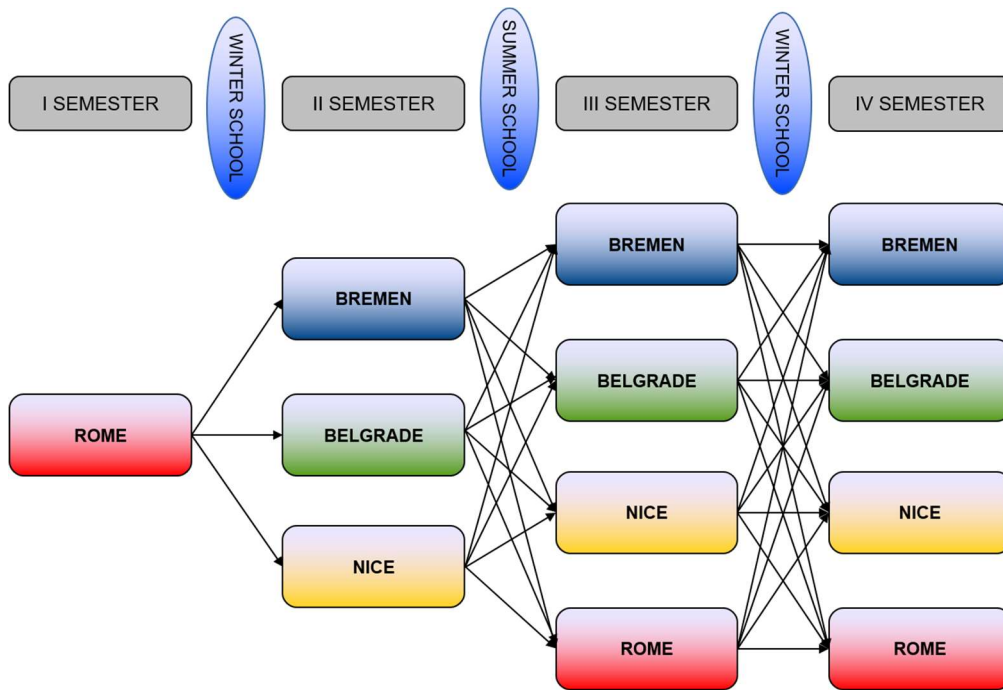
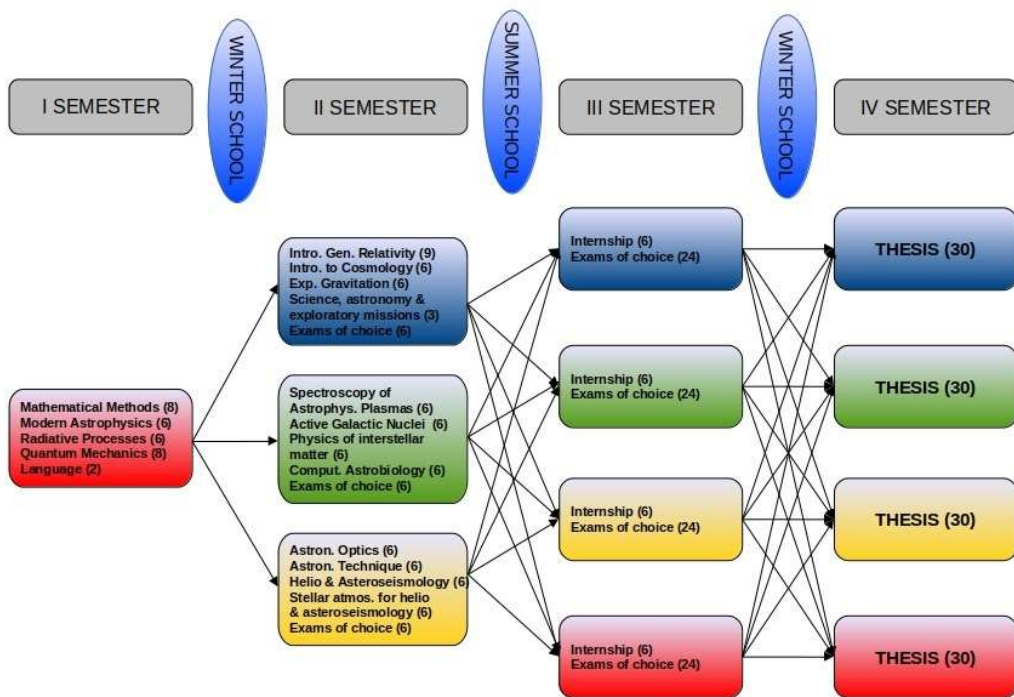


MASS (Master in Astrophysics and Space Science) Courses and Paths





Courses Scheme

	<i>S1: Uni. Tor Vergata (30 ECTS)</i>		
	Compulsory Courses (30) 1. Mathematical Methods (8) 2. Modern Astrophysics (6) 3. Radiative Processes (6) 4. Quantum Mechanics (8) 5. Language (2)		
Winter Training School			
	<i>S2: Uni. Bremen (30 ECTS)</i>	<i>S2: Uni. Belgrade (30 ECTS)</i>	<i>S2: Uni. Nice (30 ECTS)</i>
Compulsory Courses (24) 1. Intro GR (9) 2. Introduction to Cosmology (6) 3. Exp. Gravitation (6) 4. Science, astronomy & exploratory missions (3) Elective Course(s) (6) Celestial Mechanics (6) Stellar Astrophysics (6)	Compulsory Courses (24) 1. Spectroscopy of astrophysical Plasmas (6) 2. Active Galactic Nuclei (6) 3. Physics of interstellar matter (6) 4. Computational Astrobiology (6) Elective Course(s) (6) Gravitation and Cosmology (6) Supernovae and Their Remnants (6) Introduction to Nucleosynthesis and Particle Astrophysics (6) Small Solar System objects (6)	Compulsory Courses (24) Astronomical Optics (6) Astronomical Technique (6) Helio & Asteroseismology (6) Stellar atmospheres for helio & asteroseismology (6) Elective Course(s) (6) Fluid Mechanics (3) Math/Stat (3) Modelling in Asteroseismology (3) Cophasing Optics (2) Optical long baseline Interferometry (2) Gravitational wave detection by laser interferometry: VIRGO&LISA (2)	
Summer Training School			

<i>S3: Uni. Tor Vergata (30 ECTS)</i>	<i>S3: Uni. Bremen (30 ECTS)</i>	<i>S3: Uni. Belgrade (30 ECTS)</i>	<i>S3: Uni. Nice (30 ECTS)</i>
Compulsory Course Internship (6) Elective Courses (24) Stellar Structure and Evolution (6) Advanced Cosmology (6)	Compulsory Course Internship (6) Elective Courses (24) Advanced GR (6) Hydrodynamics and Accr. Disks (6) Black Holes (6)	Compulsory Course Internship (6) Elective Courses (24) Astroinformatics - Astrostatistics and Machine Learning in Astronomy (6) Astrodynamics and Space Missions (6)	Compulsory Course Internship (6) Elective Courses (24) Small satellite (6) Convex optimisation applied to statistical signal processing (3) Statistical physics (3)

<p>Clusters of Galaxies (6) Active Galactic Nuclei (6) Gravitational Physics (6) Gravitational Waves (6) Habitability & Astrobiology (6) Exoplanets (6) Space Weather (6) Space Science (6) Planetary Sciences & Space Missions (6) Numerical Methods for Astrophysics (6)</p>	<p>Gravitational lensing (6) Remote sensing (3) Geodesy (3) Space Telescopes (3) Global Navigation Satellite System (3) Philosophy of Cosmology, Space and Space Travel (3)</p>	<p>Astrophysical data reduction and analysis techniques (3) Line Shapes in Astrophysics (3) Big Data in space science and its analysis (6) Space Robotics (6) Principal design of experimental equipment for microsatellite launching (6) Material characterization in Space (6) Physics of Earth Ionosphere (6)</p>	<p>Exoplanet detection (6) Formation & Evolution of Galaxies (6) Data mining (6) THE JUICE - JUpiter ICy moons Explorer - MISSION (6) THE BEPI-COLOMBO MISSION (6)</p>
<h2>Winter Training School</h2>			
<p><i>Master Thesis</i> (30 ECTS)</p>			