3		34 hours	Fall	Department of Physics	Master of Physics / Europhotonics track	English B2 Level - Max 5 exchange students Bachelor degree + 1st year Master in Physics or Engineering. Solid academic background in physics & optics
SPHCUK1J	Optical components and optoelectronics	Master 2	3		34 hours	Fall	Department of Physics	Master of Physics / Europhotonics track	English B2 Level - Max 5 exchange students Bachelor degree + 1st year Master in Physics or Engineering. Solid academic background in physics & optics
SPHCUK2J	Photonics for biomedical applications	Master 2	3		24 hours	Fall	Department of Physics	Master of Physics / Europhotonics track	English B2 Level - Max 5 exchange students Bachelor degree + 1st year Master in Physics or Engineering. Solid academic background in physics & optics

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SPHCUK3J	Advanced method for optical instrumentations	Master 2	3		24 hours	Fall	Department of Physics	Master of Physics / Europhotonics track	English B2 Level - Max 5 exchange students Bachelor degree + 1st year Master in Physics or Engineering. Solid academic background in physics & optics
SPHCUK4J	Experimental projects A	Master 2	3			Fall	Department of Physics	Master of Physics / Europhotonics track	English B2 Level - Max 5 exchange students Only if combined with all the other ECTS from Europhotonics track
SPHCUK5J	Experimental projects B	Master 2	3			Fall	Department of Physics	Master of Physics / Europhotonics track	English B2 Level - Max 5 exchange students Only if combined with all the other ECTS from Europhotonics track
SPHCUK6J	Advanced Electromagnetism	Master 2	3		24 hours	Fall	Department of Physics	Master of Physics / Europhotonics track	English B2 Level - Max 5 exchange students Bachelor degree + 1st year Master in Physics or Engineering. Solid academic background in physics & optics
SPHCUK7J	Numerical method for electromagnetism	Master 2	3	10 hours	22 hours	Fall	Department of Physics	Master of Physics / Europhotonics track	English B2 Level - Max 5 exchange students Bachelor degree + 1st year Master in Physics or Engineering. Solid academic background in physics & optics
SPHCUK8J	Instrumentation for astronomy from ground and space	Master 2	3		34 hours	Fall	Department of Physics	Master of Physics / Europhotonics track	English B2 Level - Max 5 exchange students Bachelor degree + 1st year Master in Physics or Engineering. Solid academic background in physics & optics
SPHCUK9J	Nanophotonics	Master 2	3		28 hours	Fall	Department of Physics	Master of Physics / Europhotonics track	English B2 Level - Max 5 exchange students Bachelor degree + 1st year Master in Physics or Engineering. Solid academic background in physics & optics
SPHCUL2J	Francais langue etrangere (FLE S3)	Master 2	2	24 hours		Fall	Department of Physics	Master of Physics / Europhotonics track	English B2 Level - Max 5 exchange students Only if combined with all the other ECTS from Europhotonics track
SPHCUG4C	Particle Transport Modeling	Master 2	4	20 hours	20 hours	Fall	Department of Physics	Master of Physics / Physics Track	English B2 level
SPHCUD9C	Laser Created Plasmas	Master 2	4	20 hours	20 hours	Fall	Department of Physics	Physics Track	English B2 level
HCOAU01	Introduction to cognitive science	Master 1	3	15 hours	15 hours	Fall	Institute of Language Communication and the Brain : Faculty of Sciences / Faculty of Humanities	Master in Cognitive Science / MASCO	English B2 level

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HCOAU03, SSCAU02C	Introduction to Neurobiology	Master 1	3	3 hours + 9 hours of practical works	18 hours	Fall	Institute of Language Communication and the Brain : Faculty of Sciences / Faculty of Humanities	Master in Cognitive Science / MASCO	English B2 level
HCOAU04, SSCAU04C	Algebraic Methods	Master 1	3	12 hours + 9 hours of practical works	9 hours	Fall	Institute of Language Communication and the Brain : Faculty of Sciences / Faculty of Humanities	Master in Cognitive Science / MASCO	English B2 level
HCOAU2, SSCAU01C	Language and cognition	Master 1	6	30 hours + 10 hours of practical works	20 hours	Fall	Institute of Language Communication and the Brain : Faculty of Sciences / Faculty of Humanities	Master in Cognitive Science / MASCO	English B2 level
HCOCU01	Scientific Worshop	Master 2	3	30 hours		Fall	Institute of Language Communication and the Brain : Faculty of Sciences / Faculty of Humanities	Master in Cognitive Science / MASCO	English B2 level
HCOCU03, SSCCU01C	Language, Communication and the Brain 2	Master 2	6	30 hours	30 hours	Fall	Institute of Language Communication and the Brain : Faculty of Sciences / Faculty of Humanities	Master in Cognitive Science / MASCO	English B2 level
HCOCU04	Plateformes	Master 2	3	12 hours + 12 hours of practical works	6 hours	Fall	Institute of Language Communication and the Brain : Faculty of Sciences / Faculty of Humanities	Master in Cognitive Science / MASCO	English B2 level
HCODU01	Cognitive Engineering	Master 2	6	40 hours of practical work	20 hours	Fall	Institute of Language Communication and the Brain : Faculty of Sciences / Faculty of Humanities	Master in Cognitive Science / MASCO	English B2 level
S05MA66	Mathematics in English 2	Bachelor (L3)	3	18 hours	12 hours	Spring	Department of Mathematics	Bachelor program in Mathematics	English B2 level
SBIB04AL	Bioinformatics Analysis of Omics Data	Master 1	3	15 hours + 15 hours of practical work		Spring	Centre for Living Systems (CENTURI)	Master Bio-informatics / Computational and mathematical biology (CMB)	English B2 level
SBIB04BL	Statistical Analysis of Omics Data	Master 1	3	20 hours of practical works	10 hours	Spring	Centre for Living Systems (CENTURI)	Master Bio-informatics / Computational and mathematical biology (CMB)	English B2 level
SCMB02AL	Graph theory and algorithms 1	Master 1	3	6 hours + 6 hours of practical works	6 hours	Spring	Centre for Living Systems (CENTURI)	Master Bio-informatics / Master Math et Applications / Master Math appliquees Stat / Computational and mathematical biology (CMB)	English B2 level
SCMB02BL	Statistics for biology	Master 1	3	6 hours + 6 hours of practical works	6 hours	Spring	Centre for Living Systems (CENTURI)	Master Bio-informatics / Master Math et Applications / Master Math appliquees Stat / Computational and mathematical biology (CMB)	English B2 level
SCMBU01L	Fundamentals of biology 2	Master 1	4	12 hours	12 hours	Spring	Centre for Living Systems (CENTURI)	Master Bio-informatics / Master Math et Applications / Master Math appliquees Stat / Computational and mathematical biology (CMB)	English B2 level
SCMBU03L	Advanced statistics	Master 1	3	6 hours + 6 hours of practical works	6 hours	Spring	Centre for Living Systems (CENTURI)	Master Bio-informatics / Master Math et Applications / Master Math appliquees Stat / Computational and mathematical biology (CMB)	English B2 level
SCMBU04L	Probability and statistics for modelling 2	Master 1	3	6 hours + 6 hours of practical works		Spring	Centre for Living Systems (CENTURI)	Master Bio-informatics / Computational and mathematical biology (CMB)	English B2 level

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SCMBU05L	Research project and scientific communication	Master 1	6	Internship -6 weeks April 15 – June 1		Spring	Centre for Living Systems (CENTURI)	Master Bio-informatics / Master Math et Applications / Master Math appliquees Stat / Computational and mathematical biology (CMB)	English B2 level
SCMBU06L	CenTuri Seminars	Master 1	2		12 hours	Spring	Centre for Living Systems (CENTURI)	Master Bio-informatics / Computational and mathematical biology (CMB)	English B2 level
SCMBU08L	Hilbert and Fourier analysis	Master 1	3	6 hours + 6 hours of practical works	6 hours	Spring	Centre for Living Systems (CENTURI)	Master Math et Applications / Master Math appliquees Stat / Computational and mathematical biology (CMB)	English B2 level
SNEBU07C	Experimental Approches of Neuropathology	Master 1	6	18 hours	30 hours	Spring	Department of Biology	Master's degree in NeuroscienceType course: Neurosciences and biotechnologies (NEB)	English B2 level
SNEBU08C	Methodologies	Master 1	6	60 hours of practical works		Spring	Department of Biology	Master's degree in NeuroscienceType course: Neurosciences and biotechnologies (NEB)	English B2 level
SPHBU01C	Laboratory and numerical methods	Master 1	4	40 hours		spring	Department of Physics	• Master of Physics / Physics track • European Master in Nuclear Fusion and Engineering Physics • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level
SPHBU04C	Statistics and Data Analysis	Master 1	4	20 hours	20 hours	Spring	Department of Physics	• Master of Physics / Physics track • European Master in Nuclear Fusion and Engineering Physics • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level
SPHBU05C	Plamas Physics	Master 1	4	20 hours	20 hours	Spring	Department of Physics	• Master of Physics / Physics track • European Master in Nuclear Fusion and Engineering Physics • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level
SPHBU06C	Charged Fluids Dynamics	Master 1	4	20 hours	20 hours	Spring	Department of Physics	• Master of Physics / Physics track • European Master in Nuclear Fusion and Engineering Physics • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level
SPHBU08C	Cosmology	Master 1	4	17 hours + 6 hours of practical works	17 hours	Spring	Department of Physics	• Master of Physics / Physics track • European Master in Nuclear Fusion and Engineering Physics • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level
SPHBU09C	Relativity	Master 1	4	20 hours	20 hours	Spring	Department of Physics	• Master of Physics / Physics track • European Master in Nuclear Fusion and Engineering Physics • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level

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SPHBU45C	Subatomic and Particle Physics	Master 1	4	18 hours + 4 hours of practical works	18 hours	Spring	Department of Physics	• Master of Physics / Physics track • European Master in Nuclear Fusion and Engineering Physics • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level
SPHBU77C	Spectroscopy, Images, Detection	Master 1	4	20 hours	20 hours	Spring	Department of Physics	• Master of Physics / Physics track • European Master in Nuclear Fusion and Engineering Physics • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level
SPHBU78C	Advanced Mathematical Methods	Master 1	4	20 hours	20 hours	Spring	Department of Physics	• Master of Physics / Physics track • European Master in Nuclear Fusion and Engineering Physics • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level
SPHBU79C	Dynamical Systems	Master 1	4	20 hours	20 hours	Spring	Department of Physics	• Master of Physics / Physics track • European Master in Nuclear Fusion and Engineering Physics • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level
SPHBU80C	Continuous Media	Master 1	4	20 hours	20 hours	Spring	Department of Physics	• Master of Physics / Physics track • European Master in Nuclear Fusion and Engineering Physics • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level
SPHBU81C	Condensed Matter Physics	Master 1	4	20 hours	20 hours	Spring	Department of Physics	• Master of Physics / Physics track • European Master in Nuclear Fusion and Engineering Physics • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level
SPHDU02C	numerical and computational modeling	Master 2	4	20 hours	20 hours	spring	Department of Physics	• Master of Physics / Physics track • European Master in Nuclear Fusion and Engineering Physics • International Double-Degree Master of Physics/ Physics / Laurea di Fisica Genoa Univ	English B2 level
SPHBU82C	Physics of Living Systems I	Master 1	4	20 hours	20 hours	Spring	Department of Physics	European Master in Nuclear Fusion and Engineering Physics	English B2 level
SPHBU02C	Research project and scientific communication	Master 1	6			Spring	Centre for Living Systems (CENTURI)	Master Bio-informatics / Computational and mathematical biology (CMB)	English B2 level
SPHBUA8C	Stars and exoplanets	Master 1	4	17 hours + 6 hours of practical works	17 hours	Spring	Department of Physics	Master de Physique	English B2 level

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SNNCU15J	Photonics & nanophotonics	Master 2	3	9 hours	18 hours	Spring	Department of Physics	Master Nanosciences & nanotechnologies - Nanoscale and Quantum Engineering (NQE)	English B2 level
SNNDU03J	Emerging nanosciences	Master 2	2		18 hours	Spring	Department of Physics	Master Nanosciences & nanotechnologies - Nanoscale and Quantum Engineering (NQE)	English B2 level
SNNDU04J	Internship in laboratory or enterprise	Master 2	20			Spring	Department of Physics	Master Nanosciences & nanotechnologies - Nanoscale and Quantum Engineering (NQE)	English B2 level
SNNDU06J	integration & reliability	Master 2	3	9 hours	18 hours	Spring	Department of Physics	Master Nanosciences & nanotechnologies - Nanoscale and Quantum Engineering (NQE)	English B2 level
SNNDU07J	nanobiosciences	Master 2	3	9 hours	18 hours	Spring	Department of Physics	Master Nanosciences & nanotechnologies - Nanoscale and Quantum Engineering (NQE)	English B2 level
SNNDU08J	Advanced numerical methods & simulations	Master 2	3	18 hours	9 hours	Spring	Department of Physics	Master Nanosciences & nanotechnologies - Nanoscale and Quantum Engineering (NQE)	English B2 level
SPHBU92J	Signal and Image Analysis	Master 1	3	10 hours	20 hours	Spring	Department of Physics	Master of Physics / Europhotonics track	English B2 level - Max 5 exchange students Bachelor degree in Physics or Engineering Solid academic background in the general fields of physics
SPHBU93J	Non Linear Optics	Master 1	2		20 hours	Spring	Department of Physics	Master of Physics / Europhotonics track	English B2 level - Max 5 exchange students Bachelor degree in Physics or Engineering Solid academic background in the general fields of physics
SPHBU94J	Guided Optics-Applications of optoelectronics components	Master 1	3	10 hours	20 hours	Spring	Department of Physics	Master of Physics / Europhotonics track	English B2 level - Max 5 exchange students Bachelor degree in Physics or Engineering Solid academic background in the general fields of physics
SPHBU95J	Physics for Photonics part II	Master 1	2	7 hours	13 hours	Spring	Department of Physics	Master of Physics / Europhotonics track	English B2 level - Max 5 exchange students Bachelor degree in Physics or Engineering Solid academic background in the general fields of physics
SPHBU96J	Prop.-fab.-charac. opto. Devices	Master 1	3	10 hours	20 hours	Spring	Department of Physics	Master of Physics / Europhotonics track	English B2 level - Max 5 exchange students Bachelor degree in Physics or Engineering Solid academic background in the general fields of physics
SPHBU97J	Advanced Electromagnetics 1 - Numerical Approach	Master 1	3	21 hours	9 hours	Spring	Department of Physics	Master of Physics / Europhotonics track	English B2 level - Max 5 exchange students Bachelor degree in Physics or Engineering Solid academic background in the general fields of physics

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SPHBU98J	Lab project and Practice work	Master 1	3			Spring	Department of Physics	Master of Physics / Europhotonics track	English B2 Level - Max 5 exchange students Only if combined with all the other ECTS from Europhotonics track
SPHBUA2J	Photon Spectroscopy	Master 1	2		15 hours	Spring	Department of Physics	Master of Physics / Europhotonics track	English B2 level - Max 5 exchange students Bachelor degree in Physics or Engineering Solid academic background in the general fields of physics
SPHBUA3J	Introduction to molecular cell biology	Master 1	2		15 hours	Spring	Department of Physics	Master of Physics / Europhotonics track	English B2 level - Max 5 exchange students Bachelor degree in Physics or Engineering Solid academic background in the general fields of physics
SPHBUA5J	Francais langue etrangere (FLE S2)	Master 1	2	24 hours		Spring	Department of Physics	Master of Physics / Europhotonics track	English B2 Level - Max 5 exchange students Only if combined with all the other ECTS from Europhotonics track
HCOAU5, SSCBU03C	Probability and Statistics	Master 1	3	12 hours + 9 hours of practical works	9 hours	Spring	Institute of Language Communication and the Brain : Faculty of Sciences / Faculty of Humanities	Master in Cognitive Science / MASCO	English B2 level
HCOBU01	Experimental Method	Master 1	3	20 hours	10 hours	Spring	Institute of Language Communication and the Brain : Faculty of Sciences / Faculty of Humanities	Master in Cognitive Science / MASCO	English B2 level
HCOBU02	Language, Communication and the Brain 1	Master 1	6	30 hours	30 hours	Spring	Institute of Language Communication and the Brain : Faculty of Sciences / Faculty of Humanities	Master in Cognitive Science / MASCO	English B2 level
HCOBU03, SSCBU01C	Data in cognitive Science	Master 1	3	3 hours + 12 hours of practical works	15 hours	Spring	Institute of Language Communication and the Brain : Faculty of Sciences / Faculty of Humanities	Master in Cognitive Science / MASCO	English B2 level
HCOBU04, SSCAU03C	Programming	Master 1	3	10 hours + 10 hours of practical works	10 hours	Spring	Institute of Language Communication and the Brain : Faculty of Sciences / Faculty of Humanities	Master in Cognitive Science / MASCO	English B2 level
HCOBU05, SSCBU02C	Machine Learning	Master 1	3	10 hours + 10 hours of practical works	10 hours	Spring	Institute of Language Communication and the Brain : Faculty of Sciences / Faculty of Humanities	Master in Cognitive Science / MASCO	English B2 level