

COURSE INFORMATION					
Course Title	Code	Semester	Lecture+Practice+Labrotory Hour	Credits	ECTS
Cardiology (Clinical Clerkship)	MED 405	Phase 4/7-8	28+32	5	5*

* ECTS credits are the university credits of the courses in Yeditepe University, Faculty of Medicine, Undergraduate Medical Education Program

Prerequisites	The student that joins this course, should completed Phase 1, 2 and 3 courses of medical faculty.
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Language of Instruction	English
Course Level	Second Cycle including First Cycle Degree (One Tier Programme)
Course Type	Compulsory
Course Coordinator	Ayça Türer Cabbar, MD. Assoc. Prof.
The instructors	<p><u>Yeditepe University Hospital</u> Olcay Özveren, MD. Prof. Taylan Akgün, MD . Prof. Ayça Türer Cabbar, MD. Assoc. Prof. Songül Akkoyun, MD. Canan Elif Yıldız, MD. Emine Alpay, MD.</p> <p><u>Kartal Koşuyolu Higher Education And Research Hospital</u> Ramazan Kargın, MD. Prof. Rezan Deniz Acar, MD. Prof. Ali Karagöz, MD. Prof</p>
Assistants	Samet Çakır, MD.
Goals	The course aims to equip the clerkship attendees with the necessary knowledge and skills required to approach to cardiac patients, deliver healthcare measures, achieve diagnosis and differential diagnosis of cardiac diseases, apply primary care prophylaxis and treatment to cardiac patients and refer cardiac patients to advanced healthcare units upon indication.

Learning outcomes At the end of this clerkship, student should be able to;	Program Learning Outcomes	Teaching Methods	Assessment Methods
List required procedures and investigations for delivering preventive healthcare measures to cardiology patients	1.1.1, 3.1.2, 3.1.3	1,2,3	B,C
Discuss diagnosis and differential diagnosis of cardiac diseases.	1.1.6, 1.1.7, 3.1.2., 3.1.3, 3.2.2, 3.2.3	1,2,3	B,C,D
Describe the presentation, pathophysiology, clinical and laboratory features of common cardiologic acute and chronic disorders	1.1.1, 3.1.2, 3.2.1, 3.2.2., 3.2.3	1,2,3	A,B,C
List required procedures and investigations for primary care prophylaxis and treatment to cardiac patients	1.1.1, 3.1.2, 3.1.3	1,2,3	A,B,C
List required procedures and investigations for the diagnosis, differential diagnosis and follow-up of cardiology patients	1.1.1, 1.1.6, 1.1.7, 3.1.2, 3.1.3	1,2,3	A,B,C
Describe the initial steps of cardiac echocardiography, Holter ECG monitoring, cardiac exercise test	1.1.1, 1.1.6, 1.1.7, 3.1.4, 3.2.2	1,2,3	A,B,C
Describe the initial steps of cardiac catheterization and coronary angiography	1.1.1, 1.1.6, 1.1.7, 3.1.4, 3.2.2	1,2,3	B,C
Describe the initial steps of pericardiocentesis	1.1.1, 1.1.6, 1.1.7, 3.1.4, 3.2.2	1,2,3	A,B,C
Describe the management of common cardiac disorders	1.1.1, 1.1.6, 1.1.7, 3.1.4, 3.2.2	1,2,3	A,B,C
Describe the procedures of ambulatory blood pressure monitoring	1.1.1, 1.1.6, 1.1.7, 3.1.4, 3.2.2	1,2,3	A,B,C
Describe the electrophysiological study and pacemaker implantation	1.1.1, 1.1.6, 1.1.7, 3.1.4, 3.2.2	1,2,3	A,B,C
Obtain an appropriate and detailed history of patients	1.1.1, 1.1.2, 1.1.3, 1.1.9, 2.1.3, 3.1.2	1,2,3	A,B,C

Perform detailed physical examination of cardiac patient	1.1.1, 1.1.2, 1.1.3, 1.1.9, 2.1.3, 3.1.2	1,2,3	B,C
Provide basic life support to cardiac patient	1.1.1, 1.1.2, 1.1.3, 1.1.9, 2.1.3, 3.1.2	1,2,3	B,C
Perform basic clinical procedures and interventions	1.1.1, 1.1.2, 1.1.3, 1.1.9, 2.1.3, 3.1.2	1,2,3	A,B,C
Obtain required samples for laboratory investigations	1.1.1, 1.1.2, 1.1.3, 1.1.9, 2.1.3, 3.1.2	1,2,3	A,B,C
Interpret clinical and laboratory data	1.1.1, 1.1.2, 1.1.3, 1.1.9, 2.1.3, 3.1.2	1,2,3	A,B,C
Evaluate blood pressure of patient	1.1.1, 1.1.2, 1.1.3, 1.1.9, 2.1.3, 3.1.2	1,2,3	A,B,C
Evaluate peripheral pulses of patient	1.1.1, 1.1.2, 1.1.3, 1.1.9, 2.1.3, 3.1.2	1,2,3	A,B,C
Provide a prioritized problem list	2.3.2, 2.4.2, 2.4.3	1,2,3	B,C
Manage common cardiac disorders and emergency cases	2.3.2, 2.4.2, 2.4.3	1,2,3	A,B,C
Present patients clearly by written and oral means	2.5.2, 3.2.1, 3.2.2	1,2,3	B,C
Ask for consultation when indicated	2.4.1, 2.4.2, 2.4.3, 2.5.1	1,2,3	B,C
Refer patients to advanced healthcare units when indicated	2.4.1, 2.4.2, 2.4.3	1,2,3	B,C
Use written and online sources correctly and efficiently to access evidence-based information	3.1.2, 3.1.4, 3.2.2, 3.2.3	1,2,3	B,C
Communicate and collaborate effectively with colleagues, teaching staff and other members of the healthcare team	2.5.1, 2.5.2	1,2,3	B,C

Assess and diagnose electrocardiographic findings	1.1.1, 1.1.6, 1.1.7, 3.1.4, 3.2.2, 3.2.3	1,2,3	A,B,C
Evaluate serum electrolytes, renal function tests, hepatic function tests and thyroid function tests, cardiac biomarkers	1.1.1, 1.1.6, 1.1.7, 3.1.4, 3.2.2, 3.2.3	1,2,3	B,C
Diagnose acute cardiac disorders	1.1.1, 1.1.6, 1.1.7, 3.1.4, 3.2.2, 3.2.3	1,2,3	A,B,C
Practice cardiac auscultation	1.1.1, 1.1.6, 1.1.7, 3.1.4, 3.2.2, 3.2.3	1,2,3	B,C
Measure blood pressure with sphygmomanometry	1.1.1, 1.1.6, 1.1.7, 3.1.4, 3.2.2, 3.2.3	1,2,3	B,C
Assess cardiac monitorization and ECG	1.1.1, 1.1.6, 1.1.7, 3.1.4, 3.2.2, 3.2.3	1,2,3	B,C
Use written and on-line sources correctly	3.1.2, 3.1.3, 3.2.1, 3.2.2,	1,2,3	B,C
Respect and understand of the roles, responsibilities and relationship of primary care and specialty care providers	2.1.2, 2.5.1, 2.5.2, 2.4.3, 2.4.2, 2.4.1	1,2,3	B,C
Demonstrate interpersonal skills and professionalism in relations with patients, families and healthcare staff, being analytical and research orientated	2.5.1, 2.5.2, 2.5.3	1,2,3	B,C
Show respect for patient rights, communicate appropriately with patient and families and provide clear and concise information about the patient's condition	2.5.1, 2.5.2, 2.5.3	1,2,3	B,C
Obey infection control regulations when working at inpatient and outpatient clinics	2.2.1, 2.2.4, 2.4.2	1,2,3	B,C
Communicate and collaborate effectively with colleagues, teaching staff and other members of the healthcare team	2.1.2, 2.4.1, 2.4.2, 2.4.3, 2.5.1, 2.5.2	1,2,3	B,C

Teaching Methods:

1: Lecture, 2: Bedside Teaching, 3: Small Group Discussion

Assessment Methods:

A: MCQ B: OE C: SOE D:EMQ

COURSE CONTENT		
Week	Topics	Study Materials
1	Introductory Session (Introduction to Cardiology Training Program)	Materials for the course provided by the the instructor
1	Lecture History taking	Materials for the course provided by the instructor
4	Lecture Basic Electrocardiography	Materials for the course provided by the instructor
1	Lecture Approach to the Patient with Chest Pain	Materials for the course provided by the instructor
1	Lecture ST Elevation Myocardial Infarction I	Materials for the course provided by the instructor
1	Lecture ST Elevation Myocardial Infarction II	Materials for the course provided by the instructor
1	Lecture Non-ST Elevation Myocardial Infarction/Unstable Angina	Materials for the course provided by the instructor
1	Lecture Chronic Coronary Artery Disease	Materials for the course provided by the instructor
1	Lecture Percutaneous Coronary and Valvular Interventions	Materials for the course provided by the instructor
1	Lecture Heart Failure I	Materials for the course provided by the instructor
1	Lecture Heart Failure II	Materials for the course provided by the instructor
1	Lecture Dilated, Restrictive and Hypertrophic Cardiomyopathies	Materials for the course provided by the instructor
1	Lecture Mitral Valve Diseases	Materials for the course provided by the instructor
1	Lecture Aortic Valve Diseases	Materials for the course provided by the instructor
1	Lecture Tricuspid and Pulmonary Valve Diseases	Materials for the course provided by the instructor
2	Lecture Hypertension	Materials for the course provided by the instructor
2	Lecture Infective Endocarditis	Materials for the course provided by the instructor

2	Lecture Pericardial Diseases	Materials for the course provided by the instructor
2	Lecture Tachyarrhythmias	Materials for the course provided by the instructor
2	Lecture Tachyarrhythmias	Materials for the course provided by the instructor
2	Lecture Bradyarrhythmias and Heart Blocks	Materials for the course provided by the instructor
2	Lecture Syncope	Materials for the course provided by the instructor
2	Lecture Sudden Cardiac Death	Materials for the course provided by the instructor
2	Lecture Cardiac Pacemakers and Implantable Cardiac Defibrillators	Materials for the course provided by the instructor
2	Cardiology Practice (Kartal Koşuyolu Higher Education and Research Hospital) Echo-lab	Materials for the course provided by the instructor
2	Cardiology Practice (Kartal Koşuyolu Higher Education and Research Hospital) Outpatient	Materials for the course provided by the instructor
2	Cardiology Practice (Kartal Koşuyolu Higher Education and Research Hospital) Intensive Care	Materials for the course provided by the instructor
2	Cardiology Practice (Kartal Koşuyolu Higher Education and Research Hospital) Emergency	Materials for the course provided by the instructor
2	Assessment Session Written Examination	Materials for the course provided by the instructor
2	Assessment Session Oral Examination	Materials for the course provided by the instructor

RECOMMENDED SOURCES	
Textbook	1- Braunwald's Heart Disease: A Textbook of Cardiovascular Medicine, Volume Set, 13th Edition 2- Marriott's Practical Electrocardiography
Additional Resources	Lecture notes

ASSESSMENT		
Questions Types (Pencil-Paper Tests)	Proportion (in Pass/Fail Decision)	Questions Types (Pencil-Paper Tests)
Multiple Choice Questions	%100	Multiple Choice Questions
Total	%100	Total
Other Assessment Methods and Tools	Proportion (in Pass/Fail Decision)	Other Assessment Methods and Tools
Oral Exam (OE)	%40	Oral Exam (OE)
Evaluation of Preparation Skills of Patient's File	%10	Evaluation of Preparation Skills of Patient's File
Total	%50	Total
Pass/Fail Decision	Proportion (in Pass/Fail Decision)	Pass/Fail Decision
Pencil-Paper Tests	%50	Pencil-Paper Tests
Other Assessment Methods and Tools	%50	Other Assessment Methods and Tools
Total	%100	Total

MATERIAL SHARING	
Documents	Photocopy shareable.
Assignments	Not Shareable
Exams	Not shareable

COURSE CATEGORY	Expertise/Field Courses
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COURSES CONTRIBUTION TO PROGRAM					
COMPETENCE AREA-1 / Professional Practices	Contribution				
COMPETENCE 1.1. Health Service Provider	1	2	3	4	5
Competency 1.1.1. Integrates knowledge, skills, and attitudes acquired from basic and clinical medical sciences, behavioral sciences, and social sciences to provide health services.					x
Competency 1.1.2. Demonstrates a biopsychosocial approach that considers the individual's sociodemographic and sociocultural background without discrimination based on language, religion, race, or gender in patient management.					x
Competency 1.1.3. Prioritizes the protection and improvement of individuals' and community's health in the delivery of healthcare services.				x	
Competency 1.1.4. Performs the necessary actions in the direction of maintaining and improving the state of health as considering the individual, social, social and environmental factors affecting health.				x	
Competency 1.1.5. Provides health education to healthy/ill individuals and their families, as well as to other healthcare professionals, by recognizing the characteristics, needs, and expectations of the target audience.					
Competency 1.1.6. Demonstrates a safe, rational, and effective approach in the processes of protection, diagnosis, treatment, follow-up, and rehabilitation in health service delivery.					x
Competency 1.1.7. Performs interventional and/or non-interventional procedures safely and effectively for the patient in the processes of diagnosis, treatment, follow-up, and rehabilitation.					
Competency 1.1.8. Provides healthcare services considering patient and employee health and safety.					
Competency 1.1.9. Considers changes related to the physical and socio-economic environment at both regional and global scales that affect health, as well as changes in the individual characteristics and behaviors of those who seek healthcare services.					x
COMPETENCE AREA-2 / Professional Values and Approaches	Contribution				
COMPETENCE 2.1. Adopting Professional Ethics and Principles	1	2	3	4	5
Competency 2.1.1. Considers good medical practices while performing the profession.					x
Competency 2.1.2. Fulfills duties and obligations within the framework of ethical principles, rights, and legal responsibilities required by the profession.					x
Competency 2.1.3. Demonstrates determined behavior in providing high-quality healthcare while considering the patient's integrity.					x
Competency 2.1.4. Evaluates own performance in professional practices by considering own emotions and cognitive characteristics.					
COMPETENCE 2.2. Health Advocate					
Competency 2.2.1. Advocates for the improvement of healthcare service delivery by considering the concepts of social accountability and social responsibility in the protection and enhancement of community health.				x	
Competency 2.2.2. Plans and implements service delivery, education, and counseling processes related to individual and community health, in collaboration with all stakeholders, for the protection and improvement of health.					
Competency 2.2.3. Evaluates the impact of health policies and practices on individual and community health indicators and advocates for the improvement of healthcare quality.					
Competency 2.2.4. Gives importance to protecting and improving own physical, mental, and social health and takes necessary actions for it.				x	

COMPETENCE 2.3. Leader-Manager					
Competency 2.3.1. Demonstrates exemplary behavior and leadership within the healthcare team during service delivery.					
Competency 2.3.2. Utilizes resources in a cost-effective, socially beneficial, and compliant manner with regulations in the planning, implementation, and evaluation processes of healthcare services as the manager in the healthcare institution.				x	
COMPETENCE 2.4. Team Member					
Competency 2.4.1. Communicates effectively within the healthcare team and takes on different team roles as necessary.					
Competency 2.4.2. Displays appropriate behaviors while being aware of the duties and responsibilities of healthcare workers within the healthcare team.					x
Competency 2.4.3. Works collaboratively and effectively with colleagues and other professional groups in professional practice.					x
COMPETENCE 2.5. Communicator					
Competency 2.5.1. Communicates effectively with patients, their families, healthcare professionals, and other occupational groups, institutions and organizations.					x
Competency 2.5.2. Communicates effectively with individuals and groups who require a special approach and have different sociocultural characteristics.				x	
Competency 2.5.3. Demonstrates a patient-centered approach that involves the patient in decision-making mechanisms during the diagnosis, treatment, follow-up, and rehabilitation processes.				x	
COMPETENCE AREA-3 / Professional and Personal Development	Contribution				
COMPETENCE 3.1. Scientific and Analytical Approach	1	2	3	4	5
Competency 3.1.1. Plans and implements scientific research, as necessary, for the population it serves, and utilizes the results obtained, as well as those from other research, for the benefit of the community.			x		
Competency 3.1.2. Accesses and critically evaluates current literature related to their profession.				x	
Competency 3.1.3. Applies evidence-based medicine principles in the clinical decision-making process.					x
Competency 3.1.4. Uses information technologies to enhance the effectiveness of healthcare, research, and education activities.			x		
COMPETENCE 3.2. Lifelong Learner					
Competency 3.2.1. Manages effectively individual study processes and career development.				x	
Competency 3.2.2. Demonstrates skills in acquiring, evaluating, integrating new information with existing knowledge, applying to professional situations, and adapting to changing conditions throughout professional career.				x	
Competency 3.2.3. Selects the right learning resources to improve the quality of health care and organizes the learning process.				x	

ECTS ALLOCATED BASED ON STUDENT WORKLOAD BY THE COURSE DESCRIPTION			
Activities	Quantity/ day	Duration (Hour)	Total Workload (Hour)
Course Duration (2 weeks)	10	6	60
Hours for off-the-classroom study (Pre-study, practice, review/week)	10	8	80
Homework	-	-	-
Exam	2	2	4
Total Work Load			144
Total Work Load / 30 (h)			4.8
ECTS Credit of the Course			5