

1ST LEVEL UNIVERSITY MASTER

Robotic surgery

**MODULES: 9****ECTS: 60****ONLINE / ASYNC. DL**Coordinator: **Prof. Paolo Miccoli**Scientific council: **Professors Marta Caretto, Jacopo Durante, Lorenzo Fatucchi, Benard Gjeshi, Alessio Mazzoni, Paolo Miccoli, Piermarco Papini, Lorenzo Piccini, Leonardo Rossi**

INTRODUCTION

Robotic surgery is nowadays an established feature of healthcare in several countries. It is therefore important to unify the various skills involved in adopting this surgical technique through an overall view. This is what this Master proposes, in which basic information on the technology of the instrument is flanked by a series of teachings designed to familiarise students with the complex robotic instrumentation and its future evolution. An overview of the main specialist applications will be provided through a series of lectures given by experts in all the surgical operations that can be performed using robotic techniques.

ADMISSION REQUIREMENTS

- Laurea triennale delle professioni sanitarie
- Laurea magistrale a ciclo unico in Medicina e Chirurgia
- Laurea magistrale a ciclo unico in Odontoiatria



MODULES

01. BASICS OF ROBOTIC SURGERY

- History of robotic surgery (Dr Piermarco Papini - Specialist in Abdominal Surgery)
- Setup of the robotic system, the console and docking: overview (Dr Lorenzo Piccini - Specialist in General Surgery)

02. STAFF TRAINING

- Learning curve and role of the operating table assistant (Dr Lorenzo Piccini - Specialist in General Surgery)
- Robotic Training (Dr Benard Gjeshi - Specialist in General Surgery)

03. APPLICATION OF THE ROBOT IN UROLOGY

- Robotic surgery in urology: basics, advantages and applications (Dr Jacopo Durante - Specialist in Urology)
- Main robot-assisted urological interventions: radical prostatectomy and cystectomy (Dr Jacopo Durante - Specialist in Urology)

04. ROBOT APPLICATION IN GYNAECOLOGY

- Robotic surgery in gynaecology (Dr. Marta Caretto - Specialist in Gynaecology)
- Robotic surgery in oncological gynaecology (Dr. Marta Caretto - Specialist in Gynaecology)

05. APPLICATION OF THE ROBOT IN ABDOMINAL SURGERY

- Anterior rectal resection and colic surgery (Dr Lorenzo Piccini - Specialist in General Surgery)
- Duodenocephalopancreasectomy and distal pancreasectomy (Dr Lorenzo Fatucchi - Specialist in General Surgery)
- Esophagectomy (Dr Alessio Mazzoni - Specialist in General Surgery)
- Gastrectomy (Dr Alessio Mazzoni - Specialist in General Surgery)

PURPOSE

There is no doubt that among the applications of artificial intelligence and machine learning in Medicine and Surgery a leading role will be played by Robotic Surgery, which in the not too distant future will achieve full autonomy. For this reason, it is essential to acquire specific professional skills in order not to lose, in the face of the inevitable developments that robotics will have, the advantage that Italy has achieved through a first-class diffusion of the equipment assigned to the various Italian hospitals, both public and private. Getting familiar not only with the use of robots in one's own surgical discipline, but with all the technology that underlies it, is becoming indispensable in the face of the challenges that await the national health system. The investments in healthcare expected thanks to the PNRR will have to be adequately supported by the various medical specialists, and those who will work in the surgical field are unlikely to be able to do without acquiring specific skills in this constantly expanding sector.

06. APPLICATION OF THE ROBOT IN ENDOCRINE SURGERY

- Thyroidectomy with trans-axillary approach (Dr Leonardo Rossi - Specialist in General Surgery)
- Surrenectomy (Dr Piermarco Papini - Specialist in Abdominal Surgery)

07. ROBOT FUNCTIONALITY

- The use of indocyanine green with the Firefly system (Dr Leonardo Rossi - Specialist in General Surgery)
- Intraoperative ultrasound with the TilePro system (Dr Piermarco Papini - Specialist in Abdominal Surgery)
- Multiquadrant surgery (Dr Lorenzo Fatucchi - Specialist in General Surgery)

08. EVOLUTION OF ROBOTIC SURGERY

- Hybrid operating theatres (Prof Paolo Miccoli - Full Professor of General Surgery)
- Augmented Reality (Prof Paolo Miccoli - Full Professor of General Surgery)

09. CASE STUDIES

- Total thyroidectomy with trans-axillary robotic-assisted approach (Dr Leonardo Rossi - Specialist in General Surgery)
- Robot-assisted duodenocephalopancreasectomy (Dr Lorenzo Fatucchi - Specialist in General Surgery)
- Robotic-assisted gastrectomy (Dr Alessio Mazzoni - Specialist in General Surgery)

