

In the name of GOD
Tabriz University of Medical Sciences

**Course Guide for Anatomical Sciences –
Cardiovascular System**

Course Code: 104

Course Instructor: Dr. Behrouz Niknafs Contact Number / Student Access: 33342086

Prerequisite or Corequisite: Introduction to Anatomical Sciences

Course Credits: 1.5

Course Type: Theoretical / Practical

Program Level: Doctor of Medicine (M.D.)

Number of Sessions: 14

Course Duration: According to the academic calendar

Class Schedule: Saturday and Mondays

Classroom Location: School of Medicine classrooms Virtual Class Link: — (M.D.)

Other Instructors:

First Name	Last Name	Academic Rank	Department	Preferred Method of Contact
Behrouz	Niknafs	Professor	Anatomical Sciences	In-person
Dariush	Mohammadnejad	Professor	Anatomical Sciences	In-person

General Objective of the Course

Cognitive Domain:

By the end of this course, students should be able to identify the following and understand the importance of their surface and radiological findings under normal and clinical conditions:

1. The structure of the thoracic cage, including bones, muscles, vessels, and nerves of the thoracic wall.
2. The definition, divisions, and contents of the mediastinum.
3. The anatomical structure, position, and relationships of the heart.
4. The general overview of the anatomy of the circulatory system.
5. The microscopic structure of the cardiovascular, lymphatic, and immune systems.
6. The microscopic differences among the components of the cardiovascular, lymphatic, and immune systems.
7. The development of the heart and major vessels.
8. The development of the arterial and venous systems during the embryonic period and after birth.
9. Congenital anomalies of the cardiovascular system.

Psychomotor (Skill) Domain:

By the end of this course, students should be able to:

1. Identify the boundaries of the thoracic cage, ribs, and sternum on a living body and anatomical models.
2. Identify clinically important muscles, vessels, and nerves of the thoracic wall on cadavers and models.
3. Identify the clinically important divisions and contents of the mediastinum on cadavers and models.
4. Demonstrate the surfaces, borders, and different parts of the heart on cadavers and models.
5. Identify the main clinically important vessels of the circulatory system on cadavers and models.
6. Recognize the clinically important microscopic structures of the heart, vessels, and lymphatic organs under the microscope.
7. Demonstrate the surface anatomy of the heart (borders, valves, and auscultation points) and vessels on a living body or cadaver.

Specific Objectives of the Course

It is expected that upon completion of this course, learners will be able to:

1. Identify the ribs and sternum and describe them in detail.
2. Identify the muscles, vessels, and nerves of the thoracic wall and describe them in detail.
3. Identify and describe the superior mediastinum in detail.

4. Identify and describe the middle mediastinum in detail.
5. Identify and describe the posterior mediastinum in detail.
6. Identify the main vessels of the circulatory system and describe them in detail.
7. Understand and describe the histology of the heart and blood vessels in detail.
8. Understand and describe the histology of the lymphatic system in detail.
9. Learn and describe the development of the cardiac region, heart tube, and heart in detail.
10. Learn and describe the development of the arterial and venous systems in detail.
11. Understand and apply the clinical, practical, and radiological anatomy of the cardiovascular system.

Method of Instruction

1. The theoretical sessions are held in the classroom in the form of lectures according to the schedule announced at the beginning of the course.
2. The practical sessions are conducted through hands-on work with cadavers, anatomical models, and osteology specimens.

Student Evaluation Method

- Written and MCQ Exam: 12 points
- Practical Exam (Cadaver Work): 8 points
- Minimum Passing Grade: 10
- Allowed Absence Hours: 0
- Allowed Excused Absence Hours (with instructor's approval):
According to the approved educational regulations, the maximum excused absence is:
 - 4/17 of total hours for theoretical courses
 - 2/17 of total hours for practical and laboratory courses
 - 1/17 of total hours for apprenticeship and internship courses

Educational Resources

- Clinical Anatomy by Region. R.S. Snell, 11th Edition, 2024
- Junqueira's basic histology. Anthony L. Mescher. McGraw-Hill Education. 17th edition, 2024
- Langman's medical Embryology. T.W. Sadler. Lippincott Williams & Wilkins. 15th Edition, 2022

Contact Information

Instructor and Course Coordinator: Dr. Behrouz Niknafs

Educational Officer: Ms. Nadia Keyvani – 33342086

**Full Name and
Signature of the
Course
Instructor**

**Full Name and
Signature of the
Department
Head**

**Full Name and
Signature of the Office
of Development
Coordinator**