

D.R. n. 426 del 18/07/2024

**The San Raffaele Telematic University of Rome
is organizing the 1st level Master's degree program**

in

"Advanced technologies for evaluation and treatment in rehabilitation "

endorsed by:

European Society of Physical & Rehabilitation Medicine

UEMS –PRM Section and Board

International Society of Physical & Rehabilitation Medicine

International Industry Society in Advanced Rehabilitation Technology

European Rehabilitation Robotic Committee

Italian Society of Physical and Rehabilitation Medicine

Italian Society of Neurological Rehabilitation

(Academic Year 2023/2024)

Title	Advanced technologies for evaluation and treatment in rehabilitation
Director	Giustini Alessandro, MD (Chair of European Robotic Rehabilitation Committee and Summer School)
Scientific Committee	<ul style="list-style-type: none">❖ Franceschini Marco, MD (Head of the Research Area in Neuromotor Rehabilitation and Rehabilitative Robotics, IRCCS San Raffaele, Rome, Italy)❖ Goffredo Michela, ING (Department of Human Sciences and Quality of Life Promotion, San Raffaele Telematic University, Italy; IRCCS San Raffaele, Rome, Italy)❖ Morone Giovanni, MD (Department of Clinical Medicine, Public Health, Life and Environmental Sciences, University of L'Aquila; San Raffaele Sulmona, Sulmona, Italy)❖ Pournajaf Sanaz, PT (Coordinator of the Research Area in Neuromotor Rehabilitation and Rehabilitative Robotics, IRCCS San Raffaele, Rome, Italy)
International Education Commission	<ul style="list-style-type: none">❖ Agujar Branco Catarina (ESPRM Delegate, Portogallo)❖ Barotsis Nikolaos, MD (President of the UEMS Board, Greece)❖ Beretta Giovanna, MD (President of the SIMFER, Italy)



	<ul style="list-style-type: none">❖ Ceravolo Maria Gabriella, MD (Representative of the Workforce Workstream of the World Rehabilitation Alliance, Italy)❖ Foti Calogero, MD (President MFPRM, Italia)❖ Gimigliano Francesca, MD (President of the ISPRM, Italy)❖ Grabljevec Klemen, MD (President of the ESPRM, Slovenia)❖ Grubišić Frane, MD (General Secretary of the ESPRM, Croatia)❖ Griffo Giampiero, BA (European Disability Forum, Italy)❖ Negrini Stefano, MD (International CochraneRehabilitation, Italy)❖ Oral Aydan, MD (Secretary of the UEMS, Turkey)❖ Popa Daiana, MD (Vice Chair of the ESPRM Robotic Committee, Romania)❖ Zampolini Mauro, MD (President of the UEMS Section, Italy)
Objectives and Goals	<p>One of the main educational objectives is to represent, alongside the potential of new technologies for Rehabilitation, work methodologies, protocols, evaluation methods, treatment and measurement of effects, data collection methodologies, roles, and activities of different professionals within the Team. This will be crucial in relation to different health conditions and disabilities and the various rehabilitation settings of interest: in this sense, Project Work and Individual Study activities will be fundamental.</p> <p>The construction of the Modules, while respecting an approach logically correlated with the main data of scientific, technological, and clinical development in the field, is aimed at providing Learners with all the knowledge and skills tools suitable and complete to carry out their professional activity in relation to the composition of the varied demand for care that citizens present in Italy and in all European countries.</p> <p>Another educational objective is to contribute to the enrichment and homogenization of the training of all health and technical personnel necessary to guarantee the quality, effectiveness, and organizational and ethical-social sustainability of these diagnostic-therapeutic activities in rehabilitation.</p> <p>The demand for rehabilitation care is growing in every country in the world and is increasingly based on awareness of Health Rights for all and on the search for personal functioning and enablement in life, as indicated by ICF, rather than solely on the matrices of pathologies that can be at the origin of functional limitations and conditions of transient or lasting disabilities. A demand for rehabilitation care that must therefore have a wide range of interventions, times, and integrated operational locations in the community where innovative technologies can guarantee increasingly articulated and effective potentialities. A demand for care that must find all the professionals involved equipped with continuous and unitary competence and training to respond to the rights of quality, effectiveness, and safety on the part of</p>



	<p>Users and to respond to national and international regulations. Considering how rapidly and continuously evolving this sector is in every aspect and content, it can be expected that sometimes topics and lessons from different teachers in the Module (but sometimes also in different Modules) may overlap and overlap, but this becomes a significant value to offer learners perspectives, experiences, and opinions that enrich learning. From this point of view, teachers will be available for questions and discussions for any further insights and clarifications.</p>											
<p>Structure and Methodology of the Course</p>	<p>The Master's program will have a study duration of 1500 hours equivalent to 60 ECTS (European Credit Transfer and Accumulation System) credits and will be delivered in asynchronous distance learning mode.</p> <p>Teaching Methodologies:</p> <ul style="list-style-type: none"> - Lectures and clinical presentations (distance learning) - Project work, assessment tests - Individual study - Final exam <p>ECTS credits can be earned only by passing the final examination. It consists of a written exam on all topics addressed by the study curriculum, as well as the preparation and defense of a thesis, in a graduation commission consisting of a specifically designated committee, reflecting the study and personal interpretation of the undertaken training course and related activities. The committee, designated by the Rector, consists of the course's lecturers.</p> <p>At the end of the course, those who have met all the required conditions and passed the final exam successfully will receive the Master's Degree in "Advanced technologies for evaluation and treatment in rehabilitation"</p>											
<p>Educational Programme</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 70%; text-align: center;">Teaching Modules</th> <th style="width: 15%; text-align: center;">SSD</th> <th style="width: 15%; text-align: center;">ECTS</th> </tr> </thead> <tbody> <tr> <td data-bbox="367 1339 1161 1686"> <p><u>Mod.1 - Cultural and Scientific Context; Regulatory, Organizational, and Managerial Aspects</u></p> <ul style="list-style-type: none"> • Introductory Elements • Definitions and Classification Criteria of Equipment/Devices • Types of Technological and Robotic Devices Available in Rehabilitation • International Overview of the Field </td> <td data-bbox="1161 1339 1388 1686" style="vertical-align: top;"> <p>MED/34, MED/48, 09/G2</p> </td> <td data-bbox="1388 1339 1503 1686" style="text-align: center; vertical-align: top;"> <p>7</p> </td> </tr> <tr> <td data-bbox="367 1686 1161 2067"> <p><u>Mod.2 - Theoretical Foundations of Technology Use in Rehabilitation</u></p> <ul style="list-style-type: none"> • Theoretical Foundations, Clinical, and Technological Assumptions for the Evaluation and Treatment of Functioning Alterations • Scientific Evidence and Clinical Data (advanced technologies assisting rehabilitation: robotics, exoskeletons, Sensor-based assessment and rehabilitation, Gait </td> <td data-bbox="1161 1686 1388 2067" style="vertical-align: top;"> <p>MED/34, MED/48, 09/G2</p> </td> <td data-bbox="1388 1686 1503 2067" style="text-align: center; vertical-align: top;"> <p>8</p> </td> </tr> </tbody> </table>			Teaching Modules	SSD	ECTS	<p><u>Mod.1 - Cultural and Scientific Context; Regulatory, Organizational, and Managerial Aspects</u></p> <ul style="list-style-type: none"> • Introductory Elements • Definitions and Classification Criteria of Equipment/Devices • Types of Technological and Robotic Devices Available in Rehabilitation • International Overview of the Field 	<p>MED/34, MED/48, 09/G2</p>	<p>7</p>	<p><u>Mod.2 - Theoretical Foundations of Technology Use in Rehabilitation</u></p> <ul style="list-style-type: none"> • Theoretical Foundations, Clinical, and Technological Assumptions for the Evaluation and Treatment of Functioning Alterations • Scientific Evidence and Clinical Data (advanced technologies assisting rehabilitation: robotics, exoskeletons, Sensor-based assessment and rehabilitation, Gait 	<p>MED/34, MED/48, 09/G2</p>	<p>8</p>
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<p>Analysis, immersive and non-immersive VR, Serious game rehabilitation, NIBS, FES, BCI, Digital health technologies, Artificial Intelligence, Telerehabilitation)</p>		
<p><u>Mod.3 - Indications and Experiences for the Clinical-Rehabilitative Use of Technologies</u></p> <ul style="list-style-type: none"> • Activities in Pediatric Age • Activities in Adults (e.g., individuals with central or peripheral pathology) • Upper Limb Dysfunctions. Recovery of Reaching and Manipulation Skills • Lower Limb Dysfunctions and Balance. Recovery of Ambulation 	<p>MED/34, MED/48, MED/38</p>	<p>10</p>
<p><u>Mod.4 Care for People with Complex Functional Limitations</u></p> <ul style="list-style-type: none"> • Persons with Multiple Sclerosis • Persons with Parkinson's Disease • Persons with Other Neurodegenerative Dysfunctions • Persons with Traumatic Brain Injury or Severe Acquired Brain Injury • Persons with Spinal Cord Injury 	<p>MED/34, MED/26, MED/48</p>	<p>8</p>
<p><u>Mod.5 - Technologies in the Rehabilitative Treatment of Functioning Limitations in Other Clinical Conditions</u></p> <ul style="list-style-type: none"> • Cardio-respiratory, Metabolic, Oncological Functional Limitations • Musculoskeletal Functional Limitations • Limitations of Cognitive, Sensory, and Language Functions 	<p>MED/34, MED/11, M-PSI/01</p>	<p>8</p>
<p><u>Mod.6 - Organization and Management of Activities and Facilities</u></p> <ul style="list-style-type: none"> • Legal/Regulatory, Organizational, Training, and Ethical/Social Aspects (HTA, DPO, CE Marking) • Issues in Research-Experimentation Activities (Ethical Committees, DPO, AI) • Issues in Clinical Use and Integration with Conventional Techniques (CE Marking, Regulatory and Functional Aspects of Rehabilitation Facilities) 	<p>MED/34, MED/48, 09/G2</p>	<p>8</p>
<p><u>Mod.7 - Training and Research Perspectives</u></p>	<p>MED/34, MED/48, 09/G2</p>	<p>5</p>



	<ul style="list-style-type: none"> • Recommendations on the best training/competence programs • Medicolegal Aspects • How to Promote Research and Innovation – National and International Funding Opportunities on Competitive Calls and Reporting 		
	<u>Final Exam</u>		6
Faculty Members	<ul style="list-style-type: none"> ❖ Agostini Francesco, MD (Department of Anatomy, Histology, Forensic Medicine and Orthopaedics, La Sapienza University, Roma, Italia) ❖ Annese Eleonora, ST (IRCCS San Raffaele, Roma, Italia) ❖ Aprile Irene, MD (Rehabilitation Department, Don Gnocchi Foundation Roma, Italia) ❖ Bernetti Andrea, MD (Salento University, Lecce, Italia) ❖ Bonassi Stefano, EBS (IRCCS San Raffaele, Roma, Italia) ❖ Bonavita Iacopo, MD (Villa Rosa Rehabilitation Center, Trento, Italia) ❖ Bressi Federica MD (Unicampus University –Roma) ❖ Calabrò Rocco Salvatore, MD (Bonino Pulejo Research Rehabilitation Institute, Messina, Italia) ❖ Campanini Isabella, PT (CorreggioHospital, Reggio Emilia, Italia) ❖ Capodaglio Paolo, MD (Auxologico Research Institute, Piancavallo, Italia) ❖ Casalone Carlo, MD (Scientific section of the Pontifical Academy for Life (Holy See), Gregorian University, Roma, Italia) ❖ Cecchi Francesca, MD (Florence University, Firenze, Italia) ❖ Cereatti Andrea, ING (SIAMOC President; Politecnico di Torino, Torino, Italia) ❖ Crognale Diana, ENG (Researcher, Italia) ❖ De Merz Marika, OT (McGill University, Canada) ❖ De Pandis Maria Francesca, MD (Rehabilitation Center, San Raffaele Cassino, Italia) 		



- ❖ De Tanti Antonio, MD (SIRN President, Cardinal Ferrari Rehabilitation Center, Fontanellato –Parma, Italia)
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- ❖ Distanislao Eugenio, Eng (Researcher, Italia)
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- ❖ Golyk Wolodymyr, MD (Department of Physical and Rehabilitation Medicine, City Teaching Hospital of Dnipro, Ukraina)
- ❖ Infarinato Francesco, ENG (IRCCS San Raffaele, Roma, Italia)
- ❖ Jocevicious Alvydas, MD (ESPRM Delegate, Lituania)
- ❖ Hoiderkrova Kristina, PT (Rehabilitacni Ustav Kladruby - Czech Republic)
- ❖ Iolascon Giovanni, MD (Campania University “Luigi Vanvitelli”, Napoli, Italia)
- ❖ Kiekens Carlote, MD (San Giuseppe Hospital , Milano, Italia)
- ❖ Laxe Sara, MD (ESPRM Delegare, Spagna)
- ❖ Lazovic Milica, MD (University of Belgrade, Medical Faculty Institute for rehabilitation, Belgrade, Serbia)
- ❖ Lejeune Thyerry, MD (Cliniques universitaires Saint-Luc Lovanio, Belgio)
- ❖ Magni Riccardo, ING (Pragma Engineering Srl. Perugia, Italia)
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- ❖ Moretti Antimo, MD (Campania University “ Luigi Vanvitelli “, Napoli,



Italia)

- ❖ Nardone Antonio, MD (IRCCS Maugeri, Pavia, Italia)
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- ❖ Pirini Marco, ING (Researcher, Italia)
- ❖ Posteraro Federico, MD (Rehabilitation Department, Versilia Hospital, Viareggio Italia)
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- ❖ Rapidi Cristina Anastasia, MD (ESPRM Delegate, Grecia)
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- ❖ Rossini Paolo Maria, MD (IRCCS San Raffaele, Roma, Italia)
- ❖ Semplicini Claudio MD (Researcher, Italia)
- ❖ Sgandurra Giuseppina, MD (IRCCS Stella Maris, Italia)
- ❖ Smania Nicola, MD (Verona University, Italia)
- ❖ Stocchi Fabrizio, MD (IRCCS San Raffaele, Roma, Italia)
- ❖ Straudi Sofia, MD (Rehabilitation Department, Ferrara University, Ferrara Italy)
- ❖ Sturm Christian - PRM department Universität MHH Hannover Germania
- ❖ Tamburella Federica, PT (Life & health Department, Link Campus University, Roma, Italia)
- ❖ Tederko Piotr, MD (Physical and Rehabilitation Medicine, Medical University Warszawa, Polonia)



- ❖ Tomino Carlo, MD (CET Lazio President, Roma, Italia)
- ❖ Tregger July, MD (ESPRM Delegate, Israele)
- ❖ Vallasciani Massimo, MD (Serafico Rehabilitation Institute, Assisi, Italia)
- ❖ Vigevano Federico MD (IRCCS San Raffaele , Roma, Italia)



Applicants and Admission Requirements

Professional Profile:

The Master's program is aimed at all professionals involved in rehabilitation activities using technologically advanced or robotic aids and devices: from evaluation phases (preliminary and prognostic, monitoring, outcome, and adaptation) to treatment within any setting and in any phase or clinical condition.

Admission Requirements:

A bachelor's degree, master's degree, specialist degree, or a degree obtained before DM 509/1999 (old system) or another university degree obtained abroad recognized as suitable according to current regulations, preferably in Medicine (specialization in psychiatry), Nursing, Physiotherapy, Occupational Therapy, Speech Therapy, Psychology and Neuropsychology, Orthopedic Techniques, Bioengineering, Education Sciences, and Training, Graduates in Motor Sciences.

Furthermore, candidates holding an academic degree obtained abroad that is equivalent in duration and content to the Italian academic degree required for admission to the Master's program may also apply. However, enrollment is subject to the assessment of the suitability of the degree by the academic authorities solely for the purpose of enrollment.

The aforementioned requirements must be met by the deadline for submitting applications for enrollment in the Master's program.

In the absence of the prescribed requirements, the Postgraduate Training Office may, at any time and with reasoned decision, exclude candidates from the Master's



	program.
Activities and Compliance	<p>The courses include:</p> <ul style="list-style-type: none">• Video lectures on the educational platform. <p>Students are expected to:</p> <ul style="list-style-type: none">• Independently study the course materials.• Successfully complete the final exam, which will be administered in person before the examination committee.
Application and Enrollment Modality	<p>To enroll in the Master's program, individuals must first proceed with registering their personal information on the official website of the University, www.uniRome5.it.</p> <p>Registration must be completed by 31/09/2024, unless extended.</p> <p>Non-EU citizens residing abroad may submit their application through the relevant Italian diplomatic representations in their country of residence, which will then forward it to the San Raffaele Telematic University of Rome. They must attach their foreign academic qualifications, accompanied by an official translation into Italian, legalization, and a declaration of value.</p> <p>In addition to the aforementioned documentation, non-EU citizens residing abroad must present the residence permit issued by the Police Headquarters for a period of at least one year. Non-EU citizens residing in Italy must present a residence permit issued for one of the reasons listed in Article 39, paragraph 5, of Legislative Decree no. 286 of 25/07/1998 (i.e., for self-employment, subordinate employment, family reasons, political asylum, humanitarian asylum, or religious reasons).</p> <p>Enrollments with reservations due to incomplete documentation or incorrect transcription of data on the University's website will not be accepted.</p> <p>Failure to pay the fees within the established deadlines will result in the suspension of access to the platform and non-admission to the final exam.</p>
Course duration and teaching method	<p>The master's program lasts for one year and requires a total commitment of 1500 hours for each participant, equivalent to 60 ECTS (European Credit Transfer and Accumulation System) credits. The instruction is provided through e-learning mode on the educational platform, which is accessible 24/7, along with additional educational materials.</p>
Registration Fee	<p>The registration fee is € 2.900,00</p> <p>Any inquiries can be directed to the master's office via email at master.riabilitazione@uniroma5.it.</p> <p>Payment can be made according to the specified methods on the University's website, either in a single installment or in 3 installments as follows:</p> <p>First installment: € 900,00 upon registration;</p> <p>Second installment: € 1.000,00 by 31/12/2024;</p> <p>Third installment: € 1.000,00 by 31/03/2025.</p> <p>Failure to pay the installments within the specified deadlines will result in the suspension of access to the platform and non-admission to the final exam.</p>



	<p>Participants have the right to withdraw within 14 working days from the date of registration, by sending a registered letter with acknowledgment of receipt to the San Raffaele Telematic University Rome, via di Val Cannuta 247, 00166 Rome, or by certified email to amministrazione@pec.uniRome5.it within the specified timeframe. In this case, the corresponding refund will be made within 90 days from the participant's notification of withdrawal.</p> <p>The activation of the master's program is subject to reaching a minimum of <u>30</u> registrations.</p>
Deadlines	<p>The deadline for enrollment is 31/03/2024, unless extended.</p> <p>The courses will commence in May, unless extended. Final exams will be held by March 2025. The exam date may be postponed due to any extension of the course start date.</p>

Rome, 18/07/2024

University President
(Prof. Vilberto Stocchi)