BAU TIP

BAHÇEŞEHİR UNIVERSITY SCHOOL OF MEDICINE

"scientia et amore vitae"

BAHÇEŞEHİR UNIVERSITY

SCHOOL OF MEDICINE

CLASS 3

ACADEMIC PROGRAMME

2024-2025

Dean	Merter Yalçınkaya, Prof.
Vice Dean	Melike Yavuz, Assoc. Prof.
Class 3 Coordinator	Seyda İğnak Tarlığ, Asst. Prof.

THIRD YEAR					
5.Semester					
CODE	**COURSE**	**T**	**P**	**C**	**E**
	General Elective	3	0	3	4
	Non-Departmental Elective	2	0	2	4
	Departmental Elective	2	0	2	2
TMED3000					
MED3003	Integration of Basic Sciences to Clinical Medicine I	2	2	3	4
MED3005	Integration of Basic Sciences to Clinical Medicine II	2	2	3	4
MED3007	Integration of Basic Sciences to Clinical Medicine III	2	2	3	4
MED3009	Research methodology and biostatistics	1	2	2	**3**
MED3004	Introduction to internal medicine	3	2	**4**	**5**
		17	**10**	**22**	**30**
6.Semester					
CODE	**COURSE**	**T**	**P**	**C**	**E**
	General Elective	3	0	3	4
	Non-Departmental Elective	2	0	2	4
	Departmental Elective	2	0	2	2
MED3004	Introduction to internal medicine				
MED3006	Introduction to general surgery	2	2	**3**	**4**
MED3008	Introduction to pediatrics	3	2	**4**	**5**
MED3010	Introduction to gynecology and obstetrics	2	2	**3**	**4**
MED3012	Introduction to neurological sciences	2	2	3	4
MED3020	Introduction to public health	2	0	2	**3**
		18	**8**	**22**	**30**

BAHCESEHIR UNIVERSITY SCHOOL OF MEDICINE 2024 – 2025 ACADEMIC CALENDAR FOR THE THIRD YEAR				
2024 – 2025 ACADEMIC YEAR FALL SEMESTER				
September 9, 2024	**Orientation Seminar**			
Group A	Integration of Basic Sciences to Clinical Medicine I (09.09.2024- 11.10.2024)	Integration of Basic Sciences to Clinical Medicine II (14.10.2024- 15.11.2024)	Integration of Basic Sciences to Clinical Medicine III (18.11.2024- 20.12.2024)	Introduction to Internal Medicine (23.12.2024- 17.01.2025)
Group B				Introduction to Pediatrics (23.12.2024-17.01.2025)
Group A+B	**Research Methodology and Biostatistics (09.09.2024-20.12.2024)**			
October 29, 2024, Tuesday	**Republic Day**			
January 01, 2025, Wednesday	**New Year Holiday**			
January 20-31, 2025	**Semester Break**			
2024-2025 ACADEMIC YEAR SPRING SEMESTR				
Group A	Introduction to Pediatrics (03.02.2025- 28.02.2025)	Introduction to Gynecology and Obstetrics (03.03.2025-28.03.2025)	Introduction to Neurological Sciences (31.03.2025- 02.05.2025)	Introduction to General Surgery (05.05.2024-30.05.2025)
Group B	Introduction to Internal Medicine (03.02.2025- 28.02.2025)	Introduction to General Surgery (03.03.2025- 28.03.2025)	Introduction to Gynecology and Obstetrics (31.03.2025- 02.05.2025)	Introduction to Neurological Sciences (05.05.2025- 30.05.2025)
Group A+B	**Public Health (03.02.2025-30.05.2025)**			
March 30-April 01, 2025, Monday-Tuesday	**Ramadan Feat Holiday**			
April 23, 2025, Wednesday	**National Sovereignty and Children's Day**			
May 01, 2025, Thursday	**Labor and Solidarity Day**			
May 19, 2025, Monday	**Commemoration of Atatürk, Youth and Sports Day**			
June 6-9, 2025, Friday-Monday	**Feast of Sacrifice Holiday**			
June 12-13, 2025	**Make-up Exams for Courses**			
June 19, 2025	**Final Exam**			
July 03, 2025	**Resit Exam for the Final Exam**			

BAHÇEŞEHİR UNIVERSITY SCHOOL OF MEDICINE PHASE I (2024-2025)										
		EXAM 1 (Theoretical Exam)		EXAM 2 (Practical Exam)		AVERAGE OF COMMITTEE GRADES	EXAM 3 (FINAL EXAM)		YEAREND GRADE	PASSING GRADE
	Committee Names	**Method**	**%**	**Method**	**%**		**Method**	**%**		
YEAR 3	Committee 1: Integration of Basic Sciences to Clinical Medicine I	MCQ (100 questions)	100 %	• PHARMACOLOGY CASE BASED PRESENTATION (CBL) 100% • PROBLEM BASED LEARNING (PBL) 100%		**(C1+ C2+ C3+C5+C6+C7+ C8+ C9) + [(C4+ C10)/ 2]** **9**	MCQ (200 questions) 2 session	100%	AVERAGE OF COMMITTEE GRADES (60%) + FINAL EXAM SCORE(40%)	YEAREND GRADE (90%) + CLINICAL SKILLS GRADE (4%) + PBL (4%) +CBL (2%)
	Committee 2: Integration of Basic Sciences to Clinical Medicine II	MCQ (100 questions)	100 %							
	Committee 3: Integration of Basic Sciences to Clinical Medicine III	MCQ (100 questions)	100 %							
	Committee 4: Research Methodology and Biostatistics	MCQ (50 questions)	50 %	CRITICAL REVIEW	50 %					
	Committee 5: Introduction to internal medicine	MCQ (100 questions)	100%							
	Committee 6: Introduction to pediatrics	MCQ (100 questions)	100%							
	Committee 7: Introduction to gynecology and obstetrics	MCQ (100 questions)	100%							
	Committee 8: Introduction to general surgery	MCQ (100 questions)	100%							
	Committee 9: Introduction to neurological sciences	MCQ (100 questions)	100%							
	Committee 10: Introduction to public health	MCQ (50 questions)	100%							
	Clinical Skills	Clinical Observation in Hospital Evaluation	10%	Clinical Skills Evaluation	90%	100%				

RESEARCH METHODOLOGY AND STATISTICS EVALUATION: 2024-2025

Two different assessment tools are used:

1. Three end committee theoretical exams (50%)
2. Research article review (50%)

End committee theoretical exams:

Each exam covers the topics of the Research Methodology of that committee.

Research article review:

This homework is planned in order to evaluate whether all the lessons given in this course can be done in practice. In this context, you will search the literature from the journals we have notified you and select an article. You will only choose one of the articles published in the last 5 years from the journals we recommend. You will answer questions about the article you selected on ItsLearning. The questions are given separately in the attachment.

We ask you to mark the questions about the article with a highlighter on the article and write the number of the question on it. Then you need to save this highlighted document in pdf format with Student ID and Name and Surname and upload it to ItsLearning.

BAHCESEHIR UNIVERSITY SCHOOL OF MEDICINE
RESEARCH METHODOLOGY FINAL EVALUATION FORM

Name Surname:.....
Student ID:.....

Please write the name of the journal which you choose for literature search

.....

QUESTIONS	MARKS
TITLE AND CITATION	**10**
1. Write the full title of the article	3
2. Citation of your choosen article (Please use APA Style)	5
3. DOI number of article	2
INTRODUCTION AND AIM	**10**
4. What are the main objective(s) of the study?	5
5. What are the hypotheses of the study?(If hypothesis are not written, please write *"it is not written"*)	5
METHODS	**45**
1. What is the type of the study?	10
2. Describe the study population mentioned in the article.(Please describe the study population from which the sample was selected)	10
3. If selected, write the sampling method used in the study (If not, please identify it).	10
4. What are the inclusion criteria(s) for participants?	5
5. What are the exclusion criteria(s) for participants?	5
6. Which statistical analyses conducted in the study? (Please write only the names of statistical tests)	5
RESULTS	**10**
1. Write the number of participants mentioned in the study.	5
2. Write the response rate and missing data proportion (If it is not written in the article, please write *"it is not written"*)	5
DISCUSSION	**15**
1. Write the potential bias sources of the study. (If it is not written in the article, please write your own ideas)	5
2. Write the limitations of the study. (If it is not written in the article, please write your own ideas)	5
3. Write the strenghts of the study. (If it is not written in the article, please write your own ideas)	5
COMMENT **In this section please write you own idea. (Even if it is not mentioned in the article)**	**10**
1. What are the dependent variable(s) of the study?	5
2. What are independent variable(s) of the study?	5

THE NAMES OF PROBLEM-BASED LEARNING SCENARIOS 2024-2025 and EVALUATION

- A nail saves a horseshoe, a horseshoe saves a horse, a horse saves a man, and a man saves a country.
- Batman's return.
- Water is life.
- Nothing is the same as it seems.
- You can change the future.
- I waited but you didn't come.
- The deepest ignorance is to deny something you know nothing about.

Evaluation of Parameters	GRADES
Identifying of hypotheses	1 | 2 | 3 | 4
Linking and explaining hypothesis to the problems using prior knowledge	1 | 2 | 3 | 4
In the inquiry process, asking questions by using evidence; questioning the accuracy of the information; research, etc.	1 | 2 | 3 | 4
Active participation in questioning the case, examining it, requesting the necessary tests	1 | 2 | 3 | 4
Contribution to the setting of learning goals	1 | 2 | 3 | 4
Able to discuss the case with its biological, social, behavioral, and ethical dimensions	1 | 2 | 3 | 4
Get ready by using classical resources and appropriate resources in the independent work hours	1 | 2 | 3 | 4
Sharing information with the group, creating drawings, diagrams, and concept maps	1 | 2 | 3 | 4
Communication Skills (active listening, making clear explanations, expressing herself/himself; supporting group dynamics; encouraging; upholding rights; making appropriate explanations where the group is blocked, etc.)	1 | 2 | 3 | 4
Evaluation Skills (evaluation of: herself/himself, group, training guide, the scenario in an objective, content-oriented, supportive of development manner)	1 | 2 | 3 | 4
TOTAL GRADE	

PHARMACOLOGY CASE BASED PRESENTATION EVALUATION 2024-2025

PHARMACOLOGY CASE BASED PRESENTATION EVALUATION

Presenter (Name-Surname): Date: Presentation Topic:	
	0-20 points
Presentation reflects up to date knowledge	
Case question is presented concisely and clearly	
Slides prepared satisfactorily	
Effective justification of the answer	
Interesting presentation and maintenance of audience interest	

Total Presentation Point: 100

CLINICAL SKILLS EVALUATION: 2024-2025

	Satisfactory	Needs Improvement	Poor
A- Professionalism			
Always on time and has no unexcused tardiness/absence	**2**	**1**	**0**
Appearance is appropriate: respects dress code, wears name tag	**2**	**1**	**0**
Has team work ability	**2**	**1**	**0**
Shows effective time management	**2**	**1**	**0**
Obeys clinical skills laboratory rules	**2**	**1**	**0**
TOTAL			
B- Medical Knowledge and Clinical Reasoning			
Demonstrates theoretical knowledge	**2**	**1**	**0**
Demonstrates analytical thinking	**2**	**1**	**0**
TOTAL			
C-Interpersonal and Communication Skills			
Demonstrate the ability to communicate effectively with the lecturer and friends	**2**	**1**	**0**
TOTAL			
D- Clinical Skills			
Performs steps of the clinical skill in the guideline appropriately	**2**	**1**	**0**
Applies standard precautions for infection prevention and control	**2**	**1**	**0**
TOTAL			

CLINICAL OBSERVATION IN HOSPITAL EVALUATION: 2024-2025

PURPOSE OF LOGBOOK

This Logbook is intended to develop, record, assess, and certify students' activities during rotations in MP Göztepe Hospital as an observer student in Class 3.

LEARNING OBJECTIVES:

Clinical rotation is one of the integral parts of undergraduate medical students. Clinical skills learning requires the exposure of students into the clinical environment.

The objectives of these rotations include:

- Understanding the concepts of hospital organization
- Understanding the roles of doctors and other health care workers in clinical situations
- Understanding the concepts of patient safety
- Developing communication skills with patients and other healthcare workers
- Developing teamwork skills
- Developing interdepartmental collaboration in workplace
- Developing and enhancing professionalism in medical students

GENERAL RULES:

- You (in groups of 2 or 3) are rotated in the different sections of the hospital according to the program that is given to you at the beginning of each committee.
- You have to obey the program schedule.
- You cannot change your program without the permission of the Class 3 Coordinator.
- You have to wear white cloth in hospital.
- You have to carry your ID or name badges in the hospital.
- You have to introduce yourself as a "medical student"
- You should always keep your work area clean and tidy. Remember to wash your hands regularly.
- You may not provide care in an unsupervised fashion, you are not permitted to perform procedures without direct supervision.
- You should not give information to the patient and/or their relatives about the patient's condition.
- You have to respect patient confidentiality.
- You should not make discussions about the issues related to the patients outside the areas where the public can hear such as elevators, corridors, cafeterias.
- You should avoid behaviors that will harm the patient's safety and impair hospital hygiene.
- You should not take the patient files and medical documents out of the hospital.
- Filling the Log book and getting the signature of the supervisor are your duties.
- In case of loss of Log Book, you have to apply to the Student's Affair Office of Medical School with a written justification for obtaining a new one. You cannot make a copy of it by yourself.

You can also find the responsibilities and rules of the students in clinical settings on the web page of Bahçeşehir University School of Medicine.

This Logbook will be evaluated within the Clinical Skills Evaluation System.

DATE	NAME OF THE UNIT	COMPETENCIES 1) History taking 2) Taking vital signs (Pulse, Blood Pressure, Temperature, Respiratory rate) 3) Pulse oximeter placement 4) Observation 5) Other (explain)	LEVEL **A:** Observer Status **B:** Performed Procedure Under Supervision	SUPERVISOR'S SIGNATURE

CLASS 3

AIM: The purpose of the Class 3 Program is to integrate students' basic science knowledge with their use in clinical settings by different types of teaching methods, to introduce basic clinical fields and basic concepts used in research.

PROGRAM CONTENT:

In the first 3 courses, basic science knowledge of the most common diseases mentioned in the National Core Educational Program is given by associating them with the clinic. The distribution of courses according to the specialities is:

COURSE 1: Integration of Basic Sciences to Clinical Medicine I (Internal Diseases)

COURSE 2: Integration of Basic Sciences to Clinical Medicine II (Pediatrics)

COURSE 3: Integration of Basic Sciences to Clinical Medicine III (General Surgery, Obstetrics and Gynecology, Neuroscience)

There is also a research based course and it is taught as a vertical corridor course throughout the first three committees.

COURSE 4: Research Methodology and Statistics

The next 6 courses are the introductions of clinics. The distribution of courses according to the specialities is:

COURSE 5: Introduction to Internal Medicine

COURSE 6: Introduction to Pediatrics

COURSE 7: Introduction to General Surgery

COURSE 8: Introduction to gynecology and obstetrics

COURSE 9: Introduction to neurological sciences

COURSE 10: Introduction to public health

TEACHING METHODS:

- **Class Lessons:** Theoretical lectures in the Integration of Basic Sciences to Clinical Medicine courses are mainly based on cases in connection with the clinic.
- **Student Presentations:** Clinical Pharmacology lectures are done as Case- Based Presentations by the students. All students are assigned specific questions on published clinical cases. They are given time to prepare presentations and present in front of the class and get feedback from the facilitator. Each student has three different cases.
- **Problem-Based Learning**
- **Clinical Skills Teaching in Clinical Skills Laboratory**
- **Clinical Observations**
- **Self-Study (Research Methodology Assignment, National/International Exam Preparations)**
- **Research Project Participation with academic mentors and faculty members**

LEARNING OBJECTIVES:

At the end of this class, the students should be able to:

KNOWLEDGE:

1. Remember the basic sciences of the most common internal diseases mentioned in the National Core Educational Program.
2. Remember the basic sciences of the most common pediatric diseases mentioned in the National Core Educational Program.
3. Remember the basic sciences of the most common gynecologic, obstetric, general surgery, and neurological diseases mentioned in the National Core Educational Program.
4. Get knowledge about the most common infectious diseases.
5. Get basic knowledge about the fundamentals of research methodology.
6. Recognize the most common symptoms of internal medicine,pediatric, gynecologic and neurological diseases (according to the National Core Education Program)
7. Recognize the most common symptoms in diseases requiring general surgery

SKILLS:

8. Perform various clinical skills in Clinical Skills Laboratory.
9. Get skills in taking history from a patient and making physical examination
10. Get skills in taking inform consent
11. Get skills in presenting a case.
12. Observe patients in hospital settings.
13. Understand the importance of effective communication between a patient and a doctor.
14. Understand the importance of research ethics.

ATTITUDES:

15. Have the perception that medicine is an honorable and respected profession, reflect this on his/her behavior.
16. Observe the rules of professional ethics in his/her relations with the colleagues.
17. Realize the importance of following the working principles in clinical skills laboratories.
18. Realize the importance of hand hygiene in preventing diseases.
19. Realize the importance of introducing himself/herself to the patient, giving information about the interventions to be made, and getting approval.
20. Realize the importance of team work.
21. Gain the program evaluation culture.

MED 3003: INTEGRATION OF BASIC SCIENCES TO CLINICAL SCIENCES I				
Course Date	09.09.2024- 11.10.2024			
Exam Dates	Theoretical Exam (Committee + Research Methodology): 10.10.2024			
Course Coordinators:	SEYDA İĞNAK TARLIĞ			
Academic Unit	**Academic Staff**	**Theoretical hours**	**Practical Hours**	**Total**
Clinical Anatomy	Uğur Baran Kasırga, Assist. Prof.	2	-	2
Clinical Biochemistry	Yeşim Neğiş, Assoc. Prof. Özlem Unay, Assoc. Prof.	12	-	12
Clinical Microbiology	Prof. Gülden Çelik, Prof. Rabia Can Sarınoğlu, Assoc. Prof. Dilek Arman, Prof.	9	-	9
Clinical Pathology	Özlem Yapıcier, Prof. Ahmet Midi, Prof.	8	-	8
Clinical Pharmacology (Case Presentations)	Fatih Özdener, Assoc. Prof Zülfiye Gül, Assoc. Prof	15	15	30
Evidence Based Medicine and Statistics	Hüseyin Tunç, Assist. Prof.	3	-	3
PBL sessions	Özlem Unay Demirel, Assoc. Prof. Seyda İğnak, Assist. Prof Yeşim Neğiş, Assoc. Prof. Yasemin Ergen, Assist. Prof. Duygu Tarhan, Assist. Prof. Hüseyin Tunç, Assist. Prof. Rabia Can Sarınoğlu, Assoc. Prof		10	10
Research Methodology	Sebahat Dilek Torun, Prof., Özge Karadağ, Prof., Melike Yavuz, Assoc. Prof.	13	-	13
CLINICAL OBSERVATIONS			-	-
TOTAL		62	25	87
STUDY TIME				88

COURSE AIM:

The aim of this course is;

- to provide the integration of basic sciences with the most common internal diseases mentioned in the National Core Educational Program (Pulmoary Embolism, Hypertension, Coronary Artery disease, Heart Failure, Myocardial Infarction, Arrythmias, Diabetes Mellitus, Anemia, Goiter, Graves, Tuberculosis, Pneumonia, COPD, Peptic Ulcer, Hepatitis), including certain system infections
- to provide knowledge about common statistics tests used in clinical research,
- to get skills in preparing to initiate an intravenous infusion.
- to introduce students to hospital conditions.

LEARNING OUTCOMES:

At the end of this lesson, the student will be able to:		
KNOWLEDGE		
DEP.	**TOPIC**	**LEARNING OUTCOMES**
CLINICAL ANATOMY	Pulmonary Embolism (T-2)	1. Discuss the clinical anatomy of lungs and pulmonary circulation 2. Identify the main structures of the lungs and related vessels 3. Define relationships of lungs and related vessels 4. Define pulmonary embolism in relation to vascular anatomy of the lungs 5. Describe the characteristic and clinical presentations of pulmonary embolism in relation to clinical anatomy 6. Recognize how pulmonary emboli affect the morphology and functions of the lungs and the related vessels

At the end of this lesson, the student will be able to:		
KNOWLEDGE		
DEP.	**TOPIC**	**LEARNING OUTCOMES**
CLINICAL BIOCHEMISTRY	Diabetes (T-2)	1. Classify types of diabetes 2. Identify the acute and chronic complications of diabetes 3. Explain the pathogenesis of diabetes 4. Explain the effect mechanism of insulin and oral anti diabetic agents 5. Explain the biochemical laboratory tests for diagnosis of diabetes
	Anemia (T-2)	1. Classify types of anemia 2. List the laboratory parameters used for diagnosis of anemia 3. Define the use of laboratory parameters in the differential diagnosis of anemia

	Introduction to clinical laboratory (T-2)	1. Explain the workflow in the clinical laboratory 2. List the compartments of central laboratory 3. Describe the use of laboratory information system (LIS) and hospital information system (HIS) 4. Explain the preanalytical, analytical and postanalytical phase
	Routinely requested test panel (T-2)	1. List the routinely used clinical chemistry parameters in the clinical laboratory 2. List the routinely used hematology tests 3. Describe the laboratory test report 4. Define the reference range 5. Explain the use of units in the laboratory report
	Coronary artery disease and myocardial infarction (T-2)	1. List the laboratory parameters used to diagnose coronary artery disease 2. List the laboratory parameters used to diagnose myocardial infarction 3. List the laboratory parameters used in the follow up of coronary artery disease 4. Explain the biochemical basis of coronary artery disease 5. Explain the biochemical basis of myocardial infarction 6. Define the cut off values for the diagnosis of cardiovascular diseases
	Pulmonary hypertension and pulmonary embolism (T-2)	1. List the laboratory parameters used to diagnose pulmonary hypertension 2. List the laboratory parameters used to diagnose pulmonary embolism 3. List the laboratory parameters used in the follow up of pulmonary embolism 4. Explain the biochemical basis of pulmonary hypertension 5. Explain the biochemical basis of pulmonary embolism
At the end of this lesson, the student will be able to:		
KNOWLEDGE		
DEP.	**TOPIC**	**LEARNING OUTCOMES**
CLINICAL MICROBIOLOGY	Fever etiology in Infectious origin (T-1)	1. Define fever and fever types 2. Explain the mechanism of fever 3. List the definitions of fever of unknown origin 4. List the infectious etiological agents responsible from fever 5. List the steps in investigating fever of unknown origin 6. Describe the laboratory diagnostic algorithm for fever etiology in a step forward manner

	Travel associated Infections/ Malaria (T-1)	1. Describe the Travel associated infections 2. Define the types of Travel associated infections 3. List of these Travel associated infections according to geographical distributions 4. Explain main approach to these Travel associated infections and list of the basic laboratory tests 5. Define malaria as a travel associated infection 6. Explain the pathogenesis of Malaria 7. Describe the laboratory diagnostic algorithm for Malaria 8. List the preventive measurement and antibiotherapy in Travel associated
	Nosocomial Infections (T-1)	1. List the Hospital Infections 2. Define the Hospital Infections 3. List the important pathogens in Hospital Infections 4. List the common clinical manifestations of Hospital Infections 5. Describe the lab diagnosis of the Hospital Infections 6. Define the antibacterial resistance problems in Hospital Infections 7. Describe prevention measures and precautions from Hospital Infections
	Upper Respiratory Tract Infections (T-1)	1. Recall the anatomical structure of Respiratory Tract 2. List the main group of microorganisms responsible from upper respiratory tract infections 3. Explain the pathogenesis of Upper Respiratory Tract Infections 4. List the main methods in the laboratory diagnosis of Upper Respiratory Tract Infections 5. List the main advantages and disadvantages of the methods and interpretation of the results in Upper Respiratory Tract Infections 6. List the preventive measures and the routine recommended antimicrobial treatment of Upper Respiratory Tract Infections
	Lower Respiratory Tract Infections (T-1)	1. List the main group of microorganisms responsible from lower respiratory tract infections 2. Explain the pathogenesis of lower respiratory tract infections 3. List the main methods in the laboratory diagnosis of lower respiratory tract infections
		4. List the main advantages and disadvantages of the methods and interpretation of the results in lower respiratory tract infections 5. List the preventive measures and the routine recommended antimicrobial treatment in lower respiratory tract infections
	Tuberculosis (T-1)	1. Define tuberculosis infections type 2. Explain the pathogenesis of tuberculosis 3. Describe the screening procedures of tuberculosis 4. List the main methods in the laboratory diagnosis in tuberculosis 5. List the preventive measures and the routine recommended antimicrobial treatment in tuberculosis

	Emerging and reemerging infections (T-1)	1. Define emerging and reemerging infections 2. Classify emerging and reemerging infections 3. List their important properties of emerging and reemerging infections 4. List their clinical manifestations of emerging and reemerging infections 5. Describe the lab diagnosis of emerging and reemerging infections 6. Describe treatment and prevention measures from emerging and reemerging infections
	COVID-19 (T-1)	1. Define COVID-19 2. List COVID-19 clinical manifestations 3. Describe the lab diagnosis of COVID-19 4. Describe treatment and prevention measures from COVID-19
	Gastrointestinal System Infections (T-1)	1. List the main group of microorganisms responsible from gastrointestinal system infections 2. Explain the pathogenesis of gastrointestinal system infections 3. List the main methods in the laboratory diagnosis of gastrointestinal system infections 4. List the main advantages and disadvantages of the methods and interpretation of the results in gastrointestinal system infections 5. List the preventive measures and the routine recommended antimicrobial treatment in gastrointestinal system infections

At the end of this lesson, the student will be able to:

KNOWLEDGE

DEP	TOPIC	LEARNING OUTCOMES
CLINICAL PATHOLOGY	Hypertension / Coronary Artery Disease (T-1)	1. Describe the effects of hypertension on the heart and the arteries 2. Explain pathologic basis of coronary artery disease 3. Compare subendocardial and transmural myocardial infarction 4. Get through to the causes of secondary hypertension 5. Describe pathogenesis and causes of syncope 6. Explain the causes of cardiac and noncardiac dyspnea
	Heart Failure / Arrhythmias (T-1)	1. Describe pathogenesis of heart faire and major complications of myocardial infarction 2. Explain pathogenesis of arrhythmia and conduction abnormalities 3. Describe pathogenesis of right heart failure 4. Describe pathogenesis of left heart failure

	Pulmonary Emboli / Pneumonia / Tuberculosis (T-1)	1. Get through the risk factors for lung diseases with associated specific diseases 2. Describe sources and causes of hemoptysis with related diseases 3. Explain pathogenesis and morphological findings of tuberculosis 4. Get through the differential diagnosis of granulomatous inflammation 5. Get through to the microscopic location of the inflammation in classifying pneumonias 6. Describe the complications of pneumonia 7. Get through to risk factors predisposing to pulmonary embolism 8. Explain the complex changes in the pulmonary vasculature and other parts of the lungs due to pulmonary emboli
	Bronchiolitis / Asthma / COPD (T-1)	1. Describe the pathogenesis of allergic and idiosyncratic forms of asthma 2. Explain pathologic changes in chronic obstructive pulmonary disease
	Diabetes (T-1)	1. Get through to causes of polyuria by describing the mechanism and findings of the clinical conditions 2. Describe the metabolic changes in diabetes 3. Explain the clinically important complications of diabetes mellitus and pathologic changes 4. Describe the pathogenesis of leg gangrene
	Goiter / Obesity (T-1)	1. Get through to the clinical manifestations of Graves' Disease 2. Get through to clinical features of hypothyroidism 3. Describe the pathologic conditions causing thyroid enlargement 4. Describe the associated conditions with obesity seen in polycystic ovary syndrome 5. Explain the mechanisms of obesity in diabetes mellitus 6. Describe the obesity related endocrine disorder
	Peptic Ulcer / Diarrhea/Hepatitis (T-1)	1. Describe the causes of inflammatory and noninflammatory acute diarrhea 2. Explain the pathogenesis of chronic diarrhea 3. Describe the differential diagnosis of ulcerative colitis and Crohn's disease 4. Get through to factors play an important pathogenic role in peptic ulcer disease 5. Describe the most important complications of peptic ulcer disease 6. Get through to indications of liver biopsy 7. Describe the key histologic features of acute hepatitis Classify the causes of chronic hepatitis and describe the histologic changes in cirrhosis
	Anemia (T-1)	1. Explain the etiology and pathogenesis of iron deficiency anemia

At the end of this lesson, the student will be able to:		
KNOWLEDGE, SKILLS		
DEP.	**TOPIC**	**LEARNING OUTCOMES**
CLINICAL PHARMACOLOGY	Introduction to the case base pharmacology (T-1)	1. Get knowledge about the Case Presentations of Pharmacology
	Example of case presentation (T-1)	
	Essential Hypertension (T-1, P-1)	1. Explain the main action the most likely mediates the long-term antihypertensive effect of thiazides 2. Describe the main cardiovascular action that mediates the antihypertensive effect of amlodipine 3. Describe a primary contraindication to the use of ACE inhibitors 4. Describe the action mediating the antihypertensive effect of clonidine 5. Identify the drug used to manage the patient's hypertensive crisis 6. Describe the molecular mechanism of action of the most common drugs used to manage the hypertensive crisis 7. Identify the specific reason for the choice of drug used to treat the patient's hypertensive crisis
	Myocardial Infarction (T-1, P-1)	1. Explain the main action that mediates the therapeutic effect of nitroglycerin in myocardial infraction 2. Identify the endogenous compound that mediates the pharmacological action of nitrates 3. Explain the main action that mediates the analgesic effect of morphine 4. Explain the molecular mechanism of action of alteplase 5. Describe a serious adverse effect that can occur after the administration of alteplase 6. Identify the endogenous compound that function as a molecular target of enoxaparin 7. Describe an advantage of enoxaparin over the standard unfractionated heparin
	Atrial Fibrillation (T-1, P-1)	1. Recognize the disease that can be prevented by warfarin therapy in patient with Atrial Fibrillation (AF) 2. Describe a step of the coagulation cascade that is specifically inhibited by warfarin
		3. Explain the reason for the use of diltiazem in AF 4. Explain mechanism of action of diltiazem 5. Identify the site of action of diltiazem in AF 6. Identify the drug to be used for maintenance of normal sinus rhythm after cardioversion
	Heart Failure (T-1, P-1)	1. Identify the primary site of action of furosemide 2. Describe the main action underlying the therapeutic effect of furosemide in heart failure 3. Explain the primary reason for diuretic-induced hypokalemia 4. Explain why loop diuretics are far more effective than thiazide diuretics 5. Identify the drug that can cause tinnitus, hearing loss and vertigo 6. Explain the molecular mechanism of action of carvedilol 7. Explain the mechanism of digoxin-induced nausea and vomiting

	Pulmonary Embolism (T-1, P-1)	1. Explain the mechanism of action of protamine in cases of heparin overdose 2. Identify the coagulation factor that is most sensitive to heparin-induced inhibition 3. Identify the coagulation factor that represents the molecular target of dabigatran 4. Identify the drug to be used in cases of serious dabigatran overdose
	Pneumonia (T-1, P-1)	1. Identify the enzyme specifically inhibited by levofloxacin 2. Identify the correct activity of fluoroquinolones 3. Identify the correct activity spectrum of third-generation cephalosporins 4. Identify the primary site of action of ceftriaxone 5. Explain the mechanism of action of azithromycin 6. Identify the common mechanism for bacterial resistance to cephalosporins, macrolides, and fluoroquinolones 7. Explain the mechanism of action of aminoglycosides
	Asthma (T-1, P-1)	1. Identify the molecular action mediating the therapeutic effect of albuterol in asthmatic patients 2. Identify the enzyme whose inhibition mediates the anti-inflammatory effect of fluticasone 3. Explain why adverse effect of inhaled glucocorticoids are extremely rare 4. Explain the mechanism of action of montelukast 5. Explain the mechanism of action of clotrimazole
	Chronic Obstructive Pulmonary Disease (T-1, P-1)	1. Explain the likely mechanism of albuterol-induced tremor 2. Explain the mechanism of action of losartan 3. Identify the two receptors that are blocked by ipratropium 4. Identify the most common adverse effect of ipratropium 5. Explain the mechanism of action of diltiazem 6. Explain the mechanism of action of montelukast 7. Describe a proposed mechanism of the bronchodilating action of theophylline
	Type 1-Diabetes Mellitus (T-1, P-1)	1. Explain the mechanism of action of insulin 2. Describe the physiological effects of insulin on glucose, fat and protein metabolism
		3. Describe the different type of insulin preparations and their therapeutic application in the management of DM1 4. Describe the appropriate precautions to be taken while on insulin therapy to prevent its adverse effects 5. Describe the adverse effect of insulin therapy
	Type 2-Diabetes Mellitus (T-1, P-1)	1. Explain the mechanism of action of metformin 2. Describe the adverse effect of metformin 3. Explain the mechanism of action of fluconazole 4. Describe the mechanism of action of sulfonylureas 5. Describe the mechanism of action of pioglitazone 6. Describe the adverse effect of pioglitazone 7. Describe the pharmacology of incretin-mimetic agents

	Graves' Disease (T-1, P-1)	1. Identify a drug to be used for rapid management of cardiac symptoms in a patient with Graves' disease 2. Describe the adverse effect of thioamide agents 3. Describe the therapeutic uses of recombinant granulocyte-colony stimulating factor 4. Describe the mechanism of action of radioactive iodine in the treatment of Graves' disease 5. Identify a drug to be given to hyperthyroid patients with exophthalmos 6. Describe the mechanism of action of levothyroxine
	Addison's Disease (T-1, P-1)	1. Identify a drug to be used for management of Addison's disease 2. Describe the mechanism of action of mineralocorticoids 3. Describe the adverse effects of fludrocortisone
	Peptic Ulcer Disease (T-1, P-1)	1. Identify the enzyme that is inhibited by omeprazole 2. Explain the reason for the long duration of action of omeprazole 3. Explain the pharmacokinetic action that can account for the high concentration of omeprazole in the stomach lumen 4. Identify the site of action of erythromycin 5. Describe the property of H. pylori that makes it very sensitive to metronidazole 6. Explain the mechanism of action of bismuth salt in peptic ulcer disease
	Iron Deficiency Anemia (T-1, P-1)	1. Describe the optimal duration of an iron therapy for iron-deficiency anemia 2. Describe a common adverse effect of oral iron preparations 3. Describe a rare but life-threatening adverse effect of intravenous iron administration 4. Describe the optimal duration of an oral iron therapy for iron-deficiency anemia 7. Identify the most likely cause of the anemia-induced increase in serum transferrin

At the end of this lesson, the student will be able to:		
SKILLS		
DEP	**TOPIC**	**LEARNING OUTCOMES**
EVIDENCE BASED MEDICINE AND	Parametric and Nonparametric statistics (T-1)	1. Define the terms parametric and nonparametric statistics 2. Explain where they are used
	Chi-square Fisher Exact test (T-2)	1. Define and understand the significance of Chi-square test 2. Learn underlying reasons why it is used and where 3. Learn how to compute the test

MED 3009: RESEARCH METHODOLOGY AND BIOSTATISTICS			
Course Date	09.09.2024 - 20.12.2024		
Course Coordinators:	SEYDA İĞNAK TARLIĞ, MELİKE YAVUZ		
Academic Unit	**Academic Staff**	**Theoretical hours**	**Total**
Research Methodology	Sebahat Dilek Torun, Prof. Özge Karadağ, Prof. Melike Yavuz, Assoc.. Prof.	42	42

COURSE AIM:

The aim of this course is to inform the students about the fundamentals of research methodology and to develop their research orientation. Specifically, the course aims at introducing the students to the basic concepts used in research and to scientific research methods and their approach.

LEARNING OUTCOMES:

At the end of this lesson, the student will be able to:		
KNOWLEDGE		
DEP	**TOPIC**	**LEARNING OUTCOMES**
RESEARCH METHODOLO	Introduction to the course / Concept of Research and Research Methodology (T-2)	1. Define the term “research.” 2. Identify key features of research 3. List the objectives of the research 4. Explain the significance of the research 5. Describe the different types of research 6. Distinguish between research methods and research methodology

	The Research Process - An Overview (T-1)	1. Explain the major phases of the research process 2. List the steps of the research process in the correct order 3. Explain each step of the research process briefly 4. Explain the criteria/ features of good research
	The Research Problem (T-2)	1. Define what is a research problem and list the sources of research problems
		2. Explain considerations in selecting research problems 3. Differentiate researchable and non-researchable questions 4. Describe the process/steps involved in formulating research problems 5. İdentify the characteristics of a good research problem. 6. Recognize the components, functions and criteria of a good research question 7. Define the advantages of research objectives 8. Distinguish between types of research questions 9. Differentiate between a purpose statement, a research question, and a research objective
	Hypothesis and Constructing Good Hypothesis (T-2)	1. Define the term hypothesis 2. Differentiate among assumption and hypothesis 3. Explain the functions of a hypothesis in a research process 4. Explain the main characteristics of a good hypothesis 5. Differentiate between the types of hypotheses 6. Compare null hypotheses and research hypotheses 7. Enumerate the types of variables included in stating a hypothesis
	Literature review (T-1)	1. Explain the reasons for a literature review being an essential part of every project 2. Define the purpose of a literature review 3. Explain the differences between primary and secondary sources 4. Explain the steps of the review process 5. Explain how to locate appropriate references for the research topic 6. Use the guidelines for writing a literature review 7. Establish a framework for evaluating a literature review.
	Sources of Data (T-1)	1. Explain the process of data collection 2. Define these terms: data, qualitative & quantitative data, primary & secondary data 3. List the broad types of data collection methods 4. List the important methods (observation, interview, questionnaire) of collecting primary data and explain them briefly 5. List the important methods of collecting secondary data and explain them briefly 6. List the advantages and disadvantages of each data collection method 7. Explain the considerations in selecting the appropriate method for data collection

	The Concept of "Variable" in Research (T-1)	1. Explain what variables and concepts are and how they are different 2. Explain how to turn concepts into operational variables 3. Explain the types of variables from the viewpoint of: • causation • the study design • the unit of measurement 4. distinguish dependent, independent, extraneous, and intervening variables in critical article reading.
	Sampling (T-1)	1. Differentiate the terms related with the concept of sampling (population, sample, element, sampling unit, subject,) 2. Describe the relationship between a sample and the population (both target and accessible) in a research 3. Explain the purpose of sampling 4. Describe the steps involved in sampling process 5. List the advantages and limitations of sampling 6. Identify the characteristics of a good sample
	Sampling Methods (T-2)	1. Identify the types of nonprobability and probability sampling methods 2. Explain the basic distinction between probability sampling methods and nonprobability sampling methods 3. Compare the advantages and disadvantages of nonprobability and probability sampling methods 4. List and describe the process of sampling for each sampling method 5. Explain the importance of obtaining representative, as opposed to biased, samples. 6. Recognize sampling techniques when they appear in research reports 7. Explain the factors that influence determination of sample size 8. Define "sampling error", "sampling bias" 9. Define considerations in deciding sampling method 10. Discuss the importance of inclusion and exclusion criteria.
	Introduction to Epidemiology (T-1)	1. Describe basic terminology of epidemiology 2. Describe the basic principles of epidemiology 3. Describe the principles and objectives of epidemiology 4. Explain some of the key uses of epidemiology 5. Explain the basic strategy of epidemiology 6. State three important landmarks in the history of epidemiology
	The Epidemiological Approach to Causation (T-2)	1. Define and state the important characteristics of a cause. 2. Describe the historical development of disease causation theories, including the germ theory and the web of causation. 3. State the criteria of causality: Hill's Criteria including their descriptions and limitations. 4. Distinguish between a risk factor and a cause. 5. Define necessary cause, sufficient cause and multifactorial cause 6. Describe the key elements of the sufficient-component cause model.

	Descriptive Studies (Case report, case series, ecologic studies) (T-1)	1. Define descriptive research. 2. Explain the difference between descriptive and analytical studies. 3. Explain descriptive research's three basic elements (person, place, time). 4. Describe the case report, case series, and ecological studies
		5. Identify the advantages and disadvantages of case reports, case series, and ecological studies 6. Define ecological fallacy.
	Cross-Sectional Studies (T-2)	1. Describe the cross-sectional study design 2. Define the sampling process in cross-sectional studies 3. Draw a cross-sectional research design. 4. Define the term prevalence. 5. Calculate the prevalence in an example. 6. Identify the advantages and disadvantages of cross-sectional studies 7. Explains the applications of cross-sectional studies
	Case-Control Studies (T-2)	1. Describe the features and structure of the case-control study design 2. List the advantages and disadvantages of case–control studies 3. List the settings in which case–control studies are desirable 4. Identify the process of selecting cases and controls in case-control study desing 5. Distinguish between frequency matching and pairwise matching 6. Distinguish between incident and prevalent cases 7. recognize case–control study design when given in example / research reports 8. Define, calculate and interpret odds ratio in a given case–control study example
	Cohort Studies (T-2)	1. Describe the purpose and structure of the cohort study design 2. Distinguish between the various types of cohort studies 3. list the main characteristics, strengths and limitations of cohort studies 4. Explain the factors that should be considered in selecting subjects for a cohort study 5. Explain the differences among three types of comparison groups in a cohort study 6. Give examples of the uses of cohort studies, 7. Recognize cohort study design when given in example / research reports 8. Define, calculate and interpret relative risk in a given cohort study example

	Experimental Studies, Randomized Controlled Studies (T-2)	1. Explain the basic characteristics of experimental studies 2. Define the randomized controlled trials (RCT) 3. Draw a randomized controlled study design 4. Explain the steps of RCT 5. Define the meaning and the purpose of randomization and masking (blinding) 6. Explain the advantages and disadvantages of RCT
	Drug studies Phase 1,2,3,4 (T-2)	1. Identify the different phases of drug development 2. List objectives of each drug development phase 3. Give the quantities of volunteer requirements
	Error Sources in Epidemiology: Bias and confounding (T-2)	1. Define two broad types of errors in epidemiological studies 2. Define the concept of bias and confounding 3. Identify the potential sources of bias 4. Distinguish between the types of bias 5. Describe the various types of bias that can arise with different epidemiological studies and how these can be minimized. 6. Explain the three key properties of a confounder 7. Identify the potential confounders 8. Describe three ways to control confounding in the design phase of a study
	Survey Methods (T-2)	1. Define survey methodology 2. List different types of survey methods 3. Discuss how surveys are used in health research 4. Describe how to prepare a survey questionnaire 5. Demonstrate preparation of a sample questionnaire and its pilot testing
	Introduction to Qualitative Research (T-2)	1. Define key concepts and principles of qualitative research 2. Compare quantitative and qualitative approaches 3. List different types of qualitative research methods 4. Discuss how qualitative approaches are used in health research 5. Describe qualitative interviews and focus group discussions
	Community Participatory Research Methods (T-2)	1. Define community participation in health care and research 2. Define key principles of community participatory research 3. List steps of community based participatory action research 4. Discuss how participatory methods are used in health research 5. Give examples of studies and discuss their relevance for health policy making
	Essential Research Ethics and the Approval Process (T-2)	1. Identify ethical matters in research proposals 2. Identify and clearly describe 3. Any information needed from researchers 4. The reasons for that information 5. Define informed consent and explain the importance of informed consent in research 6. Define plagiarism and explain how to avoid it 7. Prepare a project file for submission to the ethics committee

	Concept validity in research and reliability of measures (T-2)	1. Define The Validity of Diagnostic/Screening Tests 2. Explain The Sensivity and Specificity Terms 3. Explain The Positive and Negative Predictive Value Terms 4. Calculate The Sensivity, Specificity, Positive and Negative Predictive Values in An Example. 5. Explain The Reliability of Diagnostic/Screening Tests. 6. Explain The Intrasubject, Intraobserver, Interobserver Variations
	Preparing and submitting an article (T-2)	1. Explain the basic structure of a manuscript in correct order 2. Identify the steps for journal selection and article submission 3. Explain how to write a cover letter and prepare submission documents 4. Discuss authorship criteria and acknowledgements 5. Recognize the predatory journals
	Peer- Review Process (T-1)	1. Explain the basic steps of peer review process 2. Discuss what to expect from a peer review process 3. Describe how to respond to the peer reviewers and the re-submission process 4. Discuss ethics in peer review

MED 3005: INTEGRATION OF BASIC SCIENCES TO CLINICAL SCIENCES II				
Course Date	14.10.2024-15.11.2024			
Exam Dates	Theoretical Exam (Committee + Research Methodology): 14.11.2024			
Course Coordinator:	SEYDA İĞNAK TARLIĞ			
Academic Unit	**Academic Staff**	**Theoretical hours**	**Practical Hours**	**Total**
Clinical Biochemistry	Özlem Unay, Assoc. Prof.	12	-	12
Clinical Genetics	Timuçin Avşar, Assoc. Prof.	2	-	2
Clinical Microbiology	Gülden Çelik, Prof. Sibel Ergüven, Prof. Rabia Can Sarinoglu, Assoc. Prof.	10	-	10
Clinical Pathology	Özlem Yapıcier, Prof.	3	-	3
Clinical Pharmacology (Case Presentations)	Fatih Özdener, Assoc. Prof. Zülfiye Gül, Assoc. Prof.	18	9	27
Clinical Skills	Özlem Unay Demirel, Assoc. Prof.	1	2	3
Evidence Based Medicine and Statistics	Hüseyin Tunç, Assist. Prof.	4	-	4
PBL sessions	Özlem Unay Demirel, Assoc Prof. Fatih Özdener, Assoc. Prof. Cüneyd Parlayan, Assist. Prof Mahmut Aşırdizer, Prof. Gülden Çelik, Prof.		10	10
Research Methodology	Sebahat Dilek Torun, Prof., Özge Karadağ, Prof., Melike Yavuz, Assist. Prof.	14		14
CLINICAL OBSERVATIONS			10	10
TOTAL		65	30	95
STUDY TIME				80

COURSE AIM:

The aim of this course is:

- to provide the integration of basic sciences with the common pediatric diseases mentioned in the National Core Educational Program (Cyanotic and acyanotic congenital heart diseases, Cystic Fibrosis, Gastroenteritis, Puberty Precocious/ Puberty with Delay, Nutrition/Malnutrition, Disorders of upper/lower respiratory tract, Anemia, Growth retardation and hypogonadism, Urinary tract infection) including certain system infections.
- to provide knowledge about common statistics tests used in clinical research,
- to provide knowledge in Childhood Screening Programs in Turkey,
- to get skills in preparing to initiate a blood transfusion,
- to introduce students to hospital conditions.

LEARNING OUTCOMES:

At the end of this lesson, the student will be able to:		
	KNOWLEDGE	
DEP.	**TOPIC**	**LEARNING OUTCOMES**
CLINICAL BIOCHEMISTRY	Screening programs in childhood (T-2)	1. Describe the newborn screening program which is held by Health Ministry of Turkey 2. List the diseases which are included in newborn screening program 3. Name the alternative tests for newborn screening program
	Cystic Fibrosis (T-2)	1. Explain the biochemical basis of cystic fibrosis 2. List the tests used for diagnosis of cystic fibrosis
	Gastroenteritis (T-2)	1. Explain the biochemical aspect of gastroenteritis 2. List the clinical laboratory tests used for gastroenteritis
	Metabolic screening in pediatric population (T-2)	1. List the tests used for metabolic screening in pediatric population 2. List the metabolic diseases seen in pediatric age group 3. Define the methods used for metabolic screening 4. Classify the metabolic diseases
	Protein energy malnutrition (T-2)	1. Explain the pathogenesis of protein energy malnutrition 2. List the laboratory parameters used in the diagnosis of protein energy malnutrition 3. Classify protein energy malnutrition
	Congenital adrenal hyperplasia (T-2)	1. List the causes of congenital adrenal hyperplasia 2. Describe the pathogenesis of congenital adrenal hyperplasia 3. Explain the steroid hormone synthesis pathway 4. List the laboratory parameters used in the diagnosis of congenital adrenal hyperplasia 5. Define the algorithm fort he diagnosis of congenital adrenal hyperplasia by means of laboratory tests

At the end of this lesson, the student will be able to:		
KNOWLEDGE		
DEP.	**TOPIC**	**LEARNING OUTCOMES**
CLINICAL GENETICS	Genetic testing for childhood disorders (T-2)	1. List and explain the genomic tools for diagnosis of pediatric disorders 2. Compare the technologies in detection of chromosomal changes 3. List the important childhood disorders and their associated gene/chromosomal variants.

At the end of this lesson, the student will be able to:		
KNOWLEDGE		
DEP.	**TOPIC**	**LEARNING OUTCOMES**
CLINICAL MICROBIOLOGY	Skin & Soft tissue Infections (T-1)	1. List the main group of microorganisms responsible from skin and soft tissue infections 2. Explain the pathogenesis of skin and soft tissue infections 3. List the main methods in the laboratory diagnosis of skin and soft tissue infections 4. List the main advantages and disadvantages of the methods and interpretation of the results in skin and soft tissue infections 5. List the preventive measures and the routine recommended antimicrobial treatment results in skin and soft tissue infections
	Superficial Mycoses and Dermatophytosis (T-1)	1. List the main group of microorganisms responsible from Superficial Mycoses and Dermatophytosis 2. Explain the pathogenesis of Superficial Mycoses and Dermatophytosis 3. List the main methods in the laboratory diagnosis of Superficial Mycoses and Dermatophytosis 4. List the main advantages and disadvantages of the methods and interpretation of the results in Superficial Mycoses and Dermatophytosis 5. List the preventive measures and the routine recommended antimicrobial treatment in Superficial Mycoses and Dermatophytosis
	Hepatitis (T-3)	1. List the main group of microorganisms responsible from Hepatitis especially Hepatitis viruses 2. Explain the pathogenesis of viral Hepatitis 3. List the main methods in the laboratory diagnosis of viral Hepatitis 4. List the main advantages and disadvantages of the methods and interpretation of the results in viral Hepatitis 5. List the preventive measures and the routine recommended antimicrobial treatment in viral Hepatitis
	CNS Infections (T-1)	1. Recall the anatomical structure of CNS 2. List the main group of microorganisms responsible from central nervous system infections of central nervous system infections 3. Explain the pathogenesis of central nervous system infections

		4. List the main methods in the laboratory diagnosis of central nervous system infections 5. List the main advantages and disadvantages of the methods and interpretation of the results in central nervous system infections 6. List the preventive measures and the routine recommended antimicrobial treatment in central nervous system infections
	Common Parasitosis (T-2)	1. List the main group of microorganisms responsible from common parasitosis 2. Explain the pathogenesis of common parasitosis 3. List the main methods in the laboratory diagnosis of common parasitosis 4. List the main advantages and disadvantages of the methods and interpretation of the results in common parasitosis 5. List the preventive measures and the routine recommended antimicrobial treatment in common parasitosis
	Cardiovascular System Infections (T-1)	1. List the main group of microorganisms responsible from cardiovascular system infections 2. Explain the pathogenesis of cardiovascular system infections 3. List the main methods in the laboratory diagnosis of cardiovascular system infections 4. List the main advantages and disadvantages of the methods and interpretation of the results in cardiovascular system infections 5. List the preventive measures and the routine recommended antimicrobial treatment in cardiovascular system infections
	Infections in Immunocompromised patients (T-1)	1. List the main group of microorganisms responsible from infections in Immunocompromised patients 2. Explain the pathogenesis of infections in Immunocompromised patients 3. List the main methods in the laboratory diagnosis of infections in Immunocompromised patients 4. List the main advantages and disadvantages of the methods and interpretation of the results in infections in Immunocompromised patients 6. List the preventive measures and the routine recommended antimicrobial treatment in infections in Immunocompromised patients

At the end of this lesson, the student will be able to:		
KNOWLEDGE		
DEP	**TOPIC**	**LEARNING OUTCOMES**
CLINICAL PATHOLOGY	ARDS/Cystic Fibrosis/SIDS (T-1)	1. Explain the disorders of the upper airways with clinical manifestations, etiology, pathophysiology and symptoms. 2. Describe managements and treatment of upper airway infections. 3. Get through the disorders of the lower airways with clinical manifestations, etiology, pathophysiology and symptoms. 4. Describe managements and treatment of the lower airway disorders including acute respiratory distress syndrome (ARDS), cystic fibrosis, sudden infant death syndrome (SIDS).

	Necrotizing enterocolitis/Fetal hydrops (T-1)	1.Describe the risk factors, etiology ad pathogenesis of this disorder 2. Get through the clinical and morphological findings of NEC 3.Explain histopathological findings of NEC 4.Explain management, treatment and prevention of this disorder 5.Describe the causes of hydrops fetalis 6. Explein the pathogenesis of hydrops fetalis 7. Get through the clinical and morphological findings of hydrops fetalis 8.Explain histopathological findings of hydrops fetalis 9.Explain the prenatal and postnatal management of hydrops fetalis
	Tumors and tumor like lesions of Infancy and Childhood (T-1)	1.Get through the type of tumors and tumor like lesions in particular organs and systems in infancy and childhood 2.List the most common tumors and tumor like lesions in infancy and childhood 3. Describe the etiology and especially sepicific genetic factors related with tumors and tumor like lesions of infancy and childhood 4. Describe gross and microscopic findings of these lesions 5. Describe the grading and staging features related with tumors of infancy and childhood. 6.Get through the treatment of the these lesions

At the end of this lesson, the student will be able to:

KNOWLEDGE

DEP.	TOPIC	LEARNING OUTCOMES
CLINICAL PHARMACOLOGY	Growth retardation and hypogonadism (T-2, P-1)	1. Describe the pharmacotherapy of GH deficiency 2. Describe the mechanism of action of somatropin 3. Identify the appropriate formulations of testosterone for replacement therapy in a boy with hypogonadism 4. Describe the mechanism of action of testosterone 5. Describe how androgens affect bone mineral density 6. Describe the appropriate therapy for treating infertility in men with hypogonadotropic hypogonadism 7. Explain the role of FSH in stimulating spermatogenesis 8. Describe the treatment for erectile dysfunction 9. Describe the contraindications for PDE5 inhibitors
	Acromegaly (T-2, P-1)	1. Describe the pharmacology of somatostatin analogues 2. Describe the molecular mechanism of action of octreotide 3. Describe the pharmacology of dopamine agonists used in the treatment of acromegaly and prolactinoma 4. Describe the mechanism of development of nausea and vomiting as adverse effects of dopamine agonists 5. Describe the common adverse effects of octreotide 6. Describe the mechanism of action of pegvisomant 7. Identify the sign that cannot be reversed in acromegalic patients undergoing appropriate therapy
	Cardiogenic shock (T-2, P-1)	1. Describe the most appropriate emergency therapy for cardiogenic shock 2. Describe the action caused by low dose of dopamine

		3. Explain the main pharmacokinetic reason for the administration of dopamine by IV infusion 4. Calculate the time needed to reach the steady-state plasma concentration of dopamine given by IV infusion 5. Calculate the patient's increase in stroke volume after dopamine administration 6. Calculate the change in cardiac oxygen consumption knowing the patient's systolic blood pressure and the heart rate 7. Describe the molecular mechanism of action dobutamine 8. Identify the hemodynamic parameter that mediates the increase in urine output after dopamine infusion in a patient with cardiogenic shock
	Infective Endocarditis (T-2, P-1)	1. Explain the mechanism of action of penicillin 2. Identify the activity spectrum of penicillin G 3. Identify the site of action of vancomycin 4. Explain the mechanism of action of vancomycin 5. Identify the activity spectrum of vancomycin 6. Describe the adverse effects of vancomycin 7. Explain the mechanism of action of clindamycin
	Acute Lymphoblastic Leukemia (T-2, P-1)	1. Describe the phases of ALL treatment 2. Identify the most likely mechanism of anticancer action of vincristine 3. Identify a common adverse effect of vincristine 4. Explain the mechanism of action of asparaginase 5. Identify a frequent, and sometimes serious adverse effect of asparaginase 6. Identify the drug administered intrathecally to children with ALL for prevention of leukemic relapse 7. Identify the most likely cause of metabolic abnormalities that occurred soon after starting induction chemotherapy for acute lymphoblastic leukemia 8. Describe the mechanism of action of rasburicase 9. Describe the mechanism of action of sevelamer
	Human Immunodeficiency Virus Infection (T-2, P-1)	1. Explain the mechanism of action of azoles 2. Identify the appropriate duration of HAART therapy in a patient diagnosed with AIDS 3. Identify the antiviral drug class that includes both emtricitabine and tenofovir 4. Identify the step of the viral cycle specifically inhibited by emtricitabine and tenofovir 5. Identify a rare but potentially lethal adverse effect that can be caused by nucleoside/nucleotide reverse transcriptase inhibitors 6. Identify a step of the viral cycle specifically inhibited by lopinavir and ritonavir 7. Explain the reason for the association of ritonavir with other protease inhibitors 8. Identify the enzyme specifically inhibited by raltegravir

	Urinary tract infection (T-2, P-1)	1. Identify the two enzymes specifically inhibited by the trimethoprim-sulfamethoxazole combination 2. Explain the mechanism of resistance to sulfonamides 3. Explain the mechanism of action of fluoroquinolones 4. Explain the interaction between antacids and fluoroquinolones 5. Identify a serious adverse effect of fluoroquinolones 6. Identify the mechanism of action of meropenem 7. Identify the correct activity of carbapenems
	Hematopoietic Cell Transplantation (T-2, P-1)	1. Explain the mechanism of action of imatinib. 2. Identify the most frequent adverse effect of imatinib therapy. 3. Identify the most likely reason for failure of imatinib therapy. 4. Identify the symptom/ sign that best explains the diagnosis of accelerated phase of chronic myelogenous leukemia. 5. Explain the mechanism of action of busulfan. 6. Identify the anticancer subclass that includes fludarabine. 7. Identify the cyclosporine action that mediates its prophylactic effect after hematopoietic cell transplantation. 8. Identify a common adverse effect of cyclosporine.
	Megaloblastic Anemia (T-2, P-1)	1. Identify the symptoms that can differentiate between folic acid anemia and cobalamin-deficiency anemia. 2. Explain the most likely reason for anemia-induced loss of pain sensation. 3. Identify the endogenous compound whose synthesis is impaired by both folic acid and cobalamin deficiency. 4. Explain the mechanism of the antianemic action of cobalamin. 5. Identify the length of therapy for megaloblastic anemia due to lack of intrinsic factor. 6. Explain why oral cobalamin is effective even when gastric intrinsic factor is absent.

At the end of this lesson, the student will be able to:		
SKILLS		
DEP	**TOPIC**	**LEARNING OUTCOMES**
CLINICAL SKILLS	Preparing to initiate an intravenous infusion (P-1)	1. List the CSL Rules 2. Set up appropriate equipment for iv infusion 3. Get skills in preparing an infusion bag 4. Define how to calculate the infusion rate
	Blood Transfusion (T-2)	1. List the equipment needed for a blood transfusion 2. List the critical checks clinical staff have to take before, during and after administering a blood transfusion 3. Describe the potential adverse side effects and the things all healthcare staff should be aware of when caring for someone who has had a blood transfusion.

At the end of this lesson, the student will be able to:		
SKILLS		
DEP	**TOPIC**	**LEARNING OUTCOMES**
EVIDENCE BASED MEDICINE AND STATISTICS	T-Test, Mann Whitney test (T-2)	1. Understand the tests and why they are used 2. Explain the test results and Hypothesis rejection or acceptance 3. Learn how to compute the test
	ANOVA, Kruskal-Wallis tests (T-2)	1. Understand the tests and why they are used 2. Explain the test results and Hypothesis rejection or acceptance 3. Learn how to compute the test

MED 3007: INTEGRATION OF BASIC SCIENCES TO CLINICAL SCIENCES III				
Course Date	18.11.2024- 20.12.2024			
Exam Dates	Theoretical Exam (Committee + Research Methodology): 19.12.2024			
Course Coordinators	SEYDA İĞNAK TARLIĞ			
Academic Unit	**Academic Staff**	**Theoretical hours**	**Practical Hours**	**Total**
Clinical Anatomy	Uğur Baran Kasırga, Assist. Prof.	6	-	6
Clinical Biochemistry	Özlem Unay, Assoc. Prof.	10	-	10
Clinical Genetics	Timuçin Avşar, Assoc. Prof.	2	-	2
Clinical Microbiology	Gülden Çelik, Prof. Rabia Can Sarinoglu, Assoc. Prof.	11	-	11
Clinical Pathology	Özlem Yapıcier, Prof.	11	-	11
Clinical Pharmacology (Case Presentations)	Fatih Özdener, Assoc. Prof. Zülfiye Gül, Assoc. Prof.	18	9	27
Clinical Skills	Önder Ertem, Dr.	1	1	2
Evidence Based Medicine and Statistics	Hüseyin Tunç, Assist. Prof.	2	-	2
PBL sessions	Özlem Ünay Demirel, Assoc Prof. HüseyinTunç, Assist. Prof. Yasemin Keskin Ergen, Assist.Prof. Bircan Dinç, Assist. Prof. Seyda İgnak Tarlığ, Assist. Prof.		10	10
Research Methodology	Sebahat Dilek Torun, Prof., Özge Karadağ, Prof., Melike Yavuz, Assoc. Prof.	15		15
CLINICAL OBSERVATIONS			10	10
TOTAL		76	30	106
STUDY TIME				69

COURSE AIM:

The aim of this course is:

- to provide the integration of basic sciences with the most common diseases encountered in General Surgery, Obstetrics and Gynecology and Neuroscience mentioned in the National Core Educational Program (Inguinal hernias, hemorrhoids, appadisitis, colon cancer,breast cancer, cervical cancer, osteoporosis, Alzheimer disease, meningitis, epilepsy, migraine, stroke, HIV&AIDS, sepsis).
- to provide knowledge about prenatal diagnosis and screening.
- to provide knowledge about common statistics tests used in clinical research,
- to get skills in surgical hand washing.
- to introduce students to hospital conditions.

LEARNING OUTCOMES:

At the end of this lesson, the student will be able to:		
DEP.	**TOPIC**	**LEARNING OUTCOMES**
CLINICAL ANATOMY	Inguinal hernias (T-2)	1. Discuss the clinical anatomy of anterior abdominal wall and inguinal canal 2. Identify the main structures of the spermatic cord and layers of scrotum 3. Describe classification of inguinal hernias in relation to anterior abdominal wall and inguinal canal 4. Describe the characteristic and clinical presentations of inguinal hernias in relation to clinical anatomy 5. Recognize how inguinal hernia affect the morphology and functions of anterior abdominal wall and inguinal canal
	Hemorrhoids (T-2)	1. Discuss the clinical anatomy of rectum and anal canal 2. Identify the vessels and nerves of the rectum and anal canal 3. Define hemorrhoids in relation to anorectal vasculature 4. Describe the characteristic and clinical presentations hemorrhoids in relation to clinical anatomy 5. Recognize how hemorrhoids affect the morphology and functions of the rectum and anal canal
	Cervical cancer (T-2)	1. Discuss the clinical anatomy of vulva, vagina, uterus, ovaries, uterine tubes 2. Discuss the relationship of pelvic structures with each other 3. Identify the main vessels of vulva, vagina, uterus, ovaries, uterine tubes 4. Describe the anatomy of the lateral uterine support structures and related organs 5. Discuss the lymphatic drainage of vulva, uterus, vagina, uterine tubes and ovaries 6. Describe the anatomy related to a pelvic examination

At the end of this lesson, the student will be able to:		
DEP.	**TOPIC**	**LEARNING OUTCOMES**
CLINICAL BIOCHEMISTRY	Alzheimer Disease: (T-2)	1. Describe the biochemical basis of Alzheimer disease 2. List the laboratory parameters used in diagnosis of Alzheimer disease 3. Define the use of laboratory parameters used for differential diagnosis of neurodegenerative diseases
	Meningitis (T-2)	1. Classify types of meningitis 2. List the laboratory parameters used in diagnosis of meningitis

		3. Define the laboratory parameters used to assess the outcome of meningitis
	Thyroid cancer (T-2)	1. Explain the pathogenesis of thyroid cancer 2. Define tumor markers used in the diagnosis and follow up of thyroid cancer 3. List the laboratory parameters used in the differential diagnosis of thyroid cancer
	Lung cancer (T-2)	1. List the tumor markers used in the diagnosis and follow up of lung cancer 2. Classify lung cancer 3. Explain the pathogenesis of lung cancer 4. List the laboratory parameters used in the differential diagnosis of lung cancer
	Jaundice (T-2)	1. Classify the types of jaundice 2. Explain the pathogenesis of jaundice 3. List the biochemical tests used in the diagnosis of jaundice 4. Compare total bilirubin, direct bilirubin and indirect bilirubin 5. Define reference range for bilirubin parameters

At the end of this lesson, the student will be able to:		
DEP.	**TOPIC**	**LEARNING OUTCOMES**
CLINICAL GENETICS	Prenatal Diagnosis and Screening (T-2)	1. List prenatal diagnosis and screening methods. 2. Describe indications for prenatal applications 3. Define genetic counseling in prenatal stage.

At the end of these lessons, the student will be able to:		
DEP.	**TOPIC**	**LEARNING OUTCOMES**
CLINICAL MICROBIOLOGY	HIV & AIDS (T-2)	1. List the virus responsible from HIV infection/AIDS 2. Explain the pathogenesis of HIV infection/AIDS 3. List the main methods in the laboratory diagnosis of HIV infection/AIDS 4. List the main advantages and disadvantages of the methods and interpretation of the results in HIV infection/AIDS 5. List the preventive measures in HIV infection/AIDS
	Anti-Retroviral therapy (T-1)	1. List the main groups of antivirals used in HAART therapy 2. Describe the main mechanisms of antiretrovirals 3. Describe the HAART therapy 4. Describe resistance problem and detection methods in HAART therapy 5. Describe the pre and post exposure therapy in HIV infection
	Intra-abdominal Infections (T-1)	1. List the main group of microorganisms responsible from intra-abdominal infections and sepsis 2. Explain the pathogenesis of intra-abdominal infections and sepsis 3. List the main methods in the laboratory diagnosis in intra-abdominal infections and sepsis 4. List the main advantages and disadvantages of the methods and interpretation of the results in intra-abdominal infections and sepsis 5. List the preventive measures and the routine recommended antimicrobial treatment in intra-abdominal infections and sepsis

Sepsis (T-1)	5. List the main group of microorganisms responsible from intra-abdominal infections and sepsis 6. Explain the pathogenesis of intra-abdominal infections and sepsis 7. List the main methods in the laboratory diagnosis in intra-abdominal infections and sepsis 8. List the main advantages and disadvantages of the methods and interpretation of the results in intra-abdominal infections and sepsis List the preventive measures and the routine recommended antimicrobial treatment in intra-abdominal infections and sepsis
Pregnancy and Infections (T-1)	1. List the main group of microorganisms responsible from infections that are common in pregnancy 2. Explain the pathogenesis of infections in pregnancy 3. List the main methods in the laboratory diagnosis of infections in pregnancy 4. List the main advantages and disadvantages of the methods and interpretation of the results in infections in pregnancy 5. List the preventive measures and the routine recommended antimicrobial treatment in infections in pregnancy
GUS Infect. / STD (T-1)	1. List the main group of microorganisms responsible from genitourinary and sexually transmitted infections 2. Explain the pathogenesis of genitourinary and sexually transmitted infections 3. List the main methods in the laboratory diagnosis in genitourinary and sexually transmitted infections 4. List the main advantages and disadvantages of the methods and interpretation of the results in genitourinary and sexually transmitted infections 5. List the preventive measures and the routine recommended antimicrobial treatment in genitourinary and sexually transmitted infection
Human Microbiome (T-1)	1. Define microbiota, microbiome 2. Define microbiome role in the metabolic and immunologic functions of healthy individuals 3. List factors regulating the composition of the microbiome 4. Describe how disruption of the microbiome can result in disease states Define probiotics
Vaccines (T-1)	1. Define active and passive immunization 2. Classify vaccines 3. List the advantages and disadvantages of different vaccines 4. List the vaccine preventable diseases and their applications

	Urinary Tract Infections (T-1)	1. Recall the anatomical structure of urinary tract 2. List the main group of microorganisms responsible from urinary tract infections 3. Explain the pathogenesis of urinary tract infections 4. List the main methods in the laboratory diagnosis in urinary tract infections 5. Recall interpretation of the results of urinary tract infections 6. List the preventive measures and the routine recommended antimicrobial treatment in urinary tract infections
	Zoonotic Infections (T-1)	1. List the Zoonotic Infections 2. Classify the Zoonotic Infections into the groups 3. List their important properties of Zoonotic Infections 4. List the common clinical manifestations of Zoonotic Infections 5. Describe the lab diagnosis of each Zoonotic Infections 6. Define the antibacterial resistance problems in Zoonotic Infections 7. Describe prevention measures from Zoonotic Infections

At the end of this lesson, the student will be able to:		
DEP	**TOPIC**	**LEARNING OUTCOMES**
CLINICAL PATHOLOGY	Appendicitis/Cholecystitis Colon cancer and related precursor lesions (T-2)	1. Describe the morphologic features of appendicitis and cholecystitis 2. Explain the pathologic basis of colon cancer additional with early and late stages of genetic changes 3. Compare the histomorphologic features of low and high grade dysplasia in adenomas of colon 4. Get through the subtypes of colon cancer 5. Describe the TNM staging of colon cancer
	Breast cancer/Prostate cancer Gallbladder/Pancreatic cancers (T-2)	1. Describe the morphologic features of breast cancer by means of subtypes of the tumor 2. Explain the immunohistochemical antibodies which are used for therapeutic approach in breast carcinoma 3. Describe the morphologic features of prostate cancer by means of Gleason grading 4. Explain the differential diagnoses of Gallbladder/Hepatic and Pancreatic carcinomas 5. Describe the grading and staging features of gallbladder and pancreatic carcinomas
	Abnormal uterine bleeding and related disorders Cervical/Ovarian cancers (T-2)	1. Explain the lesions of cervix and endometrium causing abnormal uterine bleeding 2. Compare endometrial hyperplasia with endometrial carcinoma in view of histomorphology 3. Describe precursor lesions of cervical cancer 4. Get through the subtypes of ovarian cancer 5. Describe the differential diagnosis of primary and secondary ovarian cancer
	Neurodegenerative diseases Demyelinated diseases (T-2)	1. Get through the types of neurodegenerative diseases 2. Explain the pathogenesis of each one of the neurodegenerative diseases

	WHO classification of brain tumors Most common benign and malignant tumors of CNS (T-3)	1. Describe the basic novelties of WHO classification system (2016) of brain tumors 2. Get through the most common benign and malignant tumors of central nervous system tumors (CNS) 3. Explain the pathogenesis and molecular changes of most commonly seen CNS tumors

At the end of this lesson, the student will be able to:		
DEP.	**TOPIC**	**LEARNING OUTCOMES**
CLINICAL PHARMACOLOGY	General Anesthesia (T-2, P-1)	1. Describe the molecular action that most likely mediates the antianxiety effect of midazolam 2. Identify the ion channel action that most likely mediates the effect of propofol 3. Explain the main reason for the extensive use of IV anesthetic in general anesthesia 4. Explain the molecular mechanism of action of succinylcholine 5. Explain the meaning of MAC of an inhalational anesthetic 6. Identify the inhibition of ion current that most likely mediated the muscle relaxant effect of vecuronium 7. Identify the pairs of skeletal muscles that are to be paralyzed by vecuronium 8. Explain the reason for the administration of neostigmine after general anesthesia supplemented by vecuronium
	Breast cancer (T-2, P-1)	1. Identify the tumor cell receptor whose increase is most likely responsible for tumor metastases 2. Identify the primary reason for the use of raloxifene in breast cancer 3. Identify the disorder whose risk was increased because of raloxifene treatment 4. Explain the mechanism of action of trastuzumab 5. Identify the enzyme specifically inhibited by anastrozole 6. Identify a frequent adverse effect of anastrazole
	Lung cancer (T-2, P-1)	1. Explain why larger solid tumors are more difficult to eradicate by chemotherapy 2. Identify the pair of enzymes specifically inhibited by gemcitabine 3. Explain the mechanism of action of cisplatin 4. Identify the major adverse effects of cisplatin 5. Describe the mechanism of action of paclitaxel 6. Describe the main adverse effects of paclitaxel 7. Describe the mechanism of action of erlotinib 8. Describe the main adverse effects of erlotinib
	Prostate cancer (T-2, P-1)	1. Explain the reason leuprolide therapy in prostate cancer 2. Identify the site of action of leuprolide 3. Explain the molecular mechanism of action of leuprolide 4. Explain the molecular mechanism of action of flutamide 5. Identify a rare but life-threatening adverse effect of flutamide 6. Explain the reason for use of pamidronate in metastasized prostate cancer 7. Identify a rare but serious adverse effect of pamidronate treatment
	Hormonal contraception (T-2, P-1)	1. Describe emergency contraception 2. Describe the mechanism of contraceptive action of combination hormonal contraceptives 3. Describe the mechanism by which combination hormonal contraceptives act to show therapeutic effects in acne 4. Describe the characteristics of different types of synthetic progestins

		5. Describe the different formulations of combined hormonal contraceptives 6. Describe different methods of starting combination hormone contraceptives 7. Explain extended cycle contraceptive formulations 8. Identify the disease whose risk is decreased with the use of combination hormonal contraceptives
	Perimenopause and osteoporosis (T-2, P-1)	1. List the estrogen and progestin compounds, routes of administration and different regimens used to treat menopausal hot flashes 2. Identify the disorder that can be prevented by adding a progestin to the estrogen in the menopausal replacement therapy 3. Describe the mechanism of action of bisphosphonates 4. Explain the appropriate duration of menopausal hormone therapy 5. Describe the adverse effects of menopausal HRT 6. Describe an appropriate drug preparation for managing vaginal atrophy associated with menopause 7. Describe the alternatives to HRT to treat vasomotor symptoms of menopause
	Epilepsy (T-2, P-1)	1. Identify the brain ion channel that is the primary target of phenytoin 2. Select the inhibition of a neurophysiological action that can contribute to the therapeutic effect of carbamazepine 3. Describe the change in ionic currents that most likely mediates the anticonvulsant action of valproic acid 4. Identify the brain receptor that is most likely blocked by topiramate 5. Identify the most likely molecular target of levetiracetam 6. Identify the pairs of channels most likely blocked by lamotrigine 7. Identify the anticonvulsant drug that can block voltage-gated N-type Ca2+ channels on presynaptic terminals 8. Identify the drug that is commonly given to stop an ongoing epileptic seizure
	Migraine (T-2, P-1)	1. Identify the molecular action that mediates the analgesic effect of both aspirin ketoprofen in migraine 2. Identify a pair of receptors that are activated by ergotamine 3. Identify the blockade of receptors that mediate the antiemetic action of metoclopramide 4. Explain the most likely cause of calf pain in a patient receiving antimigraine therapy 5. Identify the receptors that is most likely mediate antimigraine effect of sumatriptan 6. Identify the neurotransmitter system most likely involved in valproate-induced migraine prevention
	Stroke (T-2, P-1)	1. Describe the action that most likely mediates the acute antihypertensive effect of labetalol 2. Identify the endogenous compound that represents the substrate of alteplase system 3. Identify a disorder that contraindicates the use of fibrinolytic drugs 4. Explain why clopidogrel is usually preferred to aspirin in a specific patient

At the end of this lesson, the student will be able to:		
SKILLS		
DEP	**TOPIC**	**LEARNING OUTCOMES**
CLINICAL SKILLS	Surgical Hand Washing (T-1, P-1)	1. Define the purpose of surgical hand washing 2. List the equipment 3. Describe and perform a surgical hand scrub

At the end of this lesson, the student will be able to:		
SKILLS		
DEP	**TOPIC**	**LEARNING OUTCOMES**
EVIDENCE BASED MEDICINE AND STATISTICS	Correlation (T-1)	1. Understand the test and why it is used 2. Explain the test results and Hypothesis rejection or acceptance 3. Learn how to compute the test
	Some advanced topics such as regression (T-1)	1. Understand the tests and why they are used

(MED3020) INTRODUCTION TO PUBLIC HEALTH		
Course Date	GROUP A+B - 03.02.2025-30.05.2025	
Exam Dates	Theoretical Exam Group A+B: 27.02.2025 27.03.2025 30.04.2025 29.05.2025	
Course Coordinator:	SEYDA İĞNAK TARLIĞ, MELİKE YAVUZ	
Academic Unit	**Academic Staff**	**Theoretical hours**
Public Health	Sebahat Dilek Torun, Prof. Özge Karadağ, Prof. Melike Yavuz, Assoc. Prof.	37
Infectious Diseases and Clinical Microbiology	Gülgün Dilek Arman, Prof.	3
TOTAL		**40**

COURSE AIM:

The aim of the course to teach students the principles and basic concepts of preventive medicine and public health that are required to identify and to assess health problems of the society and improve health status of the society.

LEARNING OUTCOMES:

At the end of this lesson, the student will be able to:		
KNOWLEDGE		
DEP	**TOPIC**	**LEARNING OUTCOMES**
PUBLIC HEALTH	History of Public Health and Social Medicine (T-2)	1. Define public health and the key terms in public health 2. Explain the origins and historical developments of public health 3. Define public health approach, core functions and essential public health services 4. Discuss differences and similarities between clinical medicine and public health 5. Explain the concepts of social medicine and community medicine 6. Describe the evolvement of social medicine throughout the history of public health 7. Describe social construction of health 8. Define the concept of social disease

	Determinants of Health: Social Determinants of Health (T-2)	1. Define the major determinants of health 2. Explain the conceptual frameworks on the social determinants of health 3. Describe possible ways by which each social determinant of health (e.g. education, income, and socioeconomic status, etc) influences health status of individuals and population health. 4. Explain the five domains of SDoH within Healthy People 2030 and give examples for each 5. Explain health inequities and why the determinants of health matter 6. Provide examples of health inequities 7. Explain health inequities and its relation with social gradient 8. Discuss why it is important to address SDoH in population health
	Control of communicable diseases (T-2)	1. List the stages of an infectious disease 2. Describe the epidemiological triad and chain (cycle) of infection 3. Describe the ring of the infection chain: • Reservoir • Agent • Mode of transmission • Portal of entry and portal of exit • Host 4. Explain the reproductive rate of an infectious agent 5. Define the terms: epidemic, endemic, pandemic, control, elimination, eradication. 6. Explain the prevention and control measures applied to break different stages of the infection chain 7. Explain primary, secondary, and tertiary prevention strategies for communicable diseases.
	Health indicators (T-2)	1. Explain the concept of health indicators 2. Explain the uses of health indicators. 3. Describe the characteristics of health indicators 4. Classify types of indicators 5. Classify the mortality indicators 6. Explain the life expectancy 7. Describe the infant and child (<5) mortality rates and calculate them in an example 8. Describe the maternal mortality rate and calculate it in an example 9. Classify the mortality indicators
	Occupational Health: Basic Principles (T-1)	1. Explain the basic concepts and objectives of Occupational Health 2. Explain the interrelationships between work and health 3. Identify some historical pioneers in the field of Occupational Health 4. Describe the scope of the occupational health and safety problem globally and its importance to the community. 5. List the occupational health hazards in a workplace and provide some examples 6. Describe the main steps in risk prevention on exposure to health hazards in the work environment (hierarchy of controls) 7. Describe the Occupational Health profile in Türkiye

	Occupational Diseases and Occupational Accidents (T-2)	1. List the common types of occupational health problems 2. Describe the difference between occupational disease and work related diseases and give several examples of each 3. List physical and psychological effects of occupational hazards. 4. State the categories of health impacts of occupational hazards 5. Illustrate at least three methods for the prevention of occupationally related disease 6. Explain preventive medical practices according to prevention levels in occupational health 7. Describe Occupational accidents and types of occupational accidents
	The Health, Safety and well-being of Vulnerable workers (T-1)	1. Describe vulnerability 2. List vulnerable worker groups 3. Explain the occupational health risk for each vulnerable worker group 4. Differentiate the severity occupational health risk risk for each vulnerable worker group 5. Explain preventive measures and legal issues for vulnerable workers
	Health systems and economics (T-1)	1. Define the health system 2. Explain the goals of health system 3. List the functions/building blocks of health system 4. Explain the different health financing systems (tax-based, social insurance, private insurance, out-off-pocket) 5. Classify the health systems and give examples each of them 6. Explain the basic differences of health systems
	Health services in Turkey (T-1)	1. Explain the main components of health system in Turkey (stewardship, financing, service delivery) 2. List the therapeutic health services in Turkey 3. Explain the tasks of primary health centers in Turkey
	Environment and health (T-2)	1. Define fundamental terms related to environmental health (environment, disease, health, safe, risk, exposure, dose) 2. Define the environmental health 3. Classify the contributors who are harmful to the environment 4. Explain the scope of environmental health sciences 5. List the facets of environmental health sciences 6. Explain how the environment affects health 7. Explain the pollutant source pathways 8. Explain the basic requirements for a healthy environment 9. Describe the vulnerable groups for environmental health effects 10. Explain the principles of public health in solving the environmental health problems

	Climate change and its health effects (T-2)	1. Define climate change 2. Explain the causes of climate change 3. Define the global warming 4. Explain the greenhouse effect and its causes (ghgs) 5. Explain the basic pathways by which climate change affects health 6. Explain the direct impacts of climate change on health 7. Explain the ecosystem-mediated impacts of climate change on health outcomes 8. Explain the health impacts of climate change heavily mediated through human institutions
	Maternal health (T-2)	1. Define maternity and maternal health 2. Explain why maternal and child health is important 3. Explain the objectives of maternal and child health care programs 4. Explain the importance, objectives, and content of maternal health care programs (prepregnancy, antenatal, intranatal, postnatal).
	Reproductive Health and Family Planning (T-1)	1. Define reproductive health and family planning 2. Describe the components of reproductive health 3. Explain the relationship between reproductive health and family planning 4. Describe the benefits of family planning 5. Define unmet need for family planning
	Family Planning and Contraceptive Methods (T-2)	1. Differentiate family planning and contraception 2. Explain the various modern contraceptive methods, including ideal and typical failure rates, mechanism of action and benefits 3. Explain the various traditional contraceptive methods, including protection rates, rules for use and indications for use. 4. Explain the various options for emergency contraception, including efficacy, mechanism of action and indications for use. 5. Describe the trends and current use of contraceptive methods in Türkiye
	Demography : Population and Health (T-2)	1. List the sources of demographic data 2. Describe the factors that affect the size and age of a population 3. Use demographic measures to describe populations composition, profile, change 4. Explain the Demographic Transition Model 5. Describe basics of population transition 6. Explain the relation between basic demographic measures and health level of populations 7. Interpret a Population Pyramid 8. Describe the trend and current status of the population demographics in the world and Türkiye
	Vulnerable Populations and Universal Health Coverage (T-1)	1. Define populations living in vulnerable conditions 2. Discuss different terminologies regarding vulnerability 3. Describe “Universal Health Coverage” 4. Discuss barriers in accessing health care and relevant health policies and practices

	Prevention of Stigma and Discrimination in Health Care (T-1)	1. Define “stigma and discrimination” related terms 2. Discuss effects of stigma and discrimination on health and health care 3. Describe stigmatized populations and underlying reasons 4. Discuss how to prevent stigma and discrimination in health care settings and the responsibility of health professionals
	Migration and Health (T-1)	1. Define migration and related terms 2. Compare voluntary and forced migration 3. Discuss effects of migration on health and access to health care 4. Discuss health policies and services for different migrant populations
	Health Literacy, Health Education and Promotion (T-1)	1. Define concepts of “health literacy”, “health education”, “health communication” and “health promotion” 2. Describe disease prevention, levels of prevention, and health promotion 3. Compare the risk approach and salutogenic approach to health 4. List principles of health promotion based on Ottawa Charter 5. Explain how to measure health literacy and available scales in literature 6. Describe basic steps in preparation, implementation and evaluation of health education and promotion programs
	Urban Health & Health Cities (T-1)	1. Define the concepts of “urban health” and “healthy cities” 2. List main characteristics of a healthy city 3. Describe international networks on health cities 4. Discuss policies and programs to promote urban health
	Disaster Preparedness and Response (T-1)	1. Define “Disaster” and related terms 2. Describe disaster prevention, mitigation, preparedness, response and recovery (Steps of Emergency Management). 3. Discuss the importance of a multisectoral approach 4. Discuss public health ethics and ethical dilemmas in disasters
	Sustainable Development, Global Health and Global Citizenship (T-1)	1. Define the concept of “Sustainable Development” 2. Describe UN`s Sustainable Development Goals 3. Define the concepts of “Global Health” and “Global Health Diplomacy” 4. Describe WHO`s “Health in All Policies” Approach 5. Define the concept of “Global Citizenship” and UNESCO`s approach 6. Discuss the role of health professionals on a local, national, and global scale
	Childhood Screening Programs in Turkey (T-2)	1. List screening programs carried out in childhood in Turkey 2. List the diseases diagnosed with screening programs 3. Explain the importance of timely screening

	Elderly health (T-1)	1. Define the term ageing 2. Define the following groups—old, young old, middle old, and old. 3. Explain the factors that affect population aging. 4. Explain health profile of older adults and common features of health problems among elderly 5. Define healthy ageing and its key considerations 6. Define the term ageism and refute several commonly held myths about the older adult population. 7. Illustrate the six instrumental needs of older adults
	Prevention of chronic diseases (T-1)	1. Describe risk factors and determinants of NCDS 2. Identify four major NCDS 3. Define individual-based and population-based interventions for NCDS
	Gender and Health (T-1)	1. Define “Gender” and “Gender Inequalities” 2. Discuss effects of gender on health and access to health care 3. Discuss how to incorporate gender in health research, policy and practice 4. Describe gender-sensitive health care and the role of health professionals in promoting young girls` and women`s health
	Global mental health/Community mental health (T-2)	1. Define concepts of “Global mental health” and “Community mental health” 2. Discuss social determinants of mental health and well-being 3. Discuss global problems that affect mental health and well- being 4. Define “Mental environment” and its relation to community mental health 5. Describe global mental health indicators and their measurement including the World Mental Health Surverys and the World Happiness Reports 6. Describe WHO`s policies and programs to promote global and community mental health

At the end of this lesson, the student will be able to:

KNOWLEDGE

DEP	TOPIC	1. LEARNING OUTCOMES
INFECTIOUS DISEASES AND CLINICAL MICROBIOLOGY	Infectional risk of health workers (T-2)	1. List the HCW’s infectious risks 2. Tell the transmission ways of pathogens to HCW 3. List the preventive measures for infectious risks of HCW 4. List the vaccination requirements of HCW 5. List the required PPE 6. Tell the consequence of wearing PPE 7. Understand the infectious risks of himself/herself 8. Accept the vaccine requirements

	Adult Immunization (T-1)	1. List the reasons for adult immunization 2. List the risk factors for vaccine preventable diseases 3. List the pathogen/disease which an adult with no risk factor, should be immune 4. List the recommended vaccine requirements according to risk groups 5. Search for general requirements and reach trusted references 6. Understand the adult vaccination needs 7. Understand that the recommendations may vary temporally according to changing epidemiology

MED 3004: INTRODUCTION TO INTERNAL MEDICINE			
Course Date	GROUP A- 23.12.2024-17.01.2025 GROUP B- 03.02.2025-28.02.2025		
Exam Dates	Theoretical Exam: GROUP A - 16.01.2025 GROUP B – 27.02.2025		
Course Coordinator:	SEMA TÜRKER, CENGİZ BÖLÜKBAŞ		
Academic Unit	**Academic Staff**	**Theoretical hours**	**Practical Hours**
Internal Medicine	Cengiz Bölükbaş, Prof. Fulya Coşan, Prof. Füsun Bölükbaş, Prof. Sena Ulu, Prof. Banu Kale, Prof. Sema Türker, Assoc. Prof.	75	6 (Clinical Observations)
Pulmonary Medicine	Merih Kalamanoğlu Balcı, Assoc. Prof. Nazlı Zeynep Uslu, Assist. Prof.	4	
Cardiology	Sabahattin Gündüz, Assoc. Prof.	6	
Radiology	Abdülbaki Ağaçkıran, Assist Prof	3	
Public Health	Sebahat Dilek Torun, Prof. Melike Yavuz, Assoc. Prof. Özge Karadağ, Prof.	2	
Clinical Skills	Rabia Can Sarınoğlu, Assoc.Prof.	1	1
TOTAL		91	7
STUDY TIME			42

COURSE AIM:

The aim of this course is:

- to introduce internal medicine to the students,
- to give information about how to take history from a patient and how to make physical examination,
- to recognize the most common symptoms of internal medicine diseases (according to the National Core Education Program),
- to get skills in taking history from a patient and preparing a patient file,
- to get skills in Adult Advanced Life Support,
- to recognize most commonly used radiographic imaging techniques in internal medicine,
- to introduce students to hospital conditions.

LEARNING OUTCOMES:

At the end of this lesson, the student will be able to:		
DEP	**LEARNING OUTCOMES**	
INTERNAL MEDICINE	History taking and physical examination in Internal Medicine (T-2)	1. Elicit the patient's chief complaint, history of present illness, past medical history, social, family, occupational histories and complete a review of systems 2. Perform a physical examination in a logical, organized and thorough manner 3. Describe the steps for obtaining a patient's vital signs 4. State normal values for adult vital signs 5. Demonstrate the ability to use data for clinical decisions
	General Physical Examination and Examination of Head and Neck (T-2)	1. Describe the common methods of physical examination of the head and neck: Inspection, palpation, auscultation 2. Describe the location and examination methods of lymph nodes 3. List the causes of lymph node enlargement
	Approach to patient with weakness (T-2)	1. Determine what the patient means by weak. 2. Take the history of a patient with weakness 3. Make the physical examination of a patient with weakness 4. List the laboratory tests that may aid in diagnosis
	Hypertension (T-2)	1. Describe the pathophysiology and clinical findings of hypertension (HT) 2. Describe the staging and treatment algorithm of HT 3. List the complications of HT
	History taking and physical examination in Nephrology (T-2)	1. Gather the important information that is needed for the nephrology history 2. Make a pertinent physical examination for the evaluation of nephrology consult patient 3. Interpret renal function tests 4. Interpret glomerular filtration rate in acute kidney injury and chronic kidney disease 5. Define how to differentiate findings on the urinalysis
	Acute Kidney Injury (acute renal failure) (T-2)	1. Describe the definition of acute kidney injury 2. Describe the etiology and pathophysiology of acute kidney injury 3. Define the clinical evaluation and prevention of acute kidney injury 4. Describe the non-dialytic management of acute kidney injury

Chronic Renal Failure (chronic kidney disease) (T-2)	1. Define chronic kidney disease 2. Explain the pathophysiology of chronic kidney disease 3. Describe the clinical findings of chronic kidney disease 4. Take preventive measures against the development of chronic kidney disease 5. List the complications of chronic kidney disease 6. Arrange the initial treatments and refer to a specialist
Approach to a patient with proteinuria (T-2)	1. Define normal range of proteinuria 2. Define abnormal range of proteinuria 3. Describe nephrotic and nephritic syndrome 4. Explain types of proteinuria
Approach to a patient with electrolyte disorders (T-2)	1. Explain general principles of disorders of water balance 2. Explain general principles of disorders of sodium balance 3. Explain general principles of disorders of potassium balance 4. Define hyponatremia and hypernatremia 5. Define hyperkalemia and hypokalemia
Approach to a patient with anuria, oliguria, polyuria, pollakiuria or nocturia (T-1)	1. Describe urinary symptoms including anuria, oliguria, polyuria, pollakiuria and nocturia 2. Clinical application of these urinary symptoms in clinical decisions
Approach to a patient with hematuria (T-1)	1. Describe the pathophysiology and clinical findings of hematuria 2. Explain types of glomerular diseases
Approach to patient with edema (T-1)	1. Identify the symptoms and signs of edema 2. Organize and prioritize a differential diagnosis based on specific findings of edema 3. Order appropriate laboratory and diagnostic studies for the most likely etiologies of edema
History taking in Gastroenterology (T-2)	1. Comprehend how to communicate with a patient 2. Elicit the patient's chief complaint as well as a complete list of the patient's concerns. 3. Obtain a patient's history in a logical, organized, and thorough manner, covering the history of present illness; past medical history (including usual source of and access to health care, childhood and adult illnesses, injuries, surgical procedures, obstetrical history, psychiatric problems, hospitalizations, transfusions, medications, tobacco and alcohol use, and drug allergies); preventive health measures; social, family, and occupational history; and review of systems. 4. Describe a symptom, including location and radiation, intensity, quality, onset, duration, frequency, alleviating factors, aggravating factors and associated symptoms. 5. Identify the key findings of history taking and combine it with physical examination.

	Physical examination in Gastroenterology (T-2)	1. Assessment to give position the patient and self properly for each part of the physical examination. 2. Perform a physical examination for a patient in a logical, organized, respectful, and thorough manner, giving attention to the patient's general appearance, vital signs, and pertinent body regions. 3. Recognize the importance of methods of physical examination: inspection, palpation, percussion, and auscultation. 4. Adapt the scope and focus of the history and physical exam appropriately to the medical situation and the time available. 5. Identify life-threatening situations
	Approach to a patient with nausea and vomiting (T-2)	1. Describe the pathophysiologic mechanisms of nausea and vomiting. 2. Recognize the definition and differential diagnosis of nausea and vomiting 3. Identify common causes of nausea and vomiting. 4. Define the complications of severe vomiting
	Approach to a patient with hematemesis and melena, hematochezia (T-2)	1. Define hematemesis, melena and hematochezia. 2. Describe, and prioritize the common causes for and symptoms of upper and lower GI blood loss 3. Recommend laboratory and diagnostic tests to evaluate GI bleeding, 4. Develop an appropriate evaluation and treatment plan for patients with a GI bleeding
	Approach to a patient with diarrhea, constipation (T-2)	1. Define diarrhea and review the different terminologies in diarrhea 2. Explain the causes, clinical symptoms and the metabolic changes during diarrhea 3. Define the constipation 4. Recognize the differences between functional versus organic causes of constipation.
	Approach to a patient with abdominal pain (ACUTE) (T-2)	1. Recognize the definition and differential diagnosis of acute abdominal pain 2. List symptoms and signs indicative of an acute abdomen 3. List the most frequent causes of acute abdominal pain? 4. Describe the key diagnostic criteria for common causes of abdominal pain, based on a history, physical exam and laboratory testing
	Approach to a patient with hepatomegaly (T-1)	1. Identify the possible causes of hepatomegaly and splenomegaly 2. List the important diagnostic considerations in patients who have hepatomegaly 3. Describe what clinical findings of hepatomegaly
	Approach to a patient with jaundice, pruritis (T-2)	1. Describe hyperbilirubinemia and list the causes of hyperbilirubinemia 2. Define cholestatic and hepatocellular liver disease 3. Define the difference between intrahepatic and extrahepatic cholestasis 4. Outline an approach to the evaluation of the jaundiced patient. 5. List of the pruritus causes

	Clinical skills learning (Preparation of a patient file) (T-1)	1. Take history from a patient 2. Prepare a patient file with writing history and physical examination 3. Elicit the patient's past medical history, social, family, and occupational histories 4. Review the symptoms of all systems
	Clinical skills learning (Presenting of a case) (T-1)	1. Describe how to prepare a case report 2. Describe how to present a case as a power point
	Approach to patient with fever (T-1)	1. Become familiar with the definition of fever of known origin (FUO) 2. Consider etiologies of fever in normal hosts and in special populations (e.g., patients with human immunodeficiency virus {HIV}, recent travel or immigration, intravenous drug use) 3. Obtain and present an age-appropriate patient history that helps differentiate among likely etiologies for fever 4. Understand when to obtain diagnostic and laboratory tests for fever.
	Approach to patient with weight loss (T-1)	1. Define pathologic unintended weight loss 2. List the most significant causes of pathologic weight loss 3. Be familiar with the diagnostic work up and evaluation of patients with weight loss
	History taking and physical examination of the Hematopoietic System (T-2)	1. Describe hematopoiesis and hematopoietic growth factors 2. Organize and prioritize a differential diagnosis based on specific physical historical and exam findings of a disorder of hematopoietic system
	Signs and symptoms of the hematopoietic system (T-1)	1. Identify the signs and symptoms of anemia 2. Describe the signs and symptoms of leukopenia 3. Explain the pathophysiology of thrombocytopenia
	Pathophysiology and Classification of Anemia (T-2)	1. Describe the approach to the anemia 2. Describe microcytic and hypochromic anemias 3. Describe the pathophysiology of hemolytic anemias
	Thyroid function tests (T-2)	1. Explain the function of thyroid hormones 2. Describe the conditions which lead to abnormal thyroid hormone production 3. Interpret thyroid function tests
	Hypothyroidism - Hyperthyroidism (T-2)	1. Describe presenting symptoms and signs of hyperthyroidism and hypothyroidism 2. Describe pathogenesis of hyperthyroidism and hypothyroidism 3. Describe laboratory tests needed to diagnose hyperthyroidism and hypothyroidism
	History taking in Endocrinology (T-2)	1. Describe basic principles of endocrinology 2. Define neuroendocrine system, anterior and posterior pituitary gland 3. Describe polyglandular disorders 4. Describe the structure and components of the medical history of a patient with an endocrine system disorder
	Physical examination in Endocrinology (T-2)	1. Perform a physical examination of a patient with an endocrine system disorder 2. Use physical examination findings in diagnosis of endocrinological disorders

	Disorders of adrenal gland (T-2)	1. Describe the pathophysiology of glucocorticoid excess syndromes 2. Describe the pathophysiology of mineralocorticoid excess syndromes 3. Define the pathophysiology of glucocorticoid deficiency syndromes 4. Define the pathophysiology of mineralocorticoid deficiency syndromes 5. Explain adrenal medulla, catecholamines, and pheochromocytoma
	Signs and symptoms of diabetes mellitus (T-2)	1. Define the etiology and pathophysiology of type 1 diabetes mellitus 2. Define the etiology and pathophysiology of type 2 diabetes mellitus 3. Define the risk factors for diabetes mellitus 4. Identify the symptoms and clinical findings of diabetes mellitus 5. Interpretation of the laboratory and diagnostic studies for diabetes mellitus
	Acute metabolic complications of diabetes mellitus (T-2)	1. Define the pathophysiology and clinical findings of diabetic ketoacidosis 2. Define the pathophysiology and clinical findings of hyperosmotic hyperglycemic non-ketotic state 3. Define the pathophysiology and clinical findings of hypoglycemia
	Chronic metabolic complications of diabetes mellitus (T-2)	1. Define the microvascular complications of diabetes mellitus; diabetic nephropathy, diabetic neuropathy, diabetic retinopathy. 2. Define the macrovascular complications of diabetes mellitus; coronary artery disease, cerebrovascular disease, peripheral artery disease
	Approach to being overweight and obesity (T-2)	1. Define the pathophysiology and classification of obesity 2. List the most common causes of weight gain 3. Define the metabolic syndrome 4. Evaluate a patient with obesity 5. Define the general approaches in treatment of obesity
	Approach to calcium and vitamin D metabolism disorders (T-2)	1. Describe the calcium and vitamin D metabolism 2. Describe the approach to a patient with hypercalcemia 3. Describe the approach to a patient with hypocalcemia 4. Describe the approach to a patient with vitamin D deficiency 5. Describe the approach to a patient with vitamin D intoxication
	Hormonal regulation of bone metabolism (T-1)	1. Define bone modeling and remodeling 2. Identify the effects of parathyroid hormone in bone metabolism 3. Identify the effects of vitamin D in bone metabolism 4. Identify the effects of calcitonin in bone metabolism 5. Identify the effects of estrogen in bone metabolism
	History taking- Case presentation and physical examination in Rheumatology (T-2)	1. Define the main symptoms in rheumatology 2. Learn the main questions for assessing the pain 3. Discriminate the origin of musculoskeletal pain 4. Evaluate the inflammation of the joints 5. Evaluate the findings of physical examination of other systems for rheumatological diseases

		6. Learn the examination of peripheral joints and axial system
	Approach to musculoskeletal pain, articular and periarticular pain, Approach to İnflammatory pain (T-2)	1. Describe the main characteristics of articular pain 2. Describe the main characteristics of periarticular pain 3. Discriminate articular and periarticular pain 4. Describe the main rheumatological diseases associated with articular and periarticular pain 5. Discriminate inflammatory and noninflammatory articular pain
	Approach to arthritis (T-1)	1. Define the main characteristics of arthritis 2. Explain the classification of arthritis according to the number of affected joints 3. Describe and evaluate the main causes of acute and chronic monoarthritis, 4. Describe and evaluate the main causes of acute and chronic oligoarthritis 5. Describe and evaluate the main causes of acute and chronic polyarthritis
	Cancer Screening (T-1)	1. Define cancer screening and distinguish it from diagnostic procedures 2. Describe the primary goals of cancer screening, including early detection, reducing mortality, and improving treatment outcomes 3. List and describe the key cancer screening modalities, such as mammography, colonoscopy and Pap smear
	Approach the Cancer Patient (General Principles in Cancer Diagnosis and Staging) (T-1)	1. Describe and interpret appropriate lab. tests, with a suspected diagnosis of cancer. 2. Describe diagnostic imaging studies used in the work-up of patients with suspected cancer 3. Demonstrate an understanding that a diagnosis of cancer commonly involves a biopsy or surgical resection 4. Define the general principles and purpose of cancer staging 5. Explain the Elements of Widely Utilized Performance Status Evaluation Instruments like the ECOG and Karnofsky Performance Status Scales.

At the end of this lesson, the student will be able to:		
	KNOWLEDGE	
DEP.	**TOPIC**	**LEARNING OUTCOMES**
PULMONARY MEDICINE	History taking of the Respiratory System (T-1)	1. Describe the structure and components of the medical history of a patient with a respiratory system disorder
	Physical examination of the Respiratory System (T-1)	1. Describe the structure and components of the clinical examination of a patient with a respiratory system disorder (inspection, palpation, percussion, auscultation)
	Approach to a patient with dyspnea, cyanosis and cough (T-1)	1. Evaluate a patient with dyspnea, cyanosis and cough 2. Define the pathophysiology, diagnostic techniques, and the treatment approaches for these symptoms
	Approach to a patient with hemoptysis, wheezing (T-1)	1. Evaluate a patient with hemoptysis, wheezing 2. Define the pathophysiology, diagnostic techniques, and the treatment approaches for these symptoms

At the end of this lesson, the student will be able to:		
KNOWLEDGE		
DEP.	**TOPIC**	**LEARNING OUTCOMES**
CARDIOLOGY	History taking of Cardiovascular System (T-2)	1. Name all the routine questions that are involved in taking a history of the patient with cardiovascular disease 2. Explain why they are being asked. 3. Discuss targeted history taking for cardinal symptoms including chest pain, shortness of breath, palpitations, temporary loss of consciousness, edema, fatigue, exercise intolerance 4. Differentiate between history of chief complaint and past medical history
	Physical examination of Cardiovascular System (T-2)	1. Understand the basics of the cardiac, vascular and respiratory components of the physical exam 2. Explain each part of the physical examination of the cardiovascular system
	Approach to a patient with acute chest pain (T-1)	1. Identify the symptoms and signs of chest pain characteristics of angina pectoris 2. Categorize chest pain as angina pectoris, atypical angina, or non-cardiac chest pain 3. Organize and prioritize a differential diagnosis based on specific physical historical and exam findings 4. Order appropriate laboratory and diagnostic studies for the most likely etiologies of acute chest pain 5. Interpretation of ECG and Troponins in acute coronary syndromes 6. Recognize other life threatening causes of acute chest pain
	Approach to a patient with palpitation, presyncope/syncope (T-1)	1. Evaluate a patient with palpitation, presyncope/syncope 2. Define the pathophysiology, diagnostic techniques, and the treatment approaches for these symptoms

At the end of this lesson, the student will be able to:		
KNOWLEDGE		
DEP.	**TOPIC**	**LEARNING OUTCOMES**
RADIOLOGY	Imaging Methods and Image Interpretation in Internal Medicine (T-3)	1. Recognize most commonly used radiographic imaging technics in internal medicine 2. Discern the different structures on a radiographic imaging in internal medicine 3. Explain the advantages of each imaging technics in internal medicine

At the end of this lesson, the student will be able to:		
SKILLS		
DEP	**TOPIC**	**LEARNING OUTCOMES**
CLINICAL SKILLS	Blood and body fluids culture collection (T-1) (P-1)	1. Identify the specimen type for collection 2. Describe the steps of blood and body fluids of collection 3. List of the equipment necessary for sampling 4. Explain the details of collection procedures for any kind of sample type 5. Define the antisepsis procedures before sampling 6. List of the post-sampling (post analytic) procedures and waste disposals Describe the transportation of sample to the laboratory

MED 3008: INTRODUCTION TO PEDIATRICS			
Course Dates	GROUP B- 23.12.2024-17.01.2025 GROUP A- 03.02.2025-28.02.2025		
Exam Dates	Theoretical Exam: GROUP B - 16.01.2025 GROUP A – 27.02.2025		
Course Coordinator:	SAFİYE SUNA ÇELEN, GÜLENDAM KOÇAK		
Academic Unit	**Academic Staff**	**Theoretical hours**	**Practical Hours (Clinical Observations)**
General Pediatrics	Fatih Fakirullahoğlu, Assist. Prof Suna Çelen, Assist. Prof Yiğit Mustafa Ertunç, Assist. Prof Ferda Yapıcı Köklü, Assist. Prof	22	10
Pediatric Cardiology	Gülendam Koçak, Prof.	6	
Pediatric Gastroenterology	Mehmet Akif, Assist. Prof.	6	
Neonatology	Ali Haydar Turhan, Prof.	5	
Pediatric Nephrology	Duygu Hacıhamdioğlu, Prof.	2	
Pediatric Neurology	İsmail Kaytan, Assist. Prof Yiğit Mustafa Ertunç, Assist. Prof	6	
Pediatric Hematology	Koray Yalçın, Assist. Prof.	5	
Clinical Biochemistry	Özlem Unay Demirel, Assoc. Prof.	4	
Public Health	Sebahat Dilek Torun, Prof. Özge Karadağ, Prof. Melike Yavuz, Assoc. Prof..		
Clinical Skills	Melike Yavuz, Assist. Prof.	1	
TOTAL		57	10
STUDY TIME			73

COURSE AIM:

The aim of this course is:

- to describe health maintenance and preventive care for children, including age-related issues in nutrition, vaccination,
- to identify normal growth, development in childhood;
- to recognize the characteristics of newborn and postnatal care;
- to recognize common acute and chronic pediatric cardiologic, allergic, immunologic, pulmonologic, nephrologic and neurologic condition,
- to provide comprehensive information on the diagnosis and management of these common pediatric diseases,
- to recognize most commonly used radiographic imaging techniques in pediatrics,
- to get skills in intraosseous access and heel prick,
- to get skills in Pediatric Advanced Life Support,
- to introduce students to the hospital conditions.

LEARNING OUTCOMES:

At the end of this lesson, the student will be able to:		
KNOWLEDGE		
	TOPIC	**LEARNING OUTCOMES**
PEDIATRICS	Introduction to Pediatrics, History taking and physical examination in pediatrics (T-3)	1. Demonstrate the skills necessary to perform a complete and accurate pediatric history including prenatal, birth, developmental, dietary, immunization, and psychosocial histories. 2. Describe the physical examination techniques for routine evaluation of a pediatric patient.
	Neurological examination in pediatrics (T-2)	1. Describe how to handle the neurological examination steps (General concepts, Higher cortical functions, Cranial nerves, Motor system, Posture and involuntary movements/Tone and strength/Coordination, Sensory system, Tendon reflexes, Developmental reflexes, Superficial reflexes, Gait, Spine, Head, Head circumference / Fontanels / Sutures)
	Hormonal regulation of bone metabolism and approach to calcium and vitamin D metabolism disorders (T-2)	1. Define bone modeling and remodeling 2. Identify the effects of parathyroid hormone in bone metabolism 3. Identify the effects of vitamin D in bone metabolism 4. Describe the calcium and vitamin D metabolism 5. Describe the approach to a patient with hypercalcemia 6. Describe the approach to a patient with hypocalcemia
	History taking and physical examination of respiratory system (T-2)	1. Revise knowledge of anatomy and physiology 2. Obtain health history about respiratory system 3. Demonstrate physical examination 4. Differentiate between normal and abnormal findings

Physical examination of Head and Neck (T-2)	1. Identify anatomic landmarks of the head, neck, eye, ear, nose and throat 2. Describe the physical examination techniques for routine evaluation of the head, and neck 3. Describe normal findings of the head, neck, eye, ear and nose and throat exam.
Approach to abdominal pain in childhood (T-2)	1. Classify the abdominal pain 2. Describe the history, clinical assessment of patient with abdominal pain
	3. Make differential diagnosis and management of patient with abdominal pain
Anthropometric measurements (T-1)	1. Recognize importance of anthropometric measurements 2. Describe the techniques for calculating anthropometric measurements
History taking and Physical examination of cardiovascular system in childhood (T-2)	1. Name all the routine questions that are involved in taking history of pediatric patients with cardiovascular disease 2. Explain why they are being asked 3. Discuss targeted history taking for cardinal symptoms including murmur, chest pain, shortness of breath, palpitations, syncope, edema, fatigue, exercise intolerance, and cyanosis 4. Differentiate between history of chief complaint and past medical history 5. Understand the basics of the cardiac vascular components of the physical exam 6. Explain each part of the physical examination of the CVS
Acyanotic, left to right shunt congenital heart diseases (T-2)	1. Define the anatomy and pathophysiology of VSD, ASD and PDA. 2. Identify the physical examination findings, symptoms and signs of all these left to right shunt lesions 3. Identify the diagnostic techniques, such as ECG, tele cardiogram, echocardiography and others. 4. Define the basic treatment approaches for left to right shunt congenital cardiac abnormalities.
Approach to cyanosis in childhood and Cyanotic congenital heart diseases (T-2)	1. Define cyanosis in children, etiologies and pathogenesis 2. Make differential diagnosis based on cyanosis in children. 3. Define the anatomy and pathophysiology of cyanotic congenital heart diseases 4. Identify the physical examination findings, symptoms and signs of Fallot Tetralogy and transposition of great arteries. 5. Identify the diagnostic techniques, such as ECG, tele cardiogram, echocardiography and others in TOF. 6. Define the treatment approaches for Tetralogy of Fallot and transposition of great arteries.

Physical examination of newborn (T-2)	1. Quickly identify any danger signs and organize the appropriate referral after pre-referral treatment 2. Assess the normal adaptations of a newborn after birth 3. Identify conditions requiring special care or follow-up observation. 4. Identify any birth defect or birth trauma 5. Monitor growth 6. Counsel the mother
Breast milk (T-2)	1. Define the composition of Milk 2. Describe the correct Breastfeeding Method 3. List the benefits of breastfeeding for the infant 4. List the benefits of Breastfeeding for Mother 5. List the absolute Contraindications of Breastfeeding
Approach to wheezy infant (T-1)	1. Define wheezing 2. Explain the physiology of wheezing 3. Describe the etiology of wheezing 4. Explain the evaluation of wheezing
Approach to Hematuria (T-2)	1. Describe the definition of hematuria 2. Explain the limitation of laboratory results 3. Explain the classification of the hematuria 4. Define the differential diagnosis of hematuria
Approach to Proteinuria (T-2)	1. Describe the definition of proteinuria 2. Explain the pathogenesis of proteinuria 3. Describe the assessment of laboratory for proteinuria 4. Understand the classification of proteinuria
Approach to the child with arthritis (T-2)	1. Describe the arthritis definition 2. Explain the features in the history for differential diagnosis 3. Explain the features in physical examination for differential diagnosis 4. Explain the evaluation
Approach to vomiting in childhood (T-1)	1. Describe the definitions 2. Explain the physiology 3. Explain the serious and prevalent etiologies 4. Explain the approach to the vomiting child 5. Describe the treatment
Disorders with rash (T-2)	1. Define the skin lesions, learn the terminology 2. Recognize the most common types of rashes 3. Recognize the most common childhood diseases with rash 4. Define the etiology, signs, symptoms and the treatment of the diseases
Growth and development (in infancy and school age) (T-2)	1. Describe physical growth and development in infants and toddlers 2. Explain cognitive development in infants and toddlers 3. Explain emotional and social development during infancy
Nutrition in childhood (T-2)	1. Describe nutrition and calorie needs of infants and children 2. Compare nutritional qualities of human milk and infant formula
Abdominal examination (T-2)	1. Define the steps of abdominal examination (Observation, Auscultation, Palpation, Percussion) 2. Describe the Evaluation of abdominal examination

Approach to hepatosplenomegaly in childhood (T-1)	1. Identify the possible causes of hepatosplenomegaly 2. List the important diagnostic considerations in patients who have hepatosplenomegaly 3. Describe what clinical findings occurring in a patient who has hepatosplenomegaly 4. Describe the most helpful initial tests 5. Define the diagnostic evaluation of the neonate and child with hepatosplenomegaly
Approach to dysmorphic child (T-2)	1. Define dysmorphism and common syndromes
Coagulation Cascades (T-1)	1. Describe the coagulation and the factors which take place in the coagulation cascade
Bleeding diathesis (T-2)	1. Identify the signs and symptoms of bleeding diathesis 2. Be familiar with the diagnostic workup of bleeding diathesis
Thrombocyte Disorders ad ITP (T-2)	1. Describe the thrombocyte disorders and associated diseases 2. Identify the signs and symptoms of thrombocytopenia 3. Be familiar with the diagnostic workup of thrombocyte disorders
Thyroid function tests and Hypothyroidism – Hyperthyroidism (T-2)	1. Explain the function of thyroid hormones 2. Describe the conditions which lead to abnormal thyroid hormone production 3. Interpret thyroid function tests 4. Describe presenting symptoms and signs of hyperthyroidism and hypothyroidism 5. Describe pathogenesis of hyperthyroidism and hypothyroidism 6. Describe laboratory tests needed to diagnose hyperthyroidism and hypothyroidism
Approach to being overweight and obesity in childhood (T-1)	1. Define the pathophysiology and classification of obesity 2. List the most common causes of weight gain 3. Define the metabolic syndrome 4. Evaluate a patient with obesity 5. Define the general approaches in treatment of obesity
Parasitosis and cyst hydatitis (T-1)	
Immunization in pediatrics (T-2)	1.Recognize the importance of immunization in healthcare 2. Recognize the importance of immunization to prevent disease 3. Describe types and objectives of immunization

CLINICAL BIOCHEMISTRY	Newborn National Screening Program (T-2)	1. List the diseases that are included in the newborn national screening program 2. Explain the laboratory algorithm for the diagnosis of diseases that are a part of newborn national screening program 3. List the laboratory tests used to diagnose diseases included in the national screening program
	Commonly observed inborn errors of metabolism in the pediatric population (T-2)	1. List the metabolic diseases that are commonly observed in the pediatric population 2. Define the laboratory method used to diagnose inborn errors of metabolism 3. Match the specific laboratory tests with the appropriate inborn errors of metabolism

At the end of this lesson, the student will be able to:

SKILLS

DEP	TOPIC	LEARNING OUTCOMES
CLINICAL SKILLS	Heel prick screening (T-1)	1. Define the goal of newborn screening 2. Describe the procedure for obtaining a heel prick capillary blood sample 3. Discuss the factors that need to be considered to promote the safety and comfort of the baby

MED 3006: INTRODUCTION TO GENERAL SURGERY			
Course Dates	GROUP B- 03.03.2025-28.03.2025 GROUP A- 05.05.2025-30.05.2025		
Exam Dates	Theoretical Exams: GROUP B- 27.03.2025 GROUP A- 29.05.2025		
Course Coordinator:	SEYDA İĞNAK TARLIĞ, DENİZ BALCI		
Academic Unit	**Academic Staff**	**Theoretical hours**	**Practical Hours (Clinical Observations)**
General Surgery	Deniz Balcı, Prof. Levent Kaptanoğlu, Prof. Emre Sivrikoz, Prof. Babek Tabandeh, Assist. Prof. İlhami Soykan Barlas, Assist. Prof. Mehmet İlker Özer, Assist. Prof. Ufuk Utku Göktuğ, Assist. Prof. Yalçın Burak Kara, Assist. Prof.	56	10
Radiology	Abdülbaki Ağaçkıran, Assist. Prof.	6	
Clinical Biochemistry	Özlem Unay Demirel, Assoc. Prof.	4	
Public Health	Sebahat Dilek Torun, Prof. Özge Karadağ, Prof. Melike Yavuz, Assoc. Prof..		
Clinical Skills	Sebahat Dilek Torun, Prof.	1	2
TOTAL		67	12
STUDY TIME			61

COURSE AIM:

The aim of this course is:

- to introduce general surgery to the students,
- to give information about how to take history from a patient and how to make physical examination,
- to recognize the most common symptoms of diseases requiring general surgery (according to the National Core Education Program),
- to give knowledge about asepsis, antisepsis,and disinfection,
- to give knowledge surgical infections,
- to give knowledge about the common problems encountered in the emergency service,
- to get skills in breast examination,
- to recognize most commonly used radiographic imaging techniques in general surgery,
- to introduce students to hospital conditions.

LEARNING OUTCOMES:

At the end of this lesson, the student will be able to:		
KNOWLEDGE		
DEP	**TOPIC**	**LEARNING OUTCOMES**
GENERAL SURGERY	Introduction to committee, medical terminology, surgical terms (T-2)	1. Define medical terminology 2. Describe the importance of medical terminology 3. Define the common general surgery terms
	Patient History taking in general surgery (T-2)	1. Elicit the patient's chief complaint, history of present illness, past medical history, social, family, occupational histories and complete a review of systems 2. Recognize pertinent positive and negative history findings 3. Establish a positive professional relationship
	Physical examination in surgery (T-2)	1. Perform general examination 2. Perform local examination (abdomen, breast, inguinoscrotal region, etc.) 3. Perform systemic examination
	Asepsis, antisepsis and Disinfection (T-2)	1. Explain the basic concepts, rules and principles of surgical asepsis, antisepsis, and disinfection 2. Explain the importance of personal protective measures to prevent the spread of infection
	Surgical infection and usage of antibiotics (T-2)	1. Define surgical site infection 2. Identify the risk factors associated with 3. Explain the principles of infection control/safe practices 4. Explain the role of microbiology laboratory in the diagnosis and management of infections 5. Explain the safe and appropriate usage of antibiotics
	Metabolic and endocrine response to injury (T-2)	1. Define classical concepts of homeostasis 2. Define mediators of the metabolic response to injury 3. Describe physiochemical and biochemical changes that occur during injury and recovery
	Bleeding, hemostasis, blood transfusion (T-2)	1. Define hemostasis 2. Describe the mechanisms involved in hemostasis 3. Explain the principles of transfusion and list the

		indications and contraindications 4. Discuss the complications of blood transfusion
	Symptoms of GIS disease-1 (Dyspepsia and Dysphagia) (T-3)	1. Define dyspepsia 2. List the causes of dyspepsia 3. Describe the symptoms of dyspepsia 4. Define dysphagia 5. List the causes of dysphagia
	Symptoms of GIS disease-2 (Nausea and vomiting and Hematemesis) (T-3)	1. Identify common causes of nausea and vomiting 2. Describe the pathophysiologic mechanisms of nausea and vomiting 3. Create goals for treating nausea and vomiting 4. Define hematemesis 5. List the causes and symptoms of hematemesis 6. Review how to assess patients presenting with hematemesis
	Upper gastrointestinal bleeding (UGIB) (T-2)	1. Explain the pathophysiology of acute UGIB 2. List risk factors for UGIB 3. Describe symptoms 4. Review how to assess patients presenting with UGIB
	Rectal bleeding/hematochezia, Anorectal pain (T-2)	1. Define hematochezia 2. List the causes and symptoms of hematochezia 3. Review how to assess patients presenting with hematochezia 4. List the anorectal pain causes
	Lower gastrointestinal bleeding (LGIB) (T-2)	1. List the causes and symptoms of LGIB 2. Review how to assess patients presenting with LGIB
	Approach to breast lump, Nipple discharge (T-2)	1. Revisit the structure of the breast, relating hormonal changes to its functions 2. Outline the key features of examination and investigation of palpable breast lumps 3. Describe the history and exam features of pathologic and non-pathologic nipple discharge
	Breast Examination (T-2)	1. Describe and demonstrate palpation of the breast, using a systematic approach that ensures complete examination, including the subareolar area, the nipple, four breast quadrants, and the tail extending toward the axilla. 2. Perform a complete examination of the breast and axilla, in an adult female or male, in a manner that maximizes patient comfort. 3. List usual biological changes of the aging process and how they affect physical findings for the breast exam.
	Breast evaluation, Breast radiology (T-1)	1. Discuss current breast imaging technologies 2. Define the principles and objectives of population screening
	Breast diseases (T-2)	1. Define the classification of breast diseases 2. List the most common symptoms
	Surgical instruments and Materials (T-1)	1. Describe the types of surgical instruments 2. Discuss the materials used
	Preoperative management (T-2)	1. Identify the components of a focused patient history and physical examination 2. Explain the correct assessment and optimization needed for patients with common co-morbidities 3. Discuss basic principles of risk assessment

		4. Have an understanding of appropriate use of pre-operative lab tests
	Postop complications and patient care (T-2)	1. Define the most common postoperative complications 2. Explain how to manage with these problems
	Patient safety in surgery (T-1)	1. Define patient safety 2. Explain the importance of patient safety 3. Explain the causes of critical incidents and patient harm 4. Define patient safety measures
	Surgical metabolism and Nutrition (T-2)	1. Explain the importance of nutrition in surgical patients 2. Explain nutritional assessment 3. Define nutritional requirements
	Enteral and parenteral nutrition (T-2)	1. Evaluate the nutritional status of the patient 2. Determine the most appropriate form of nutrition support required 3. Estimate protein and caloric requirements of a patient based on the diseases state 4. Define enteral and parenteral nutrition 5. Explain enteral and parenteral nutrition methods 6. Discuss advantages and disadvantages of enteral and parenteral nutrition
	Anatomy of the inguinal region (T-1)	1. Describe the anatomy of inguinal region and inguinal canal
	Inguinal hernias (T-2)	1. Define the etiology and pathophysiology of inguinal hernias 2. Discuss locations and associated signs and symptoms 3. Explain complications 4. Explain diagnosis and examination methods
	Abdominal pain, discomfort and distention, mass (T-2)	1. Describe pathophysiologic mechanisms of abdominal pain and distention 2. Describe common causes of abdominal pain and distention 3. Identify signs and symptoms of a surgical abdomen 4. Explain principal diagnostic studies necessary to make differential diagnosis 5. Define the different types of abdominal mass in terms of site, etiology, and clinical characteristic
	Unintentional injuries (freezing, hypothermia, hyperthermia, heatstroke, bites/sting and others) (T-2)	1. Define unintentional injury 2. List the examples of unintentional injuries 3. Define hypothermia 4. Recognize the signs and symptoms of freezing injury 5. Discuss the treatment practices for managing freezing injury in the emergency department 6. Define hyperthermia 7. Describe signs and symptoms of hyperthermia 8. Discuss the treatment practices for managing heatstroke in the emergency department 9. Discuss common offending organisms, pathophysiology, assessment findings and management of a patient with a bite or sting. 10. Identify when a casualty is having an allergic reaction to a bite or sting

		11. Explain first aid treatment for a casualty who has been bitten or stung
	Poisonings (food poisoning, corrosive poisoning and others) (T-2)	1. Get knowledge required to manage poisoned patients in the emergency department 2. Explain the importance of airway management and cardiovascular support in a toxic ingestion 3. Explain the principles, methods and controversies of decontamination techniques (gastric lavage, activated charcoal and whole bowel irrigation) 4. Define causes, symptoms, diagnosis, treatment, and prevention of food poisoning 5. Identify intentional versus unintentional caustic ingestions 6. Describe the clinical features, investigations, and complications of corrosive ingestion
	Allergic reactions (T-2)	1. Describe mechanism, signs and symptoms, proper assessment, and treatment for patient experiencing an allergic reaction 2. Describe emergency medical care for patient in anaphylactic shock
	Burns (T-2)	1. Explain the rule of nines to estimate total body surface area of the burn 2. Describe partial and full thickness burn wounds Describe ambulatory management of burn patients

At the end of this lesson, the student will be able to:		
KNOWLEDGE		
DEP.	**TOPIC**	**LEARNING OUTCOMES**
CLINICAL BIOCHEMISTRY	Examination of arterial blood gas (T-2)	1. Recognize normal values for pH, PaO_2, $PaCO_2$, SaO_2 and HCO_3. 2. Explain significance of these values. 3. Describe how oxygen and carbon dioxide are carried in the body and how they are measured. 4. Relate the pH scale to acidosis and alkalosis. 5. Discuss the respiratory and metabolic mechanisms and their role in controlling the body's acid-base balance. 6. Interpret basic arterial blood gas values and relate these values to patient conditions.
	Preoperative laboratory tests (T-2)	1. List the preoperative laboratory tests 2. Explain the clinical significance of hematology, coagulation, blood group determination, cross match, serological and clinical chemistry tests 3. Relate the abnormal laboratory test results with the outcome of patients postoperatively

At the end of this lesson, the student will be able to:		
KNOWLEDGE		
DEP.	**TOPIC**	**LEARNING OUTCOMES**
RADIOLOGY	Imaging in Abdominal Disorders I (T-2)	1. Explain the indications for the radiological modalities (US, Fluoroscopy, CT, Triphasic CT, MRI) in disorders of the abdomen 2. Make practices on the images of the common pathologies of the esophagus, stomach, duodenum and the gall bladder
	Imaging in Abdominal Disorders II (T-2)	4. Explain the general functional rules of the bowel 5. Differentiate the bowel segments on plain radiography 6. Recognize the findings of bowel obstruction, tumor and appendicitis on imaging modalities
	Imaging in Abdominal Disorders III (T-2)	1. Explain the common radiological findings in pancreatitis, tumors of the pancreas and liver 2. Explain the disorders of acute abdomen 3. Recognize hepatomegaly and its causes on US images

At the end of this lesson, the student will be able to:		
SKILLS		
DEP	**TOPIC**	**LEARNING OUTCOMES**
CLINICAL SKILLS	Self-Breast examination (T-1,P-2)	1. Gain knowledge and understanding of the practice of self-breast examination 2. Identify the indications of breast self-examination 3. Describe the preparation and techniques in regards to breast self-examination

MED 3010: INTRODUCTION TO OBSTETRICS AND GYNECOLOGY			
Course Dates	GROUP A- 03.03.2025-28.03.2025 GROUP B- 31.03.2025-02.05.2025		
Exam Dates	Theoretical Exams: GROUP A-27.03.2025 GROUP B-30.04.2025		
Course Coordinator:	TOLGA TAŞÇI		
Academic Unit	**Academic Staff**	**Theoretical hours**	**Practical Hours (Clinical Observations)**
Obstetrics and Gynecology	Tolga Taşcı, Prof. Aynur Erşahin, Assoc. Prof. Cihan Çetin, Prof. Mehmet Akif Sargın, Assoc. Prof. Murat Yassa, Assoc. Prof. Nur Dokuzeylül Güngör, Assoc. Prof. Emine Eda Akalın, Assist. Prof. Merve Demir, Assist. Prof.	67	5
Clinical Biochemistry	Özlem Unay Demirel, Assoc. Prof.	4	
Clinical Skills	Nur Dokuzeylül Güngör, Assoc. Prof.		3
Public Health	Sebahat Dilek Torun, Prof. Özge Karadağ, Prof. Melike Yavuz, Assoc. Prof.	1	
TOTAL		72	8
STUDY TIME			60

COURSE AIM:

The aim of this course is:

- to introduce obstetrics and gynecology to the students,
- to give information about how to take gynecologic and obstetric history from a patient and how to make gynecologic and obstetric examinations,
- to recognize the most common symptoms of diseases in gynecologic diseases (according to the National Core Education Program),
- to give knowledge about maternal physiological changes during pregnancy,
- to give knowledge about prenatal invasive and noninvasive procedures,
- to give knowledge about the common problems encountered in pregnancy,
- to get skills in speculum examination and taking vaginal smear,
- to get skills in performing Leopold's maneuvers,
- to recognize most commonly used radiographic imaging techniques in gynecology,
- to introduce students to hospital conditions.

LEARNING OUTCOMES:

At the end of this lesson, the student will be able to:		
KNOWLEDGE		
DEP	**TOPIC**	**LEARNING OUTCOMES**
OBSTETRIC AND GYNECOLOGY	Introduction to committee, anatomy of the female genital tract (T-2)	1. Identify and describe the basic anatomical features of the external female genitalia and the internal reproductive organs 2. Describe the functions of the main anatomical structures in the female reproductive system and their importance for obstetric care
	Gynecologic history taking-Obstetric history taking (T-1)	1. Define the components of a gynecological history 2. Define the logical sequence of history taking in pregnancy
	Gynecologic examination (PAP smear, Bimanual examination) (T-2)	1. Respect patient privacy 2. Define general examination 3. Define abdominal examination 4. Identify the indications for a pelvic examination 5. Describe the technique involved in performing a pelvic examination 6. Define inspection of external genitalia 7. Describe speculum examination, PAP smear, and bimanual examination
	Obstetric examination (Leopold maneuvers, Ultrasonography) (T-2)	1. Define general examination 2. Define abdominal examination 3. Describe the normal fetal presentation and position 4. Explain the Leopold maneuvers 5. Explain the clinical significance of abdominal palpation in the obstetric examination 6. Explain the principles of pregnancy ultrasound
	Menstrual cycle and its neuroendocrine control (T-2)	1. Explain the process of menstrual cycle 2. Explain the effects of hormones on the menstrual cycle

	Reproductive stages of a woman's life (T-2)	1. Explain the reproductive stages of a woman's life
	Abnormal Uterine & Vaginal Bleeding (T-2)	1. Define abnormal uterine and vaginal bleeding 2. Describe the pathophysiology, causes, clinical presentation, and diagnosis
	Amenorrhea (T-1)	1. Define amenorrhea 2. Make the classification of amenorrhea 3. Explain the causes, symptoms, and diagnosis
	Dysmenorrhea (T-1)	1. Define dysmenorrhea 2. Describe the types of dysmenorrhea 3. Explain the causes, symptoms, diagnosis, and treatment
	Pelvic Pain (T-2)	1. Evaluate pelvic pain 2. Make differential diagnosis 3. Identify treatment options
	Benign diseases of vulva-vagina (T-2)	1. Describe benign diseases of vulva and vagina 2. Explain the causes, symptoms, and diagnosis
	Benign diseases of uterus-cervix (T-2)	1. Describe benign diseases of uterus and cervix 2. Explain the causes, symptoms, and diagnosis
	Benign diseases of ovaries & Uterine Tubes (T-2)	1. Describe benign diseases of ovaries and uterine 2. Explain the causes, symptoms, and diagnosis
	Premalignant & Malignant diseases of vulva-vagina (T-2)	1. Describe premalignant and malignant diseases of vulva-vagina 2. Explain the causes, symptoms, and diagnosis
	Premalignant & Malignant diseases of cervix & uterus (Abnormal Smear Findings) (T-2)	1. Describe premalignant and malignant diseases of cervix and uterus 2. Explain the causes, symptoms, and diagnosis
	Premalignant & Malignant diseases of ovaries (T-2)	1. Describe premalignant and malignant diseases of ovaries 2. Explain the causes, symptoms, and diagnosis
	Diagnosis of pregnancy (T-1)	1. Explain the signs and symptoms of pregnancy 2. Describe diagnostic tests
	Maternal physiological changes during pregnancy (T-2)	1. Describe physiological changes in the female reproductive system during pregnancy and the consequences of these changes for the pregnant woman. 2. Describe the average changes in the pregnant woman's body weight. 3. Discuss changes in the cardiovascular system during pregnancy, and the effects on blood pressure, cardiac output, blood volume and red blood cell concentration. 4. Recognize normal and abnormal changes in the pregnant woman's respiration, digestion, urinary system, skin and breasts, including the production of colostrum.
	Embryological and fetal differentiation periods of fetus (T-2)	1. Differentiate between the embryonic period and the fetal period 2. Briefly describe the process of sexual differentiation

		3. Describe the fetal circulatory system and explain the role of the shunts 4. Trace the development of a fetus from the end of the embryonic period to birth
	Antenatal screening (T-1)	1. Compare the performance of various prenatal serum screening tests for Down syndrome 2. Define the multiple of the median 3. Discuss the use of circulating cell free DNA for prenatal screening 4. Explain prenatal screening for cystic fibrosis
	Prenatal invasive procedures (Amniocentesis, Cordosentesis, CVS) (T-2)	1. Describe prenatal invasive procedures 2. Explain the common indications and contraindications 3. Describe the technique used 4. Explain the possible complications
	Non-invasive prenatal tests (T-2)	1. Describe non-invasive prenatal tests 2. Explain the benefits and limitations
	Placental Abnormalities (Placenta accreta, increta and percreta) (T-2)	1. Discuss abnormalities of placenta 2. Outline the clinical significance of an abnormal placenta
	Amniotic Fluid & Abnormalities (oligohydramnios, polyhydramnios) (T-2)	1. Explain the character and functions of amniotic fluid 2. Explain the definition, etiology, and diagnosis of amniotic fluid disorders
	High Risk Pregnancy (T-1)	1. Define high risk pregnancy 2. List examples of high risk pregnancy 3. Identify factors contributing to high risk pregnancies 4. Identify problems associated with high risk pregnancy 5. Describe strategies to decrease incidence of high risk pregnancies
	Hypertensive Diseases of Pregnancy (T-2)	1. Describe hypertension in pregnancy 2. Explain the causes of hypertension in pregnancy 3. Define pregnancy induced hypertensive disorders 4. Explain maternal and fetal risks of uncontrolled chronic hypertension in pregnancy 5. Explain the management strategies
	Gestational Diabetes & Overt Diabetes in Pregnancy (T-2)	1. Describe the metabolic changes in pregnancy which produce a diabetogenic stress 2. Describe the short-term and long term morbidities for the woman with gestational diabetes mellitus and her infant 3. Explain the methods presently in use for screening and diagnosis
	Presentation Abnormalities & Mechanisms (T-2)	1. Define the most common abnormal presentations 2. Explain their diagnostic criteria and the required actions to take to prevent complications during labor
	C/S Indications (T-2)	1. Describe the classification of Caesarean sections 2. Explain the indications
	Postpartum Maternal care (T-1)	1. Describe normal maternal physiologic changes of the postpartum period 2. Describe normal postpartum care
	Normal Labor Stages (T-2)	1. Describe the characteristics of normal labor 2. Define the stages of normal labor 3. Identify and describe each stage of labor

	Labor Abnormalities, Operative delivery and Episiotomy (T-2)	1. List abnormal labor patterns 2. Describe the causes and methods of evaluating abnormal labor patterns 3. Explain fetal and maternal complications of abnormal labor 4. Describe operative delivery and episiotomy
	Abortions (T-1)	1. Define abortion 2. List the types of abortions 3. Explain etiology 4. Explain surgical and non-surgical pregnancy termination methods 5. Describe potential complications of abortion
	Ectopic Pregnancy (T-2)	1. Define ectopic pregnancy 2. Describe risk factors, signs, causes, and diagnosis
	Trophoblastic Diseases (T-2)	1. Describe the definition, etiology, risk factors, and pathophysiology of trophoblastic diseases
	Reproductive tract infections (RTI) (T-2)	1. Identify the major viral and bacterial RTIs 2. Describe the interaction between RTIs and family planning, child survival, safe motherhood, and HIV prevention. 3. Understand the general model for the spread of infection and its implications in the control and prevention of RTIs.
	Sexual Transmitted Diseases (T-2)	1. Describe methods of transmission, symptoms, physical findings, evaluation, and management
	PID (T-1)	1. Describe the epidemiology, risk factors, pathogenesis, clinical manifestations, treatment regimens, and prevention ways of pelvic inflammatory disease

At the end of this lesson, the student will be able to:

KNOWLEDGE

DEP.	TOPIC	LEARNING OUTCOMES
CLINICAL BIOCHEMISTRY	Prenatal screening and diagnostic tests (T-2)	1. List the diseases that are included in the prenatal screening 2. List the screening test used for the risk assessment of genetic diseases in a pregnant woman 3. Identify the laboratory parameters used in the prenatal screening 4. Describe the methods used for diagnosis of prenatal diseases
	Rh incompatibility in pregnancy (T-2)	1. Define Rh compatibility in pregnancy 2. List the laboratory tests used to diagnose Rh incompatibility 3. Explain the laboratory diagnostic algorithm for Rh incompatibility 4. Describe the therapeutic strategy based on the test results

At the end of this lesson, the student will be able to:		
KNOWLEDGE		
DEP	**TOPIC**	**LEARNING OUTCOMES**
PUBLC HEALTH	Gender and Health (T-1)	1. Define “Gender” and “Gender Inequalities” 2. Discuss effects of gender on health and access to health care 3. Discuss how to incorporate gender in health research, policy and practice 4. Describe gender-sensitive health care and the role of health professionals in promoting young girls` and women`s health

At the end of this lesson, the student will be able to:		
SKILLS		
DEP	**TOPIC**	**LEARNING OUTCOMES**
CLINICAL SKILLS	Speculum Examination (P-1)	1. Know how to prepare the patient for the procedure 2. Demonstrate competence in inserting a vaginal speculum
	Taking vaginal smear (P-1)	1. Discuss the concept of screening 2. Demonstrate competence in taking cervical smears
	Performing Leopold’s Maneuvers (P-1)	1. Describe the normal fetal presentation and position 2. Explain the Leopold maneuvers

MED 3012: INTRODUCTION TO NEUROLOGICAL SCIENCES			
Course Dates	GROUP A- 31.03.2025-02.05.2025 GROUP B- 05.05.2025-30.05.2025		
Exam Dates	Theoretical Exams: GROUP A- 30.04.2025 GROUP B- 29.05.2025		
Course Coordinator:	ASLI DEMİRTAŞ TATLIDEDE, AKIN AKAKIN		
Academic Unit	**Academic Staff**	**Theoretical hours**	**Practical Hours (Clinical Observations)**
Neurology	Aslı Demirtaş Tatlıdede, Prof. Yiğit Can Güldiken, Assist. Prof. Samiye Ulutaş, Assist. Prof.	39	5
Neurosurgery	Türker Kılıç, Prof. Deniz Konya, Prof. Ahmet Çolak, Prof. Akin Akakin, Prof. Baran Yilmaz, Assoc. Prof. Mehmet Zeki Yıldız, Assist. Prof. Emre Ünal, Assist. Prof.	29	
Clinical Biochemistry	Özlem Unay Demirel, Assoc. Prof.	4	
Radiology	Abdülbaki Ağaçkıran, Prof.	8	
Public Health	Sebahat Dilek Torun, Prof. Özge Karadağ, Prof. Melike Yavuz, Assoc. Prof.	2	
Clinical Skills	Selen Gür Özmen, Asst. Prof Mahmut Aşırdizer, Prof. Gülden Çelik, Prof. Rabia Can Sarınoğlu, Assoc. Prof. Melike Yavuz, Assoc. Prof.	5	3
TOTAL		88	8
STUDY TIME			44

COURSE AIM:

The aim of this course is:

- to introduce neurological sciences to the students,
- to give information about how to take neurological history from a patient,
- to recognize the most common symptoms of neurological diseases (according to the National Core Education Program),
- to give knowledge about EMG, EEG,
- to provide comprehensive information on the diagnosis and management of some of the most commonly encountered diseases in Neurological Sciences clinical practice,
- to get skills in taking inform consent,
- to get skills to assess reflexes with a reflex hammer,
- to recognize most commonly used radiographic imaging techniques in neurological diseases,
- to introduce students to hospital conditions.

LEARNING OUTCOMES:

At the end of this lesson, the student will be able to:		
KNOWLEDGE		
DEP	**TOPIC**	**LEARNING OUTCOMES**
NEUROLOGY	Introduction to Neurological Sciences Committee; History taking in Neurology (T-1)	1. Identify physical signs to look for while examining a patient with a neurological disease 2. Identify the parts of the nervous system that gets affected 3. Describe the importance of taking the patient's history and make a multi-systemic connection between the diseases.
	Semiology: Cortex, higher cortical functions (T-2)	1. Describe the main cortical and the association areas in the brain 2. Name the cortices of the brain 3. Describe the main functions of lobes in the brain 4. Learn the symptomatology on dysfunction of each brain lobe 5. Learn the main cortical signs and symptoms
	Cranial nerves (T-2)	1. Describe the anatomy and origin of cranial nerves 2. Describe functions and diseases of cranial nerves
	Semiology: Motor system (T-2)	1. Understand the difference between central and peripheral nervous systems 2. Understand the difference between upper and lower motor neuron findings 3. Learn the motor pathways 4. Learn the roots of the reflexes
	Semiology: Cerebellar system (T-1)	1. Describe the divisions of cerebellum 2. Identify the functions of cerebellum 3. Describe cerebellar circuits 4. List clinical signs of cerebellar dysfunction
	Extrapyramidal system (T-2)	1. Describe components of the extrapyramidal system 2. Identify the function of the extrapyramidal system 3. Describe functional circuitry of the basal ganglia

		4. List circuitry involved in movement disorders
	Signs and symptoms in neurology (Nuchal Rigidity, meningeal irritation) (T-2)	1. Localize symptoms and signs in the nervous system. 2. Gain organized knowledge in the subject area of Nuchal Rigidity 3. Be able to correctly interpret clinical findings in patient with suspected meningitis 4. Know and apply the relevant evidence and/ or guidelines 5. Be aware of common errors in the diagnosis and management of suspected meningitis
	Semiology: sensory system (T-2)	1. Describe the anatomy of the sensory system 2. List functions of the sensory system 3. Explain the examination of the sensory system 4. Describe the sensory system's disturbance 5. Definition of CNS infections 6. Identify the neurological symptoms of CNS infections 7. Identify the signs of meningeal irritation
	Approach to a patient with muscle weakness (paresis, paralysis) (T-1)	1. List the terms of plegia and paresis 2. Localize the site of lesion according to neurological symptoms 3. Explain crossing of the pyramidal tract at the medulla, a lesion of one hemisphere causes hemiparesis of contralateral side of the body. 4. Explain the lesion is in spinal cord after the crossing of pyramidal tract, the hemiparesis is at ipsilateral side of the lesion 5. Describe Brown-Sequard Syndrome
	Sign and symptoms in Neurology (vertigo, balance, nausea vomiting, Syncope; Altered mental Status) (T-2)	1. List the common presentations of vertigo 2. Describe the head-thrust test 3. Describe the treatment maneuver for BPPV 4. List the disorders causing vertigo 5. Explain the pathological basis of syncope 6. List the reasons of altered mental status
	Approach to a patient with numbness, paresthesia (T-2)	1. Describe the conceptual framework for patient history and physical examination for numbness, paresthesia 2. Analyze the strengths and limitations of examination in the evaluation of these disorders. 3. Describe the anatomy and physiology of peripheral nerve and muscle and the pathophysiologic changes that occur with these disorder 4. Describe the standard approaches for the common conditions (radiculopathies, carpal tunnel syndrome, and ulnar neuropathies) as well as the less frequent disorders (polyneuropathy and generalized NM diseases). 5. Diagnose patients presenting with numbness, tingling, pain, or weakness.
	Electromyogram (EMG), Electroencephalogram (EEG) (T-2)	1. Describe the fundamentals of EEG and EMG 2. Identify the abnormal responses on EEG and EMG 3. List clinical application of EEG and EMG 4. Identify artifacts on the EEG
	Sign and symptoms in Neurology (Pupil disorders, Diplopia, visual loss) (T-2)	1. Describe the anatomy of the visual pathway 2. List the lesions of the visual pathway 3. Explain Pupillary reflexes and their abnormalities 4. Explain anisocoria

	Speech disorders, Speech and Language Assessment (T-2)	1. Classify speech disorders 2. List the main differences between dysarthria, dysphonia, aphasia 3. Explain main components of speech and language assessment
	Ataxia (T-1)	1. List causes the ataxias? 2. List types of ataxias (especially the acute ones) 3. Describe neurological symptoms of Wilson's Disease 4. List laboratory parameters to look for in an ataxic patient?
	Headache (T-1)	1. Describe the definition of headache and describe origins of pain in the head 2. Take history from a patient with headache 3. Describe classification of headaches 4. Recognize «Red Flags» for dangerous headaches 5. Describe primary and most common headaches
	Neuropathic pain (T-2)	1. Describe the definition of neuropathic pain 2. Learn about the mechanisms and pathophysiology of neuropathic pain 3. Describe most common etiologies of neuropathic pain
	Movement Disorders (T-2)	1. Learn how movement occurs 2. Define the role of basal ganglia in movement 3. Describe the names and features of the main movement disorders
	Tremor (T-2)	1. Describe the features of tremor 2. Define the names different types of tremor 3. Learn the characteristic features of different types of tremors
	Memory Loss and Forgetfulness (T-2)	1. Learn the components of the limbic system and its relation to memory 2. Describe the main concepts in mini mental state examination 3. Learn the causes of an amnestic syndrome 4. Define the differences between dementia and delirium 5. Describe symptoms of Alzheimer disease
	Seizures and Epilepsy (T-3)	1. Describe seizure and epilepsy, define the difference between them 2. Recognize the semiology and symptoms of epileptic seizure 3. Learn about main types of epileptic seizures and their imitators 4. Describe the etiology, differential diagnosis and classification of epileptic seizure
	Sleep and Sleep Disorders (T-1)	1. Describe the general architecture and stages of sleep 2. Define sleep habits and requirements 3. List classification of sleep disorders 4. Define insomnia, obstructive sleep apnea, narcolepsy, REM sleep disorder and restless leg syndrome

At the end of this lesson, the student will be able to:		
KNOWLEDGE		
DEP	**TOPIC**	**LEARNING OUTCOMES**
NEUROSURGERY	Cranial nerves-function and anatomy (T-2)	1. Learn how to clinically perform the cranial nerve examination. 2. Learn the underlying neuroanatomy of each cranial nerve. 3. Learn the underlying neuroanatomical pathways responsible for each cranial nerve. 4. Understand how the reflexes and responses use the central nervous system for integration of the pathways.
	The cerebellum-functional anatomy (T-2)	1. Describe functional anatomy of the cerebellum -its lobes, their input and output connections and their functions 2. Draw and label the circuitry of the cerebellum cortex, assign the functional role of each neuron type and give its synaptic action (excitatory/inhibitory) 3. Describe what is known about the role of the cerebellum in the regulation of skilled movement and in motor learning 4. Explain servo-control mechanisms as a model for cerebellar regulation of movements 5. Predict the neurological disturbances that can result from disease or damage in different regions of the cerebellum
	Anatomy of the skull base (T-1)	1. Describe the boundaries, walls and floors of the cranial fossae. 2. Describe the relationships between the structures of the brain and the anterior, middle and posterior cranial fossae. 3. Identify the major foramina of the skull, both internally and externally, and list the structure(s) that each transmits. 4. Describe the reflections of the dura mater and the formation of the venous sinuses. 5. Describe the anatomy of the dural venous sinuses. Explain the entrance of cerebral veins into the superior sagittal sinus in relation to subdural hemorrhage.
	Neural homeostasis and the limbic system (T-2)	1. Understand the consequences of a failure in neural homeostasis, and define pathophysiology 2. List Cannon's four postulates related to neural homeostasis, with examples 3. Explain the difference, using examples between local and long-distance control pathways 4. List the primary structures involved in the limbic system and describe the general functions of each of these structures. 5. Identify the reward centers in the brain, and the primary neurotransmitter associated with these centers
	Anatomy of the spine and spinal cord (T-2)	1. Describe the features of the spinal cord 2. Describe the vertebral column, the protective structure of the spinal cord 3. Describe the grey matter and spinal roots of the spinal cord 4. Describe the function and composition of spinal cord white matter
	Neuroscience today (T-2)	1. Provide students with broad knowledge of the field of neuroscience. 2. Learn neuroscience research techniques to conduct research.

		3. Integrate content, skills and critical thinking to design feasible independent research projects employing the scientific method.
	Introduction to neurological research, Literature, reviews, problem solving (T-2)	1. Develop ability to be critical and independent thinkers. 2. Communicate scientific findings clearly. 3. Critique and contextualize the published neuroscience literature, including the ability to critically analyze experimental design and data interpretation. 4. understand of the ethical issues surrounding the use of human participants and animal subjects in neuroscience research.
	Sign and symptoms of increased intracranial pressure and differential diagnosis (T-2)	1. Understand the pathophysiology of elevated intracranial pressure, cerebral perfusion and the influence of blood pressure, blood gases, fluid and electrolyte balance. 2. Recognize the clinical manifestations of acute brain herniation including the Cushing reflex, midbrain effects and vital signs. 3. Understand the impact of focal mass lesions, structural shifts and their consequences.
	Intracranial pressure, cerebral edema (T-2)	1. Understand pathogenesis of cerebral edema and underlying cause and any life-threatening complications 2. Name three types of traumatic hemorrhage that do not involve brain parenchyma and know which of the three is most common. 3. Name three conditions besides cerebral edema in which increased intracranial pressure may cause death. 4. Understand the importance of fundoscopic examination in detecting increased intracranial pressure. 5. Name six causes of increased intracranial pressure.
	Cerebral circulation and metabolism, Cerebrospinal fluid (T-2)	1. Describe the role and circulation of cerebrospinal fluid in the nervous system 2. Describe the vessels that supply the CNS with blood 3. Name the components of the ventricular system and the regions of the brain in which each is located 4. Explain the production of cerebrospinal fluid and its flow through the ventricles 5. Explain how a disruption in circulation would result in neurological disorders
	Head Injury (T-2)	1. Differentiate the symptomatology of migraine, cluster, and tension headache and sinusitis headache. 2. Know the major causes of intracranial hemorrhage: vasculopathy in the aged (hypertension and amyloidosis), aneurysm, vascular malformation, tumor and coagulopathy. 3. Recognize the symptoms and signs of subarachnoid, cerebral and cerebellar hemorrhage. 4. Apply diagnostic tools in evaluation of acute headache (CT and MRI, role of lumbar puncture). 5. Understand the natural history and broad treatment strategies (surgery, radiosurgery, interventional radiology as well as treatment of vasospasm) of intracranial aneurysms and vascular malformations.

	Focused History and physical examination in neurotrauma, Glasgow Coma Scale-Coma (T-2)	1. Understand and assign the Glasgow Coma Score. 2. Recognize the presentation of brain herniation syndromes in the setting of trauma. 3. Initiate management of elevated intracranial pressure in head trauma. 4. Recognize and initiate management of concussion, brain contusion and diffuse axonal injury. 5. Recognize and initiate management of acute subdural and epidural hematoma, including surgical indications. 6. Recognize and initiate management of penetrating trauma including gunshot wounds. 7. Recognize and understand the principles of management of open, closed and basilar skull fractures, including cerebrospinal fluid leaks, and chronic subdural hematoma (in children and adults).
	Autonomous Nervous system (T-2)	1. Differentiate between the central, autonomic, and peripheral nervous systems and the common disorders associated with each 2. Explain and categorize seizure activity, and report common therapeutic interventions 3. Distinguish different types of infections and tumors of the central nervous system 4. Compare traumatic conditions of the brain and spinal cord 5. Describe and contrast the pathogenesis and clinical features of thrombotic and hemorrhagic stroke
	Introduction to spinal disease (T-2)	1. Initiate acute management of spinal cord injury including immobilization, steroids and systemic measures. 2. Understand the definition and subsequent management principles of the unstable spine. 3. Understand management principles in spinal cord injury including indications for decompressive surgery and treatment of the medical complications associated with cord injury (skin, bladder, bowel movement, respiratory).
	Spinal cord injury, Peripheral nerves (T-2)	1. Learn major structures of the nervous system and some of their functions 2. Understand how the nervous system develops and how it changes with experience 3. Learn the strategies for repairing damaged brains and spinal cords, and the obstacles

At the end of this lesson, the student will be able to:

KNOWLEDGE

DEP.	TOPIC	LEARNING OUTCOMES
CLINICAL BIOCHEMISTRY	Basic CSF examination using automated techniques (T-2)	1. Describe manual examination of a CSF sample in the laboratory 2. List the laboratory tests used for chemical examination of a CSF sample sent to the laboratory 3. List the neurological diseases that require CSF sample for the diagnosis
	Microscopic CSF examination (T-2)	1. List the possible findings in a microscopic CSF examination 2. Identify cells in a CSF sample 3. Describe use of Thoma slide method

At the end of this lesson, the student will be able to:		
DEP	**TOPIC**	**LEARNING OUTCOMES**
RADIOLOGY	Basic principles of neuroimaging-Magnetic Resonance Imaging (T-2)	1. Explain the basic hard ware, safety regulations and basic physical principals of MRI 2. Describe the imaging findings of different body structures on T1WI and T2WI as well as types of MRI sequences
	Advanced MRI Imaging Techniques, (T-1)	1. Explain the basic principles and the use of DWI, Perfusion MRI, Functional MRI, Tractography, MR Angiography, MR Spectroscopy Techniques 2. Differentiate between the images of these different applications.
	Imaging in Brain Trauma (T-1)	1. List the necessary imaging modality to depict the brain injury 2. Explain the different types of brain injuries and their imaging findings
	Imaging in Neck and Back Pain (T-1)	1. Describe the anatomical details on radiographic, CT and MRI images of the spine 2. Explain the different pathologies that cause pain and their radiological findings on CT and MRI 3. Differentiate types of disc hernia, nerve entrapment, spinal stenosis and trauma
	Imaging in Stroke (T-1)	1. Explain the types of stroke, its chronological development and the radiological findings on CT and MRI.
	Imaging in Brain Tumors (T-2)	1. Define the imaging findings of tumors and the application of contrast media 2. Define the imaging criteria for malignancy 3. Differentiate intra and extra axial tumors

At the end of this lesson, the student will be able to:		
KNOWLEDGE		
DEP	**TOPIC**	**LEARNING OUTCOMES**
PUBLC HEALTH	Global mental health/Community mental health (T-2)	1. Define concepts of “Global mental health” and “Community mental health” 2. Discuss social determinants of mental health and well-being 3. Discuss global problems that affect mental health and well-being 4. Define “Mental environment” and its relation to community mental health 5. Describe global mental health indicators and their measurement including the World Mental Health Surverys and the World Happiness Reports 6. Describe WHO`s policies and programs to promote global and community mental health

At the end of this lesson, the student will be able to:		
SKILLS		
DEP	**TOPIC**	**LEARNING OUTCOMES**
CLINICAL SKILLS	Informed consent process (T-2)	1. Describe appropriate settings for informed consent 2. Discuss the guidance and regulations surrounding informed consent and human subject protection 3. Discuss how to enhance the informed consent process 4. Describe best practices for creating and maintaining high-quality documentation
	Assessing deep tendon reflexes with a reflex hammer (T-1) (P-1)	1. Define a reflex arc 2. List the primary deep tendon reflexes 3. Explain the grading scale 4. Demonstrate testing of muscle stretch reflexes (biceps, triceps, knee, ankle)
	Adult Advanced Life Support Defibrillation & Using a Bag Valve Mask (T-1) (P-1)	
	History Taking and Basic Physical Examination & Taking anamnesis and preparing a patient file (T-1) (P-1)	