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Università Vita-Salute
San Raffaele

2nd level Master in Structural Interventional Cardiology (60 ECTS)

Course Plan

| Course | ECTS | Hours | SSD |
|--|------|-------|--------|
| 1. CT-scan: patient's selection and planning of structural procedures | 0,25 | 2 | MED/11 |
| 2. Transcatheter Aortic Valve Implantation (TAVI): devices and techniques | 0,25 | 2 | MED/11 |
| 3. Planning of TAVI procedures based on CT analysis: the importance of proper fluoroscopic projection and cusp overlap technique | 0,25 | 2 | MED/11 |
| 4. Bicuspid aortic valve: LIRA plane and different sizing technique | 0,25 | 2 | MED/11 |
| 5. Aortic Valve in valve procedure: how to deal with residual gradient and risk of coronary occlusion | 0,25 | 2 | MED/11 |
| 6. Transcatheter treatment of mitral regurgitation: from MitraClip to transcatheter mitral valve replacement and mitral valve in valve | 0,25 | 2 | MED/11 |
| 7. Transcatheter treatment of tricuspid regurgitation: Triclip, ortho-topic and ethero-topic valve replacement | 0,25 | 2 | MED/11 |
| 8. Echocardiography in interventional cardiology | 0,25 | 2 | MED/11 |
| 9. Left atrial appendage occlusion: patient's and device's selection | 0,25 | 2 | MED/11 |
| 10. Patent foramen Ovale closure: indication, devices and proper patient selection based on PFO anatomy; Atrial septal defect closure | 0,25 | 2 | MED/11 |
| 11. Transcatheter paravalvular leak closure | 0,25 | 2 | MED/11 |
| 12. Peripheral Percutaneous Transluminal Angioplasty (PTA) in interventional cardiology: not only bailout technique | 0,25 | 2 | MED/11 |
| Journal Club Meeting | 2 | 50 | MED/11 |
| Research Meeting | 2 | 50 | MED/11 |

Journal Club Meeting

It will be held weekly, with the aim of presenting the most recent scientific findings from the literature on topics of current interest in interventional cardiology. To foster the ability to self-work, the preparation of each topic is entrusted to a student of the master, under supervision of the selected material and display lines by one of the staff members.



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Research meetings

The research meetings will be held weekly, with the aim of presenting the various studies and research projects in place at the Operational Unit on topics of current interest in interventional cardiology. To foster the ability to work independently, each student will be in charge of one or more specific research protocols and/or projects, which he/she will work on during the master, under supervision of a tutor.

| Other teaching activities – Clinical training activities | | | | |
|---|---------|-----------|-------|--------|
| Catheterization laboratory | 16 ECTS | 400 hours | Tutor | MED/11 |
| Clinic and hospital ward activities | 18 ECTS | 450 hours | Tutor | MED/36 |

Full-time attendance is required for clinical teaching activities, according to instructions shared by the Management of the Master. Each participant will be supported by a tutor who will assist them during each learning phase in the laboratory and hospital ward, reporting to the Course Coordinators and the O.U. Chief of Staff any difficulties in maintaining the predetermined standards in terms of quality and quantity.

| Internship | | | | |
|---|--------|-----------|-------|------------|
| Clinical cases discussions | 5 ECTS | 125 hours | Tutor | INTERNSHIP |
| Staff meetings and complications meetings | 2 ECTS | 50 hours | Tutor | |
| Department meetings | 2 ECTS | 50 hours | Tutor | |

Clinical cases discussions

The various cases to be treated on each day are discussed and illustrated. This allows to clarify the specific therapeutic programs to be implemented.

4 hours a week for 40 weeks

Staff meetings and complications meetings

They take place every 2 weeks and have a duration of 1 hour. Topics include: presentation of new interventional techniques; presentation of new controlled clinical trials; review of the cases of interest in the previous days or to be planned, re-evaluating or deciding on the individualized therapeutic approach. On a monthly basis, one of these meetings is dedicated to the discussion of the complications that occurred in the previous month during the ward activities and the operating procedures, in order to avoid their recurrence and treat them more effectively.

Department meetings

They take place monthly, with a duration of 1 hour, before the start of clinical activity, and are organized in rotation by the services of interventional cardiology, clinical cardiology, cardiac surgery, arrhythmology and vascular surgery. The meetings are presented with new diagnostic and therapeutic techniques, reviewing cases with an interdisciplinary approach, and proposing new diagnostic and therapeutic protocols for revision of the guidelines.



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| Final assessment | | |
|------------------------------------|---------|-----------|
| Experimental clinic-related thesis | 10 ECTS | 250 hours |

Each student will conduct an independent research project that evaluates the application of new devices in interventional cardiology, applied in specific subgroups of patients/injuries, in comparison with other diagnostic or treatment methods. Participants are expected to verify the completeness of the acquired data, to learn specific analysis methods such as quantitative angiography techniques or reconstruction/segmentation of 3D ultrasound or computerized analysis of intracoronary pressure/velocity signals and statistical methods for final analysis.

Each participant will be supported by a tutor who will assist them in understanding the structure of the existing database and the methods of exporting and processing the data, guiding them to complete the research and to prepare the abstracts/final manuscript. Students will be required to prepare a presentation of their study, to be illustrated at international congresses in the form of an abstract and the preparation of a report to be sent as an original article in a peer-review journal is expected. In addition, the participants will also be entrusted with other research projects or research protocols in place in the U.O. and, for this purpose, they will discuss not only with their tutor, but also with other trial coordinators. The outcome of the project will consist in its presentation, in front of the Didactic Commission of the Master, in the form of an experimental thesis.

| Summary of teaching activities | | |
|---------------------------------------|-------------|--------------|
| Activity | ECTS | Hours |
| Face-to-face teaching activity | 7 | 175 |
| Clinic and hospital ward activities | 34 | 850 |
| Internship | 9 | 225 |
| Total | 60 | 1500 |