



# UniSR

Università Vita-Salute  
San Raffaele

## II level Master in Aortic Surgery a.y. 2024/25

### SUMMARY OF LEARNING ACTIVITIES

Activity	CFU	Module	Hrs	ECTS
Classroom activity	4	Frontal teaching activities	32	4
		Individual study time	68	
Learning by doing	9	Professional training	225	9
	38	Labs/ Seminar	950	38
	9	Thesis	225	9
<b>TOTAL</b>			<b>1500</b>	<b>60</b>

(1 ECTS= 8 hrs frontal learning)

### FRONTAL TEACHING ACTIVITIES

(1 CFU = 8 hrs of frontal teaching)

Courses	CFU	Frontal hours	SSD
Pathogenesis of atherosclerosis: The role of inflammation. Association between aneurysmal pathology and atherosclerosis other districts	0.25	2	MED/22
Preoperative cardiological evaluation: instrumental and clinical diagnostics. Associated cardiological procedures. Perioperative monitoring	0.25	2	MED/11
Instrumental diagnostics of thoracic and abdominal aneurysms. Topicality in CT and MR methods	0.25	2	MED/22
Instrumental diagnostics of thoracic and abdominal aneurysms. Ultrasound methods. TTE, TEE, Abdominal and lower limb ultrasound	0.25	2	MED/22
Special anesthetic techniques for aortic surgery. Epidural analgesia. The intraoperative blood recovery. Vasoactive drugs. Renal protection. Locoregional techniques for the endovascular approach	0.25	2	MED/41
Basic techniques of arteriographic diagnostics aorta, and related vessels. Basic interventional techniques iliac vessels and renal vessels	0.25	2	MED/36
Therapeutic options: Indications of the trials and clinical practice in the selection between medical therapy, open surgery, and endovascular surgery	0.25	2	MED/22
Materials and technologies in endovascular techniques: Catheters, balloon guides, stents, endoprostheses	0.25	2	MED/22



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Vascular approaches for endovascular techniques: Approaches for cutaneous, inguinal, upper limb. Open, femoral, iliac, aortic, upper limb approaches. Prevention and treatment of complications: ultrasound-guided compression of pseudoaneurysms, surgical treatment	0.25	2	MED/22
Open surgery of abdominal aortic aneurysms. Straight and bifurcated reconstructions. Difficult aneurysms: pararenal, inflammatory, with associated anatomical anomalies. Rupture aneurysms	0.25	2	MED/22
Endovascular surgery of abdominal aneurysms. Bifurcated prostheses, aorto-monoiliac prostheses. Technological novelties, endoprotheses with fenestrations and with branches	0.25	2	MED/22
Open surgery of thoracic aortic aneurysms. Clamp and sew technique, technique with left circulatory assistance. Ancillary techniques. Endovascular surgery of thoracic aneurysms. Techniques, materials, results, follow up. Complications	0.25	2	MED/22
Extracorporeal circulation techniques. Left assistance, total by-pass, hypothermic circulation arrest. Physiological concepts, methods of use, innovations	0.25	2	MED/23
Aortic dissection, physiopathological and clinical anatomical concepts. Surgical and endovascular therapeutic options in the acute and chronic phase	0.25	2	MED/22
Open surgery of thoraco-abdominal aortic aneurysms. Indications and operative techniques for types I-IV. Methods of organ protection and prevention of paraplegia.	0.25	2	MED/22
Aneurysms of the aortic arch. Open surgery techniques and hybrid techniques	0.25	2	MED/22
<b>TOTAL</b>	<b>4</b>	<b>32</b>	

### **OTHER FORMS OF TRAINING**

<b>Professional training</b>	<b>CFU</b>	<b>Ore</b>	<b>SSD</b>
The Master' program includes full-time attendance at the Division of Vascular Surgery. The participant will always be supported by the Master's director and tutors who will follow the appropriate progress of the learning phases. The training includes attendance in the diagnostic, clinical and surgical areas and is divided into two semesters.	38	304	TIR
<b>TOTAL</b>	<b>38</b>	<b>905</b>	



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<b>Laboratories/Seminars/Workshops/ Clinical cases/Meetings/Journal clubs/Study visits</b>	<b>ECTS/CFU</b>	<b>Hrs</b>	<b>SSD</b>
Discussion of clinical cases, staff meetings and meetings on complications, departmental meetings, preparation of scientific presentations	9	225	MED/45
<b>TOTAL</b>	<b>9</b>	<b>225</b>	

<b>Final Thesis</b>	<b>CFU/ECTS</b>	<b>Hrs</b>	<b>SSD</b>
Preparation of a clinical research in Vascular Surgery whose results must be presented in English in a format suitable for presentation for publication in an international specialized journal. Participants must be autonomous in managing the study: from data collection to evaluation of the results and their discussion. Each participant will be supported by a tutor who will follow him/her in conducting the research and drafting the final manuscript. Upon completion of the study, the participant is expected to present the results.	9	72	PROFIN
<b>TOTAL</b>	<b>9</b>	<b>225</b>	