



TEHRAN UNIVERSITY
— OF —
MEDICAL SCIENCES

School of Allied Medical Sciences

Course Description Guide

Master of Science in Operating Room

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Master of Science in Operating Room

Course Description Guide

Title and Degree:
Operating Room (M.Sc.)

Course definition: Operating Room as a course is a branch of medical sciences the graduates of which will have a mastery over the operating room structure, instruments, equipment, and processes, will help in performing operations in the best way, and will participate in medical care before, during and after operations. They will also provide the society with their learning in the fields of education, research, and services.

Program:
Operating Room (M.Sc.)

Total number of credits:
The whole program comprises 32 credits as follows:

Special courses – obligatory (core): 24 credits

Special courses – optional (non-core): 4 credits

Thesis: 4 credits

Total: 32 credits

Table A. Compensatory Courses Master's Program in Operating Room

Course code	Title	Number of Credits				Course Hours				Prerequisite or Simultaneous with
		Internship	Practical	Theoretical	Total	Internship	Practical	Theoretical	Total	
01	Medical information systems	-	0.5	0.5	1	-	17	9	26	-
02	Principles and practice of scrub and circulating nurses	2	-	2	4	102	-	34	136	-
03	Introduction to operating room equipment and instruments	1	-	1	2	51	-	17	68	-
Total		7								

Table B. Obligatory, Special Courses (Core) in Master's Program in Operating Room

Course code	Title	Number of Credits				Course Hours				Prerequisite or Simultaneous with
		Internship	Practical	Theoretical	Total	Internship	Practical	Theoretical	Total	
04	Advanced monitoring of body systems	1	-	1	2	51	-	17	68	-
05	Advanced research methods and biostatistics	-	0.5	2.5	3	-	17	43	60	-
06	Introduction to special surgical methods 1	1	-	2	3	51	-	34	85	04
07	Introduction to special surgical methods 2	1	-	2	3	51	-	34	85	04
08	Introduction to special surgical methods 3	1	-	2	3	51	-	34	85	04
09	Introduction to special surgical methods 4	1	-	2	3	51	-	34	85	04
10	Principles and techniques of teaching in the operating room	-	1	1	2	-	34	17	51	-
11	Introduction to operating room advanced equipment and instruments (with an emphasis on laparoscopy)	0.5	-	0.5	1	26	-	9	35	-
12	Operating room management	1	-	1	2	51	-	17	68	-
13	Seminar	-	0.5	0.5	1	-	17	9	26	05
14	Anesthesia internship	1	-	-	1	51	-	-	51	-
total		24								

Table C. Optional, Special Courses (Non-core) in Master's Program in Operating Room

Course code	Title	Number of Credits			Course Hours			Prerequisite or Simultaneous with
		Internship	Theoretical	Total	Internship	Theoretical	Total	
15	Advanced cardiovascular and thoracic internship in operating room	4	-	4	204	-	204	07
16	Advanced general, pediatrics, obstetrics and endoscopy internship in operating room	4	-	4	204	-	204	06
17	Advanced orthopedic internship in operating room	4	-	4	204	-	204	08
18	Advanced neurosurgery internship in operating room	4	-	4	204	-	204	08
19	Advanced eye surgery internship in operating room	4	-	4	204	-	204	09
20	Advanced ENT surgery internship in operating room	4	-	4	204	-	204	09
21	Advanced transplant surgery internship in operating room	4	-	4	204	-	204	08
22	Advanced burns, plastic and reconstructive internship in operating room	4	-	4	204	-	204	09
23	Advanced oral and maxillofacial surgery internship in operating room	4	-	4	204	-	204	09
total		36						

Title: Medical information systems **01**

Prerequisite: None

No. of Credits: 1 (Practical: 0.5 – Theoretical: 0.5)

Type of the Course: Theoretical – Practical

Main Objective: Getting the ability to use library patterns and different ways of searching main databases in the field and becoming familiar with university library services. Gaining the knowledge of how to use popular internet browsers in a way that students can work with search engines and become familiar with useful famous sites around their study field is among the other objectives of this course. Having the ability to create and use an e-mail address for sending or receiving files and letters is another goal to be achieved.

Course Description: In this course, students become familiar with the internet, important websites, databases and e-mail service in order to use a computer practically for study and research purposes in their field.

Title: Principles and practice of scrub and circulating nurses **02**

Prerequisite: None

No. of Credits: 4 (Theoretical: 2 – Internship: 2)

Type of the Course: Theoretical – Internship

Main Objective: Becoming familiar with the practical principles of scrub and circulating nurses' performance.

Course Description: In this course, students having got their BSc degree in fields other than Operating Room become familiar with the basic principles of scrub and circulating nurses' performance, and gain the minimum practical operating room experience.

Title: Introduction to operating room equipment and instruments **03**

Prerequisite: None

No. of Credits: 2 (Theoretical: 1 – Internship: 1)

Type of the Course: Theoretical – Internship

Main Objective: Getting familiar with the equipment and instruments of an operating room.

Course Description: In this course, students having got their BSc degree in fields other than Operating Room become familiar with a variety of specialized and advanced operating room equipment and instruments used in specialty and subspecialty surgeries. Moreover, they learn how to maintain and use them.

Title: Advanced monitoring of body systems **04**

Prerequisite: None

No. of Credits: 2 (Theoretical: 1 – Internship: 1)

Type of the Course: Theoretical – Internship

Main Objective: Becoming familiar with advanced monitoring principles.

Course Description: In this course, students learn how to examine patients in wards and gain the necessary skills.

Title: Advanced research methods and biostatistics **05**

Prerequisite: None

No. of Credits: 3 (Theoretical: 2.5 – Internship: 0.5)

Type of the Course: Theoretical – Internship

Main Objective: Acquiring the ability to design a research project and also being able to name the variables of a research and calculate their suitable summarizing indexes by learning the basics of statistics and statistical inference.

Title: Introduction to special surgical methods **1 06**

Prerequisite or simultaneous with: Advanced monitoring of body systems

No. of Credits: 3 (Theoretical: 2 – Internship: 1)

Type of the Course: Theoretical – Internship

Main Objective: Familiarizing students with the advanced techniques in general surgery, gynecology and pediatrics.

Course Description: In this course, students learn the new techniques in general surgery, gynecology and pediatrics.

Title: Introduction to special surgical methods 2 **07**

Prerequisite or simultaneous with: Advanced monitoring of body systems

No. of Credits: 3 (Theoretical: 2 – Internship: 1)

Type of the Course: Theoretical – Internship

Main Objective: Familiarizing students with advanced techniques in respiratory tract and cardiovascular surgeries.

Course Description: In this course, students learn the new techniques in respiratory tract and cardiovascular surgeries.

Title: Introduction to special surgical methods 3 **08**

Prerequisite or simultaneous with: Advanced monitoring of body systems

No. of Credits: 3 (Theoretical: 2 – Internship: 1)

Type of the Course: Theoretical – Internship

Main Objective: Familiarizing students with the advanced techniques in neurosurgery, orthopedics, urology and kidney surgeries.

Course Description: In this course, students learn the new techniques in neurosurgery, orthopedics, urology and kidney surgery.

Title: Introduction to special surgical methods 4 **09**

Prerequisite or simultaneous with: Advanced monitoring of body systems

No. of Credits: 3 (Theoretical: 2 – Internship: 1)

Type of the Course: Theoretical – Internship

Main Objective: Familiarizing students with the advanced techniques in ENT and eye surgeries, together with plastic and reconstructive surgeries.

Course Description: In this course, students learn the new techniques in ENT and eye surgeries, and also plastic and reconstructive surgeries.

Title: Principles and techniques of teaching in the operating room **10**

Prerequisite: None

No. of Credits: 2 (Theoretical: 1 – Practical: 1)

Type of the Course: Theoretical – Practical

Main Objective: Familiarizing students with the teaching principles and techniques in the operating room.

Course Description: In this course, students learn about the latest teaching aids, methods and techniques, and practically acquire the teaching skills in theoretical and practical domains.

Introduction to operating room advanced equipment and instruments
(with an emphasis on laparoscopy) **11**

Prerequisite: None

No. of Credits: 1 (Theoretical: 0.5 – Internship: 0.5)

Type of the Course: Theoretical – Internship

Main Objective: Becoming familiar with operating room advanced equipment and instruments.

Course Description: In this course, students become familiar with various specialized and advanced operating room equipment used in specialty and subspecialty surgeries, and learn how to maintain and use them.

Title: Operating room management **12**

Prerequisite: None

No. of Credits: 2 (Theoretical: 1 – Internship: 1)

Type of the Course: Theoretical – Internship

Main Objective: Getting familiar with the principles of management and organization in operating room.

Course Description: In this course, students become familiar with the principles of management and organization in operating room.

Title: Seminar **13**

Prerequisite or simultaneous with: Advanced monitoring of body systems

No. of Credits: 1 (Theoretical: 05 – Practical: 0.5)

Type of the Course: Theoretical – Practical

Main Objective: Creating and increasing students' ability to adapt oral knowledge to practical knowledge, and to analyze, express and solve problems in the fields of training, management and work in operating room.

Course Description: In this course, each student being guided by a department professor chooses a specific topic related to problems existing in the fields of management, training and work in the operating room. Then, he/she begins to gather scientific information about that topic from books and magazines, offers suggestions systematically to solve the problem, and prepares and delivers an article with the professor's guidance.

Title: Anesthesia internship **14**

Prerequisite: None

No. of Credits: 1

Type of the Course: Internship

Main Objective: Becoming familiar with the basic principles of general and local anesthesia, equipment, instruments and facilities, and rules related to anesthesia.

Course Description: In this course, students become familiar with the basic principles of general and local anesthesia, equipment and instruments, and facilities related to anesthesia in operating room. They also learn about patients' reception and transfer to operating and recovery rooms, methods of managing patients' airways, and how to prepare patients for anesthesia.

Title: Advanced cardiovascular and thoracic internship in operating room **15**

Prerequisite: Introduction to special surgical methods 2

No. of Credits: 4

Type of the Course: Internship

Main Objective: Becoming familiar with and gaining mastery over the advanced techniques of cardiovascular and thoracic surgery.

Course Description: In this course, students learn about the new methods of cardiovascular and thoracic surgeries and gain mastery over how to provide care before, during and after an operation while attending an operating room.

Title: Advanced general, pediatrics, obstetrics and endoscopy internship in operating room **16**

Prerequisite: Introduction to special surgical methods 1

No. of Credits: 4

Type of the Course: Internship

Main Objective: Becoming familiar with and gaining mastery over the advanced techniques of general, pediatrics, obstetrics and endoscopy surgeries.

Course Description: In this course, students learn about the new methods of general, pediatrics, obstetrics and endoscopy surgeries and gain mastery over how to provide care before, during and after an operation while attending an operating room.

Title: Advanced orthopedic surgery internship in operating room **17**

Prerequisite: Introduction to special surgical methods 3

No. of Credits: 4

Type of the Course: Internship

Main Objective: Becoming familiar with and gaining mastery over the advanced techniques of orthopedic surgery.

Course Description: In this course, students learn about the new methods of orthopedic surgery and gain mastery over how to provide care before, during and after an operation while attending an operating room.

Title: Advanced neurosurgery internship in operating room **18**

Prerequisite: Introduction to special surgical methods 3

No. of Credits: 4

Type of the Course: Internship

Main Objective: Becoming familiar with and gaining mastery over the advanced techniques of neurosurgery.

Course Description: In this course, students learn about the new methods of neurosurgery and gain mastery over how to provide care before, during and after an operation while attending an operating room.

Title: Advanced eye surgery internship in operating room **19**

Prerequisite: Introduction to special surgical methods 4

No. of Credits: 4

Type of the Course: Internship

Main Objective: Becoming familiar with and gaining mastery over the advanced techniques of eye surgery.

Course Description: In this course, students learn about the new methods of eye surgery and gain mastery over how to provide care before, during and after an operation while attending an operating room.

Title: Advanced ENT surgery internship in operating room **20**

Prerequisite: Introduction to special surgical methods 4

No. of Credits: 4

Type of the Course: Internship

Main Objective: Becoming familiar with and gaining mastery over the advanced techniques of ENT surgery

Course Description: In this course, students learn about the new methods of ENT surgery and gain mastery over how to provide care before, during and after an operation while attending an operating room.

Title: Advanced transplant surgery internship in operating room **21**

Prerequisite: Introduction to special surgical methods 3

No. of Credits: 4

Type of the Course: Internship

Main Objective: Becoming familiar with and gaining mastery over the advanced techniques of transplant surgery.

Course Description: In this course, students learn about the new methods of transplant surgery and gain mastery over how to provide care before, during and after an operation while attending an operating room.

Title: Advanced plastic, reconstructive and burn surgery internship in operating room **22**

Prerequisite: Introduction to special surgical methods 3

No. of Credits: 4

Type of the Course: Internship

Main Objective: Becoming familiar with and gaining mastery over the advanced techniques of plastic, reconstructive and burn surgery.

Course Description: In this course, students learn about the new methods of plastic, reconstructive and burn surgery and gain mastery over how to provide care before, during and after an operation while attending an operating room.

Title: Advanced oral and maxillofacial surgery internship in operating room
23

Prerequisite: Introduction to special surgical methods 4

No. of Credits: 4

Type of the Course: Internship

Main Objective: Becoming familiar with and gaining mastery over the advanced techniques of oral and maxillofacial surgery.

Course Description: In this course, students learn about the new methods of oral and maxillofacial surgery and gain mastery over how to provide care before, during and after an operation while attending an operating room.

Title: Thesis **24**

Prerequisite: None

No. of Credits: 4

Type of the Course: -

Main Objective: Engaging students with research on operating room issues to create innovations and reduce the existing problems.

Course Description: Applying their knowledge gained through operating room work experience, students choose a topic in this course using different available studies and researches and their skills to design and implement a research study based on the country's needs as well as the educational and healthcare priorities, according to the provisions of educational regulations of discontinuous master's degree. After its approval based on research principles, they perform their scientific research.

According to the mentioned provisions of regulations, students should present the results of the research work and defend their theses in due time.