

COURSE INFORMATION					
Course Title	Code	Semester	Lecture	Credits	ECTS
Medical Genetics (Clinical Clerkship)	MED 519	Phase 5 / 9-10	16	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, 3 and 4 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>	Ayşegül Kuşkucu, MD PhD, Assoc Prof.
<b>The instructors</b>	Ömer Faruk Bayrak, PhD, Prof. Ayşegül Kuşkucu, MD Assoc Prof.
<b>Assistants</b>	-
<b>Goals</b>	The course aims to equip the clerkship attendees with the necessary knowledge and skills required to approach to genetic diseases, cancer.
<b>Content</b>	

<b>Learning Outcomes</b> <i>At the end of this clerkship, the student should be able to:</i>	<b>Programme Learning Outcomes</b>	<b>Teaching Methods</b>	<b>Assessment Methods</b>
1. Has knowledge of human genome structure and describe briefly the principles of methods by which a persons DNA or chromosomes can be checked for a mutation	1.1.1, 1.1.6, 1.1.7	1,2	A, B
2. Has knowledge about the factors that play a role in hereditary and non-hereditary genetic diseases and the complex mechanism of genetic mutations	1.1.4, 2.2.1	1,2	A, B
3. Discuss the mechanisms underlying Mendelian and non-Mendelian genetics, and have knowledge of the methods and devices used in genetic diagnosis.	1.1.6, 2.5.1, 2.5.2, 3.2.1	1,2	A, B
4. Draw pedigree and take family history	1.1.2, 1.1.3, 2.1.3, 2.1.4, 2.5.1	1,2	A, B
5. Describe the methods of prenatal diagnosis their uses and risks and be able to distinguish between screening and diagnosis	1.1.6, 2.2.1, 2.2.2	1,2	A, B
6. Provide the necessary knowledge about genetic diseases, the common pediatric and adult indications for referral to a genetic clinic, and importance of major and minor congenital anomalies of a patient	1.1.5, 2.1.1	1,2	A, B
7. Associate the genetic factors that play a role in the development of diseases with the clinic, and is well-equipped with the relevant literature.	1.1.1, 1.1.2, 1.1.3	1,2	A, B
8. Associate the genetic factors that play a role in cancer	1.1.1, 1.1.2, 1.1.3	1.2	A, B
9. Has knowledge the value of genetic diagnosis and counseling for patients and parents	1.1.5, 2.1.2, 2.1.3, 2.1.3, 2.1.4, 2.2.2, 2.2.4, 2.5.3, 3.2.3	1.2	A, B

<b>Teaching Methods:</b>	1: Lecture 2: Small Group Discussion
<b>Assessment Methods:</b>	A: MCQ B: Pedigree Drawing

COURSE CONTENT		
Week	Topics	Study Materials
1	<b>Lecture</b> Introduction to Medical Genetics	Materials for the course provided by the the instructor
1	<b>Lecture</b> Patterns of Single Gene inheritance	Materials for the course provided by the instructor
1	<b>Lecture</b> The Human Genome and Chromosomal Basis of Heredity	Materials for the course provided by the instructor
1	<b>Lecture</b> Cytogenetics and Chromosomal Disorders	Materials for the course provided by the instructor
1	<b>Lecture</b> Developmental Genetics and Birth Defects	Materials for the course provided by the instructor
1	<b>Lecture</b> Cancer Genetics and Genomics	Materials for the course provided by the instructor
1	<b>Lecture</b> Molecular Basis of Genetic Diseases	Materials for the course provided by the instructor
1	<b>Lecture</b> Tools of Molecular Genetics	Materials for the course provided by the instructor
1	<b>Lecture</b> Treatment of Genetic Diseases- Introduction to Gene Therapy	Materials for the course provided by the instructor
1	<b>Lecture</b> Genetics of Complex Diseases	Materials for the course provided by the instructor

NCC 2014 – Essential Medical Procedures (Medical Genetics)	Performance Level
Making a family tree and referring the patient for genetic counseling when necessary	4

RECOMMENDED SOURCES	
<b>Textbook</b>	1- Thompson & Thompson Genetics in Medicine, 8edition
<b>Additional Resources</b>	Lecture notes

ASSESSMENT		
Questions Types (Pencil-Paper Tests)	Proportion (in Pass/Fail Decision)	Questions Types (Pencil-Paper Tests)
Multiple Choice Questions	%70	Multiple Choice Questions
Pedigree Drawing according to scenarios	%30	Pedigree drawing
<b>Total</b>	<b>%100</b>	<b>Total</b>

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

#### COURSE CATEGORY

Expertise/Field Courses

COURSES CONTRIBUTION TO PROGRAM					
COMPETENCE AREA-1 / Professional Practices	Contribution				
COMPETENCE 1.1. Health Service Provider	1	2	3	4	5
<b>Competency 1.1.1.</b> Integrates knowledge, skills, and attitudes acquired from basic and clinical medical sciences, behavioral sciences, and social sciences to provide health services.					X
<b>Competency 1.1.2.</b> 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
<b>Competency 1.1.3.</b> Prioritizes the protection and improvement of individuals' and community's health in the delivery of healthcare services.					X
<b>Competency 1.1.4.</b> 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				
<b>Competency 1.1.5.</b> 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.					X
<b>Competency 1.1.6.</b> Demonstrates a safe, rational, and effective approach in the processes of protection, diagnosis, treatment, follow-up, and rehabilitation in health service delivery.					X
<b>Competency 1.1.7.</b> Performs interventional and/or non-interventional procedures safely and effectively for the patient in the processes of diagnosis, treatment, follow-up, and rehabilitation.	X				
<b>Competency 1.1.8.</b> Provides healthcare services considering patient and employee health and safety.					
<b>Competency 1.1.9.</b> 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.					
<b>COMPETENCE AREA-2 / Professional Values and Approaches</b>					
<b>COMPETENCE 2.1. Adopting Professional Ethics and Principles</b>					
<b>Competency 2.1.1.</b> Considers good medical practices while performing the profession.			X		
<b>Competency 2.1.2.</b> Fulfills duties and obligations within the framework of ethical principles, rights, and legal responsibilities required by the profession.				X	
<b>Competency 2.1.3.</b> Demonstrates determined behavior in providing high-quality healthcare while considering the patient's integrity.				X	
<b>Competency 2.1.4.</b> Evaluates own performance in professional practices by considering own emotions and cognitive characteristics.					X
<b>COMPETENCE 2.2. Health Advocate</b>					
<b>Competency 2.2.1.</b> 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
<b>Competency 2.2.2.</b> 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
<b>Competency 2.2.3.</b> Evaluates the impact of health policies and practices on individual and community health indicators and advocates for the improvement of healthcare quality.					
<b>Competency 2.2.4.</b> Gives importance to protecting and improving own physical, mental, and social health and takes necessary actions for it.				X	
<b>COMPETENCE 2.3. Leader-Manager</b>					
<b>Competency 2.3.1.</b> Demonstrates exemplary behavior and leadership within the healthcare team during service delivery.					
<b>Competency 2.3.2.</b> 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.					
<b>COMPETENCE 2.4. Team Member</b>					
<b>Competency 2.4.1.</b> Communicates effectively within the healthcare team and takes on different team roles as necessary.					
<b>Competency 2.4.2.</b> Displays appropriate behaviors while being aware of the duties and responsibilities of healthcare workers within the healthcare team.					
<b>Competency 2.4.3.</b> Works collaboratively and effectively with colleagues and other professional groups in professional practice.					
<b>COMPETENCE 2.5. Communicator</b>					
<b>Competency 2.5.1.</b> Communicates effectively with patients, their families, healthcare professionals, and other occupational groups, institutions and organizations.				X	
<b>Competency 2.5.2.</b> Communicates effectively with individuals and groups who require a special approach and have different sociocultural characteristics.				X	
<b>Competency 2.5.3.</b> Demonstrates a patient-centered approach that involves the patient in decision-making mechanisms during the diagnosis, treatment, follow-up, and rehabilitation processes.					X
<b>COMPETENCE AREA-3 / Professional and Personal Development</b>					
<b>COMPETENCE 3.1. Scientific and Analytical Approach</b>					
<b>Competency 3.1.1.</b> 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.					

<b>Competency 3.1.2.</b> Accesses and critically evaluates current literature related to their profession.					
<b>Competency 3.1.3.</b> Applies evidence-based medicine principles in the clinical decision-making process.					
<b>Competency 3.1.4.</b> Uses information technologies to enhance the effectiveness of healthcare, research, and education activities.					
<b>COMPETENCE 3.2. Lifelong Learner</b>					
<b>Competency 3.2.1.</b> Manages effectively individual study processes and career development.					<b>X</b>
<b>Competency 3.2.2.</b> Demonstrates skills in acquiring, evaluating, integrating new information with existing knowledge, applying to professional situations, and adapting to changing conditions throughout professional career.					
<b>Competency 3.2.3.</b> Selects the right learning resources to improve the quality of health care and organizes the learning process.			<b>X</b>		

<b>ECTS ALLOCATED BASED ON STUDENT WORKLOAD BY THE COURSE DESCRIPTION</b>			
Activities	Quantity/ day	Duration (Hour)	Total Workload (Hour)
Course Duration (1 week)	5	4	20
Hours for off-the-classroom study (Pre-study, practice, review/week)	5	5	25
Homework	-	-	-
Exam	1	2	2
<b>Total Work Load</b>			<b>47</b>
<b>Total Work Load / 30 (h)</b>			<b>1.6</b>
<b>ECTS Credit of the Course</b>			<b>2</b>