

COURSE INFORMATION					
Course Title	Code	Semester	Lecture+Practice+Laboratory Hour	Credits	ECTS
Cardiovascular Surgery (Adult and Congenital)(Clinical Clerkship)	MED 406	Phase 4/7-8	16+20	2	2*

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

<b>Prerequisites</b>	The student that joins this course, should completed Phase 1, 2 and 3 courses of medical faculty.
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<b>Language of Instruction</b>	English
<b>Course Level</b>	Second Cycle including First Cycle Degree (One Tier Programme)
<b>Course Type</b>	Compulsory
<b>Course Coordinator</b>	Tijen Alkan-Bozkaya, MD. Assoc. Prof.
<b>The instructors</b>	(Yeditepe University Hospital) Halit Yerebakan, MD. Assoc. Prof. Tijen Alkan-Bozkaya, MD. Assoc. Prof., PhD  (Kartal Koşuyolu Higher Education and Research Hospital) Hasan Sunar, MD, Prof. of Cardiovascular Surgery Fuat Büyükbayrak, MD, Prof. of Cardiovascular Surgery
<b>Assistants</b>	-
<b>Goals</b>	This internship is an opportunity for interns to approach patients who need adult and pediatric cardiac surgery surgery, to participate in surgeries as an observer, to learn about cardiac surgery and its principles, to approach cardiac surgery cases according to these, to learn diagnosis and treatment modalities, to approach and guideline information about emergency cardiac surgery. In this direction, it aims to have the appropriate clinical triage notion, to equip the cardiac patients with the necessary knowledge and skills to refer to advanced health units in line with the indication.

<b>Learning outcomes</b> At the end of this clerkship, student should be able to;	<b>Program Learning Outcomes</b>	<b>Teaching Methods</b>	<b>Assessment Methods</b>
List required procedures and investigations for delivering preventive healthcare measures to cardiovascular surgery patients	1.1.3, 1.1.5	1,2,3	B,C
Discuss diagnosis and differential diagnosis of cardiac diseases.	1.1.3, 1.1.6, 1.1.8	1,2,3	B,C,D
Describe the presentation, pathophysiology, clinical and laboratory features of common cardiologic acute and chronic cardiovascular disorders	1.1.3	1,2,3	A,B,C
List required procedures and investigations for primary care prophylaxis and treatment to cardiac patients	1.1.10, 1.1.11	1,2,3	A,B,C
List required procedures and investigations for the diagnosis, differential diagnosis and follow-up of cardiovascular surgery patients	1.1.7	1,2,3	A,B,C
Describe the examination and follow-up methods, evaluation and comparison methods of diseases in the field of Cardiovascular Surgery.	1.1.8, 1.1.10	1,2,3	A,B,C
Describe the definitions, stages and principles of surgical planning of diseases in the field of Cardiovascular Surgery and related surgical procedures.	1.1.8, 1.1.9	1,2,3	B,C
Describe the initial steps of pericardiocentesis (surgical indications and approach)	1.1.8, 1.1.9	1,2,3	A,B,C
Explain the surgical treatment of cardiac rhythm disorders.	1.1.3, 1.1.5	1,2,3	A,B,C
Explains the procedures and criteria of outpatient follow-up of patients entering the field of Outpatient Cardiovascular Surgery.	1.1.8, 1.1.10	1,2,3	A,B,C
Describe the electrophysiological study and pacemaker implantation	1.1.8, 1.1.9	1,2,3	A,B,C
A detailed patient history is taken from the patients belonging to the diseases that fall into the field of Cardiovascular Surgery.	1.1.2, 1.1.4	1,2,3	A,B,C

Performs a detailed physical examination of patients with diseases in the field of Cardiovascular Surgery.	1.1.5	1,2,3	B,C
Provide basic life support and follow up to cardiac patient at ICU	1,1,11	1,2,3	B,C
Perform basic clinical procedures and interventions	1.1.7	1,2,3	A,B,C
Obtain required samples for laboratory investigations	1.1.7	1,2,3	A,B,C
Interpret clinical and laboratory data	1.1.7, 1.1.8	1,2,3	A,B,C
Evaluate blood pressure of patient	1.1.5, 1.1.7, 1.1.10	1,2,3	A,B,C
Evaluate peripheral pulses of patient	1.1.5, 1.1.7, 1.1.10	1,2,3	A,B,C
Provides a priority problem list of diseases that fall under the field of Cardiovascular Surgery. Manages common cardiac disorders and emergencies related to diseases in the field of Cardiovascular Surgery.	1.1.2, 1.1.3	1,2,3	B,C
Manage common cardiac disorders and emergency cases	1.1.9, 1.1.11	1,2,3	A,B,C
Present patients clearly by written and oral means	1.2.1	1,2,3	B,C
Ask for consultation when indicated	1.2.1, 1.2.2	1,2,3	B,C
Refer patients to advanced healthcare units when indicated	1.2.1, 1.2.2	1,2,3	B,C
Use written and online sources correctly and efficiently to access evidence-based information	3.1.1, 3.1.2	1,2,3	B,C
Communicate and collaborate effectively with colleagues, teaching staff and other members of the healthcare team	1.2.1, 1.2.2	1,2,3	B,C

Assess and diagnose electrocardiographic findings	1.1.1, 1.1.5, 1.1.6	1,2,3	A,B,C
Evaluates blood gases, serum electrolytes, kidney and liver function tests, thyroid function tests, cardiac biomarkers, infection parameters.	1,1,6	1,2,3	B,C
Diagnose acute cardiac disorders	1,1,3	1,2,3	A,B,C
Practice cardiac auscultation	1,1,5	1,2,3	B,C
Measure blood pressure with sphygmomanometry	1,1,5	1,2,3	B,C
Assess cardiac monitorization and ECG	1,1,5	1,2,3	B,C
Use written and on-line sources correctly	3.1.1, 3.1.2	1,2,3	B,C
Respect and understand of the roles, responsibilities and relationship of primary care and specialty care providers	1.2.2	1,2,3	B,C
Demonstrate interpersonal skills and professionalism in relations with patients, families and healthcare staff, being analytical and research orientated	1.2.2, 1.2.3	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	2,5,2	1,2,3	B,C
Complies with infection control regulations while evaluating inpatients (in the intensive care and service) and working in outpatient clinics.	2.1.1, 2.2.1	1,2,3	B,C
Communicate and collaborate effectively with colleagues, teaching staff and other members of the healthcare team	1.2.1, 1.2.2	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

<b>COURSE CONTENT</b>		
<b>Week</b>	<b>Topics</b>	<b>Study Materials</b>
1	<b>Introductory Session</b> (Introduction to Cardiovascular Surgery Training Program)	Materials for the course provided by the the instructor
1	<b>Lecture</b> History taking	Materials for the course provided by the instructor
1	<b>Lecture</b> Basic Electrocardiography and cardiovascular physical exam	Materials for the course provided by the instructor
1	<b>Lecture</b> Approach to the Patient with Chest Pain	Materials for the course provided by the instructor
1	<b>Lecture</b> Myocardial Infarction (MI) and mechanical complications I	Materials for the course provided by the instructor
1	<b>Lecture</b> Post MI and mechanical complications and hemodynamic management II	Materials for the course provided by the instructor
1	<b>Lecture</b> Post MI mechanical complications and surgical approach III	Materials for the course provided by the instructor
1	<b>Lecture</b> Chronic Coronary Artery Disease and coronary bypass grafting	Materials for the course provided by the instructor
1	<b>Lecture</b> Percutaneous peripheral vascular interventions	Materials for the course provided by the instructor
1	<b>Lecture</b> Heart Failure I	Materials for the course provided by the instructor
1	<b>Lecture</b> Heart Failure and surgical approach II	Materials for the course provided by the instructor
1	<b>Lecture</b> Dilated, Restrictive and Hypertrophic Cardiomyopathies	Materials for the course provided by the instructor
1	<b>Lecture</b> Mitral Valve Diseases and Surgery	Materials for the course provided by the instructor
1	<b>Lecture</b> Aortic Valve Diseases and Surgery	Materials for the course provided by the instructor
1	<b>Lecture</b> Tricuspid and Pulmonary Valve Diseases and Surgery	Materials for the course provided by the instructor
1	<b>Lecture</b> Pulmonary Hypertension	Materials for the course provided by the instructor
1	<b>Lecture</b> Infective Endocarditis and Surgery	Materials for the course provided by the instructor

1	<b>Lecture</b> Pericardial Diseases and Surgery	Materials for the course provided by the instructor
2	<b>Lecture</b> Aortic aneurysm and Dissections I-II	Materials for the course provided by the instructor
1	<b>Lecture</b> Congenital Heart Surgery I	Materials for the course provided by the instructor
1	<b>Lecture</b> Congenital Heart Surgery II	Materials for the course provided by the instructor
1	<b>Lecture</b> Congenital Heart Surgery III	Materials for the course provided by the instructor
2	<b>Lecture</b> Cardiac Tumors	Materials for the course provided by the instructor
2	<b>Lecture</b> Vascular Surgery	Materials for the course provided by the instructor
1	<b>Lecture</b> Pulmonary Vascular Disease	Materials for the course provided by the instructor
2	<b>Cardiology Practice</b> (Kartal Koşuyolu Higher Education and Research Hospital, Operating Room )	Materials for the course provided by the instructor
2	<b>Cardiology Practice</b> (Kartal Koşuyolu Higher Education and Research Hospital, Outpatient)	Materials for the course provided by the instructor
2	<b>Cardiology Practice</b> (Kartal Koşuyolu Higher Education and Research Hospital, Intensive Care)	Materials for the course provided by the instructor
2	<b>Cardiology Practice</b> (Kartal Koşuyolu Higher Education and Research Hospital, Emergency)	Materials for the course provided by the instructor
2	<b>Assessment Session</b> Written Examination	Materials for the course provided by the instructor
2	<b>Assessment Session</b> Oral Examination	Materials for the course provided by the instructor

<b>NCC 2014 – Essential Medical Procedures (National Core Curriculum)</b>	<b>Performance Level</b>
Cardiovascular system examination	1
Neurological examination	3
Reading and assessing direct radiographs	3
Performing pericardiosynthesis	1

**RECOMMENDED SOURCES**

**Textbook 1-** Cardiac Surgery in Adults, Cohn L.H. Mc Graw Hill  
**2-** Cardiac Surgery, Kouchoukos N.T., et al. Churchill Livingstone  
**3-** Haimovici's Vascular Surgery, Ascher E., et al. Wiley-Blackwell

**Additional Resources**    Lecture notes

**ASSESSMENT**

<b>Questions Types (Pencil-Paper Tests)</b>	<b>Proportion (in Pass/Fail Decision)</b>	<b>Questions Types (Pencil-Paper Tests)</b>
Multiple Choice Questions	%35	Multiple Choice Questions
<b>Total</b>	<b>%35</b>	<b>Total</b>
<b>Other Assessment Methods and Tools</b>	<b>Proportion (in Pass/Fail Decision)</b>	<b>Other Assessment Methods and Tools</b>
Oral Exam (OE)	%35	Oral Exam (OE)
Evaluation of Preparation Skills of Patient's File	%30	Evaluation of Preparation Skills of Patient's File
<b>Total</b>	<b>%65</b>	<b>Total</b>
Pass/Fail Decision	<b>Proportion (in Pass/Fail Decision)</b>	Pass/Fail Decision
Pencil-Paper Tests	%35	Pencil-Paper Tests
Other Assessment Methods and Tools	%65	Other Assessment Methods and Tools
<b>Total</b>	<b>%100</b>	<b>Total</b>

<b>MATERIAL SHARING</b>	
<b>Documents</b>	Photocopy shareable.
<b>Assignments</b>	Not Shareable
<b>Exams</b>	Not shareable

<b>COURSE CATEGORY</b>	Expertise/Field Courses
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<b>COURSE'S CONTRIBUTION TO PROGRAM</b>						
	<b>PODG.1. Basic Professional Competencies</b>	<b>Contribution</b>				
	<b>POD.1.1. Clinical Competencies</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>PO.1.1.1.</b>	<b>values</b> preventive health services, <b>offers</b> primary prevention (i.e. prevention of diseases for the protection of health), secondary prevention (i.e. early diagnosis and treatment) tertiary prevention (i.e. rehabilitation) and quaternary prevention (i.e. prevention of excessive and unnecessary diagnosis and treatment) services, <b>provides</b> consultancy on these issues.					
<b>PO.1.1.2.</b>	<b>employs</b> a patient-centered approach in patient management.					<b>X</b>
<b>PO.1.1.3.</b>	<b>recognizes</b> most frequently occurring or significant clinical complaints, symptoms, signs, findings and their emergence mechanisms in clinical conditions.				<b>X</b>	
<b>PO.1.1.4.</b>	<b>takes</b> medical history from the applicant himself/herself or from the individual's companions.					
<b>PO.1.1.5.</b>	<b>does</b> general and focused physical and mental examination.				<b>X</b>	
<b>PO.1.1.6.</b>	<b>interprets</b> findings in medical history, physical and mental examination.				<b>X</b>	
<b>PO.1.1.7.</b>	<b>employs</b> diagnostic procedures that are used frequently at the primary health care level.		<b>X</b>			
<b>PO.1.1.8.</b>	<b>selects</b> tests that have evidence-based high efficacy at the primary health care level and <b>interprets</b> results.					
<b>PO.1.1.9.</b>	<b>makes</b> clinical decisions using evidence-based systematic data in health care service.		<b>X</b>			
<b>PO.1.1.10.</b>	<b>performs</b> medical interventional procedures that are used frequently at the primary health care level.					
<b>PO.1.1.11.</b>	<b>manages</b> healthy individuals and patients in the context of health care services.					
<b>PO.1.1.12.</b>	<b>keeps</b> medical records in health care provision and <b>uses</b> information systems to that aim.					<b>X</b>
	<b>POD.1.2. Competencies related to Communication</b>					
<b>PO.1.2.1.</b>	throughout his/her career, <b>communicates</b> effectively with health care beneficiaries, co-workers, accompanying persons, visitors, patient's relatives, care givers, colleagues, other individuals, organizations and institutions.			<b>X</b>		
<b>PO.1.2.2.</b>	<b>collaborates</b> as a team member with related organizations and institutions, with other professionals and health care workers, on issues related to health.				<b>X</b>	
<b>PO.1.2.3.</b>	<b>recognizes</b> the protection and privacy policy for health care beneficiaries, co-workers, accompanying persons and visitors.				<b>X</b>	



<b>PO.1.2.4.</b>	<b>communicates</b> with all stakeholders taking into consideration the socio-cultural diversity.								<b>X</b>
	<b>POD.1.3. Competencies Related to Leadership and Management</b>								
<b>PO.1.3.1.</b>	<b>manages</b> and <b>leads</b> within the health care team in primary health care organization.								
<b>PO.1.3.2.</b>	<b>recognizes</b> the principles of health management and health sector economy, models of organization and financing of health care services.								
<b>PO.1.3.3.</b>	<b>recognizes</b> the resources in the health care service, the principles for cost-effective use.								
	<b>POD.1.4. Competencies related to Health Advocacy</b>								
<b>PO.1.4.1.</b>	<b>recognizes</b> the health status of the individual and the community and the factors affecting the health, <b>implements</b> the necessary measures to prevent effects of these factors on the health.								
<b>PO.1.4.2.</b>	<b>recognizes</b> and <b>manages</b> the health determinants including conditions that prevent access to health care.								
	<b>POD.1.5. Competencies related to Research</b>								
<b>PO.1.5.1.</b>	<b>develops, prepares</b> and <b>presents</b> research projects								
	<b>POD.1.6. Competencies related to Health Education and Counseling</b>								
<b>PO.1.6.1.</b>	<b>provides</b> consultancy services and <b>organizes</b> health education for the community to sustain and promote the health of individual and community.								
	<b>POD.2. Professional Values and Perspectives</b>								
	<b>POD.2.1. Competencies related to Law and Legal Regulations</b>								
<b>PO.2.1.1.</b>	<b>performs</b> medical practices in accordance with the legal framework which regulates the primary health care service.								<b>X</b>
	<b>POD.2.2. Competencies Related to Ethical Aspects of Medicine</b>								
<b>PO.2.2.1.</b>	<b>recognizes</b> basic ethical principles completely, and <b>distinguishes</b> ethical and legal problems.								<b>X</b>
<b>PO.2.2.2.</b>	<b>pays importance to</b> the rights of patient, patient's relatives and physicians, and <b>provides</b> services in this context.								<b>X</b>
	<b>POD.2.3. Competencies Related to Social and Behavioral Sciences</b>								
<b>PO.2.3.1.</b>	<b>relates</b> historical, anthropological and philosophical evolution of medicine, with the current medical practice.								
<b>PO.2.3.2.</b>	<b>recognizes</b> the individual's behavior and attitudes and factors that determine the social dynamics of the community.								
	<b>POD.2.4. Competencies Related to Social Awareness and Participation</b>								
<b>PO.2.4.1.</b>	<b>leads</b> community with sense of responsibility, behavior and attitudes in consideration of individual behaviors and social dynamics of the community, and if there is a necessity, <b>develops</b> projects directed towards health care services.								
	<b>POD.2.5. Competencies Related to Professional Attitudes and Behaviors</b>								
<b>PO.2.5.1.</b>	<b>displays</b> a patient-centered and holistic (biopsychosocial) approach to patients and their problems.								
<b>PO.2.5.2.</b>	<b>respects</b> patients, colleagues and all stakeholders in health care delivery.					<b>X</b>			

<b>PO.2.5.3.</b>	<b>displays</b> the proper behavior in case of disadvantaged groups and situations in the community.					
<b>PO.2.5.4.</b>	<b>takes</b> responsibility for the development of patient safety and healthcare quality.					
<b>PO.2.5.5.</b>	<b>evaluates</b> own performance as open to criticism, <b>realizes</b> the qualifications and limitations.					
<b>PODG.3. Professional Development and Self-Worth</b>						
<b>PODG.3.1. Personal Development and Values</b>						
<b>PO.3.1.1.</b>	<b>embraces</b> the importance of lifelong self-learning and <b>implements</b> .					
<b>PO.3.1.2.</b>	<b>embraces</b> the importance of updating knowledge and skills; <b>searches</b> current advancements and <b>improves</b> own knowledge and skills.					
<b>PO.3.1.3.</b>	<b>uses</b> English language at least at a level adequate to follow the international literature and to establish communication related to the profession.					
<b>POD.3.2. Competencies Related to Career Management</b>						
<b>PO.3.2.1.</b>	<b>recognizes</b> and <b>investigates</b> postgraduate work domains and job opportunities.					
<b>PO.3.2.2.</b>	<b>recognizes</b> the application requirements to postgraduate work/job domains, and <b>distinguishes</b> and <b>plans</b> any requirement for further training and work experience.					
<b>PO.3.2.3.</b>	<b>prepares</b> a resume, and <b>recognizes</b> job interview methods.					
<b>POD.3.3. Competencies Related to Protection and Development of Own Physical and Mental Health</b>						
<b>PO.3.3.1.</b>	<b>implements</b> the rules of healthy living.					
<b>PO.3.3.2.</b>	<b>displays</b> appropriate behavior specific to work under stressful conditions.					
<b>PO.3.3.3.</b>	<b>uses</b> self-motivation factors.					

<b>ECTS ALLOCATED BASED ON STUDENT WORKLOAD BY THE COURSE DESCRIPTION</b>			
Activities	Quantity/ day	Duration (Hour)	Total Workload (Hour)
Course Duration (2 weeks)	10	4	40
Hours for off-the-classroom study (Pre-study, practice, review/week)	10	2	20
Homework	-	-	-
Exam	2	2	4
<b>Total Work Load</b>			64
<b>Total Work Load / 30 (h)</b>			2.13
<b>ECTS Credit of the Course</b>			2