

MED 682 - COURSE INFORMATION					
Course Title	Code	Semester	L+P Hour	Credits	ECTS
Medical Biochemistry (Clinical internship)	MED 682	Phase 6 / 11-12		5	5*

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

GENERAL INFORMATION	
This course is for Phase VI students of Yeditepe University Faculty of Medicine.	
Prerequisites	Obligatory (main) courses of Phase V should be completed.
Coordination Office	Yeditepe University Hospital.
Email address for inquiries	ikuscu@yeditepe.edu.tr
Attendance	Students are required to attend to at least 80% of the classes.
Language of Instruction	English
Course Level	Second Cycle including First Cycle Degree (One Tier Programme)
Course Type	Elective course
Course Coordinator	Jale Çoban, PhD Prof.
Lecturers/Instructors	Serdar Öztezcan, MD Prof
Assistants	
Goals	The aim of the elective course is to equip the intern with enriched knowledge and skills in the preferred medical specialty.
Content	The elective internship is a 1 month rotation for the 6th year medical students which has been chosen by the students from the area elective courses in the curriculum . Like the other rotations, evaluation of student performance will be based on overall clinical performance both in hospital and outpatient clinics, case papers, the attitudes toward patients, participation in seminars and overnight calls, regular attendance at scientific meetings, lectures and case conferences, the level of scientific and practical knowledge and consulting skills. Ratings of students recorded with required projects and will be performed as “passed “or “failed” with an overall evaluation score of 100.

COURSE LEARNING OUTCOMES			
At the end of this course, student should be able to	Program Learning Outcomes	Teaching Methods	Assessment Methods
1.Understand Clinical Biochemistry Principles	1.1.1,1.1.2,1.1.3,	1,2,3,12	C
2.Interpret laboratory test Results	1.1.1,1.1.2,1.1.3,	1,2,3,12	C
3.Perform Diagnostic Biochemical Techniques	1.1.1,1.1.2,1.1.3,	1,2,3,12	C
4.Correlate Biochemical findings with clinical cases	1.1.9,2.1.1,2.1.2,2.1.3	1,2,3,12	C
5.Understand laboratory Quality control and safety	1.1.3,1.1.4,1.1.5,1.1.6,1.1.7,1.1.8,1.1.9	1,2,3,12	C
6.Communicate Biochemical concepts effectively	1.1.3,2.1.2,2.1.3,2.3.1,2.3.2	1,2,3,12	C
7.Apply ethical and professional principles	1.1.3,2.1.1,2.1.2,2.1.3	1,2,3,12	C
8. Engage in evidence-based practice	3.1.1,3.1.2,3.1.,3.3.2.1,3.2.,2	1,2,3,12	C

Teaching Methods:	1: Lecture, 2: Question-Answer, 3: Discussion, 12: Case Study
Assessment Methods:	C: Homework

COURSE CONTENT		
Week	Topics	Study Materials
1.	Introduction to Clinical Biochemistry(Overview of clinical biochemistry and its role in healthcare. Biomolecules and their clinical significance.)	
2.	Biochemical Parameters and their clinical relevance. (Metabolic panels:liver function , kidney function, and electrolyte balance.)	
3.	Laboratory techniques in clinical Biochemistry.(Spectrophotometry,Chromatography,and immunoassays.)	
4.	Automation and analyzers in biochemistry laboratories.	
5.	Quality control and Laboratory safety.Principles of internal and external quality control.	
6.	Ensuring accuracy, precision, and reliability in test results.	
7.	Laboratory safety and handling of hazardous materials.	
8.	Biomarkers in Diagnosis and Monitoring.(Tumor markers, cardiac markers, and inflammatory markers.) Role of biomarkers in diagnosis,prognosis, and treatment monitoring.	
9.	Case-Based Discussions.Interpretation of biochemical data in real –life clinical cases.Integrating biochemical findings with clinical presentations.	

10. Endocrinology and Hormon assays: Biochemical evaluation of thyroid, adrenal, and gonadal function. Hormonal assays and their clinical applications.
11. Point-of-care testing (POCT): Role of POCT in emergency and outpatient settings.
12. Research and innovation in clinical Biochemistry.

COURSE MATERIALS

Text Books and Reading Material	Clinical Biochemistry, Henry's Clinical Diagnosis and Management by Laboratory Methods Medical Biochemistry
Additional Resources	

YEDİTEPE UNIVERSITY FACULTY OF MEDICINE INTERN PHYSICIAN EVALUATION FORM

This form includes evaluation components for intern physicians and is the basis of the passing grade for internship.

Intern's name and surname:

Intern number:

Internship program name:

Dates of start and end for internship program:

1. Evaluation of Cognitive Competencies

*** The level of competency** should be determined based on **participation in educational activities** (Title 1 on the **Intern Logbook**) and the observations of the Faculty Member / Internship Training Supervisor / Head of the Department for the intern.

	*Competency Level
1.1. Clinical reasoning and decision making The stages of decision making process in an evidence based manner; to determine preliminary / differential diagnosis/diagnoses, to order appropriate diagnostic tests, to achieve an appropriate definitive diagnosis and treatment (interventional or not).	Does not meet expectations <input type="checkbox"/> Meets expectations <input type="checkbox"/> Above expectations <input type="checkbox"/> Well above expectations <input type="checkbox"/>
1.2. Professional knowledge During the educational activities (case discussions, educational visits, faculty member seminars, intern physician seminars, etc.) to answer the questions, to ask the questions, to start a discussion, to contribute to the discussion, to display an understanding of the subject.	Does not meet expectations <input type="checkbox"/> Meets expectations <input type="checkbox"/> Above expectations <input type="checkbox"/> Well above expectations <input type="checkbox"/>
1.3. Literature review and seminar presentation Preparation based on evidence of higher scientific strength, presenting the subject in a solid logical reasoning with in a reference to essential check points, mastering the subject, answering the questions asked.	Does not meet expectations <input type="checkbox"/> Meets expectations <input type="checkbox"/> Above expectations <input type="checkbox"/> Well above expectations <input type="checkbox"/>

Explanations, opinions and recommendations based on the observations of the Faculty Member / Internship Training Supervisor / Head of the Department

2. Evaluation of Competencies for Basic Medical Practice

*** The level of competency** should be determined based on **basic medical practice** (Title 2 on the **Intern Logbook**) and the observations of the Faculty Member / Internship Training Supervisor / Head of Department for the intern.

* Competency Level

Basic medicine practices based on <i>Intern Logbook</i>	Does not meet expectations <input type="checkbox"/> Meets expectations <input type="checkbox"/> Above expectations <input type="checkbox"/> Well above expectations <input type="checkbox"/>		
Explanations, opinions and recommendations based on the observations of the Faculty Member / Internship Training Supervisor / Head of the Department			
3. Evaluation of Professional Competencies for Medicine			
	* Competency Level		
3.1. Communicating with patients and relatives	Does not meet expectations <input type="checkbox"/> Meets expectations <input type="checkbox"/> Above expectations <input type="checkbox"/> Well above expectations <input type="checkbox"/>		
3.2. Compliance in hospital rules (i.e. standard operating procedures, SOPs)	Does not meet expectations <input type="checkbox"/> Meets expectations <input type="checkbox"/> Above expectations <input type="checkbox"/> Well above expectations <input type="checkbox"/>		
3.3. Working in a team and collaborating and communicating with team members	Does not meet expectations <input type="checkbox"/> Meets expectations <input type="checkbox"/> Above expectations <input type="checkbox"/> Well above expectations <input type="checkbox"/>		
3.4. Performing given tasks	Does not meet expectations <input type="checkbox"/> Meets expectations <input type="checkbox"/> Above expectations <input type="checkbox"/> Well above expectations <input type="checkbox"/>		
3.5. Diligence on attendance and participation in scientific activities	Does not meet expectations <input type="checkbox"/> Meets expectations <input type="checkbox"/> Above expectations <input type="checkbox"/> Well above expectations <input type="checkbox"/>		
Explanations, opinions and recommendations based on the observations of the Faculty Member / Internship Training Supervisor / Head of the Department			
Evaluated Competencies	Total Score (Over 100) (For each section below, the score below 70 obtained by the Intern is a reason for inadequacy.)	Impact on Internship End Score	
Cognitive Competencies	Score:....	20%	
Competencies for Basic Medical Practice	Score:....	60%	
Professional Competencies for Medicine	Score:....	20%	
*If the competency level for the intern is determined as “does not meet the expectations” in any part of the evaluation form, the intern is considered to be unqualified . In this condition, FF is given as a letter grade. **If the intern physician is deemed inadequate due to absenteeism , FA is given as a letter grade.			
Internship Evaluation End Score: Letter Grade:.....			
Score Range		Letter Grade	Credit Rating
90 – 100		AA	4.0

	80 – 89	BA	3.5
	70 – 79	BB	3.0
	65 – 69	CB	2.5
	60 – 64	CC	2.0
	0 – 59	FF	
	Absent	FA	

**Attendance	Absence \leq 20%	Absence > 20%
	<input type="checkbox"/>	<input type="checkbox"/>
Decision	Qualified	Unqualified
	<input type="checkbox"/>	<input type="checkbox"/>

Date:

Internship Commission:

Faculty Member

Faculty Member

Internship Training Supervisor

Head of the Department

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.	x				
Competency 1.1.8. Provides healthcare services considering patient and employee health and safety.			x		
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.			x		
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.				x	
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.					x
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.				x	
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.				x	
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 ALLOCATION			
Activity	Quantity	Duration (Hours)	Total Workload (Hours)
Clinical Experience	45	2	90
Clerkship Guide Compilation	20	1	20
Independent Learning Hours	45	1	45
Assessment	2	2.5	5
Total Work Load			160
Total Work Load / 30 (h)			5.3
ECTS Credits			5