Identification	**TISSUE BIOLOGY (SUBJECT COMMITTEE-I)**
Level	Undergraduate, compulsory
ECTS Credits	**4,5**
Responsible lecturer	**Prof. Dr. Atilla DAĞDEVİREN** **Dr. Fatma HELVACIOĞLU**
Prerequisite	None
Time course	**4 weeks (90 hours; 62+28)**
Description	The course reviews each isolated bone of the skull and other components of the axial skeleton, and the joints with structural and biochemical properties of basic tissues at microcopic and molecular level.
Objectives	To familiarize the students with the morphology of the bony structure of the skull and the other components of the axiel skeleton, to teach the histological and biochemical features of epithelial, connective, cartilage, bone, muscle and nevre tissues theoretically and practically
Learnig outcomes	At the end of the course the students; 1. Be familiar to the bony structure of the skull and the other components of the axiel skeleton and be able to discuss the relationship of the other structures with the bones. 2. To understand the structural and functional aspects of basic tissues theoretically and all cell types and tissue components of basic tissues should be recognized under microcope with their structural features. 3. To describe the integrated biochemical features of basic tissues
Reference books	1. Snell RS Clinical Anatomy for Medical Students, Washington: LIPPINCOT-WILLIAMS&WILKINS 2. Fawcwett, Don W. A Textbook of Histology. New York – London: Chapman and Hall. Twelfh Edition 3. Biochemistry, Montgomery – Conwey – Spector
Teaching methods	Class-lectures supported with multi-media techniques and the laboratory practice
Assessment methods	Subject committee examination (multiple choice test), practical examination (laboratory skills) and medical english examination
Language	Turkish

IDENTIFICATION OF THE COURSE: BIOCHEMISTRY

1. **DESCRİPTİON:** In this committee, the course deals with the biochemistry of epithelium, adipose, connective and nerve tissues.
2. **LEVEL:**

   a. Prerequisite: None.

   b.Objectives: To familiarize the biochemistry of specific tissues and to discuss the importance of them in molecular point of view.

   c. Learning Outcomes: To understand the biochemistry of connective, muscle and neuronal tissues

   d. References:

1. Voet D, Voet JG and Pratt CW 2006, Fundamentals of Biochemistry. Second Edition, John Wiley and Sons, USA.

2. Nelson DL and Cox MM 2008, Lehninger Principles of Biochemistry. Fifth Edition, W.H. Freeman and Company, NY; USA.

3. Devlin TM 2006, Textbook of Biochemistry with Clinical Correlations. Sixth Edition, Wiley-Liss, Inc., New York, USA.

3. **THE STATUS OF THE COURSE:** It is a compulsory course.

4. **TEACHİNG STAFF:** Prof. Dr. E. Suna Türkoğlu, Prof. Dr. Derya Aldemir

5. **PERİOD AND PLAN OF THE COURSE:** 9 hours. Topics to be covered are shown below:

Hour	**Topic**
1	Biochemistry of Epithelial Tissue
2, 3	Biochemistry of Connective Tissue
4, 5	Biochemistry of Extracellular Matrix
6	Biochemistry of Adipose Tissue
7 - 9	Biochemistry of Nervous Tissue: Neurotransmitters

6. **TEACHİNG AND LEARNİNG METHODS:** The course will consist of lectures, class discussions, and reading assignments.
7. **ASSESSMENT:** The coordination office through test examinations evaluates students.
8. **THE LANGUAGE:** The language of the course is Turkish.

IDENTIFICATION OF THE COURSE: HISTOLOGY AND EMBRYOLOGY

1. **DESCRIPTION:** Covers introduction to structural organisation of basic tissues, structural and functional properties of epithelial, connective, cartilage, bone, muscle,nevre tissues and integumentary system at microcopic and molecular level. In practical hours cells and other components of the tissues are recognized under microscope via direct examination.

2. **LEVEL**
   a. **Prerequisite:** None
   b. **Objective:** To teach the histological features of basic tissues theoretically and practically
   c. **Learning outcomes:** Student should be able to understand the structural and functional aspects of basic tissues theoretically. Also all cell types and tissue components of basic tissues should be recognized under microcope with their structural features.
   d. **References:**

1. Küehnel, Wolfgang. (2003). Color Atlas of Cytology, Histology, and Microscopic Anatomy. Stuttgart – New York: Thieme Verlack
2. Fawcwett, Don W. (1994). A Textbook of Histology. New York – London: Chapman and Hall. Twelfh Edition
3. Gartner, Leslie P. (1997). Color Textbook of Histology. Philadhelphia – London: Saunders Company
4. Ross, Michael H. (2003). Histology A Textbook and Atlas. Philadelphia: Williams and
5. Wilkins. Fourth Edition.
6. Junqueria, Luis C. (2003). Basic Histology Text and Atlas. Philadelphia: McGraw-Hill
7. Companies. Tenth Edition.
8. Bancroft JD, Stevens A. (1982). Theory and Practise of Histological Techniques
9. Churchıll Livingstone. Second Edition
10. Demir R. (2001). Histolojik Boyama Teknikleri. Palme Yayıncılık – Ankara. Birinci baskı.
11. Kierszenbaum Abraham L.; Histology and Cell Biology an intoduction to pathology. Mosby Elsevier -Third edition

3. **MANDATORY OR OPTIONAL COURSE:** It is a compulsory course.

4. **TEACHING STAFF:** Prof. Dr. Atilla Dağdeviren, Uzm. Dr. Nejmi Zağyapan

5. **LENGHT AND PERIOD:** This course is a 42 hourse cours during 12 weeks.

TOPICS

Hours	Topics
1, 2, 3	Histology of the Epithelial Tissue –Lining epithelium
4, 5	Histology of the Epithelial Tissue – Glandular epithelium
6, 7, 8	Histology of the Epithelial Tissue –Lining epithelium (LAB)
9, 10	Histology of the Epithelial Tissue – Glandular epithelium (LAB)
11, 12	Connective tissue cells and intercelluler matrix
13, 14	Connective tissue types
15, 16, 17	Histology of the Connective Tissue (LAB)
18, 19	Development and Structure of Cartilage Tissue
20, 21	Histology of the BoneTissue
22, 23	Bone Turnover
24, 25	Cartilage and Bone Tissues (LAB)
26, 27	Histology of the Skeletal Muscle
28, 29	Histology of the Cardiac and Smooth Muscle
30, 31	Histology of the Muscle Tissue(LAB)
32, 33, 34	Histology of the Nervous Tissue
35, 36	Histology of the Nervous Tissue (LAB)
37, 38	Development and Histology of the Skin
39, 40	Skin appandages
41, 42	Histology of Skin (LAB)

6. **TEACHING AND LEARNING METHODS:** The course will consist of lectures and work hours.
7. **ASSESSMENT:** Written, oral and practical examinations will be held by teaching staff
8. **THE LANGUAGE:** The language of the course is Turkish
9. **ECTS CREDİT:**

IDENTIFICATION OF THE COURSE: ANATOMY

1. **DESCRIPTION:** The course reviews each isolated bone of the skull, determines their relationships with each other. Structures as spine, tubercle, tuberosity, foramen or groove on the bones are determined. Muscles and ligaments those arise from those bones or inserts on them, structures lie in the grooves or pass through the foramens are studied. Later skull is again evaluated as a whole, besides the structure of orbita, nasal cavity, and other fossae the anthropometric points are also determined. The course also reviews the other components of the axiel skeleton, and the joints.

2. **LEVEL**

a. Prerequisite: None

b. Objectives: To familiarize the students with the morphology of the bony structure of the skull and the other components of the axiel skeleton and the relations of the other structures as nerves and vessels with bones.

c. Learning outcomes: At the end of the course the students should be familiar to the bony structure of the skull and the other components of the axiel skeleton and be able to discuss the relationship of the other structures with the bones.

d. References

Textbooks

1. Taner D (2008) Fonksiyonel Anatomi: Ekstremiteler ve Sırt Bölgesi, Ankara: PALME
2. Sancak B, Cumhur M (2008) Fonksiyonel Anatomi: Baş-Boyun ve İç Organlar, Ankara: METU PRESS
3. Ozan H (2004) Anatomi, Ankara NOBEL
4. Snell RS (1998) Clinical Anatomy for Medical Students, Washington: LIPPINCOT-WILLIAMS&WILKINS
5. Moore KL (1999) Clinically Oriented Anatomy, Baltimore WILLIAMS & WILKINS
6. Romanes GJ (1997) Cunningam's Manual of Practical Anatomy: Upper and Lower Limbs,Oxford, Oxford University Press
7. Clancy J, McVicar AJ (2002) Physiology & Anatomy: A-Homeostatic Approach, London ARNOLD
8. Wiliams PL, Warwick R, Dyson M, Bannister LH (1989) Gray's Anatomy, Edinburgh London CHURCHILL LIVINGSTONE

Atlases

1. Darke RL, Vogl AW, Mitchell AWM, Tibbitts RM, Richardson PE (Çeviri ed. Prof. Dr. Sezgin İlgi, Prof. Dr. Mehmet Yıldırım. Gray's Anatomi Atlası. (2009) Güneş Tıp Kitapevleri Ankara
2. Grant's Eleventh Edition (2005) Lippincott Williams & Wilkins
3. Netter FH (Çeviri ed. Prof. Dr. Meserret Cumhur (2008) İnsan Anatomisi Atlası Nobel Tıp Kitapevleri Ankara
4. İnsan Anatomisi Fotoğraflı Disseksiyon Atlası Türkçe Baskı Rohen / Yokochi / Lütjen – Drecoll Çeviri: Salih Murat Akkın
5. Sobotta Anatomi Atlası A.Elhan (2006) Beta Basın Evi

Mandatory or Optional Course: This course is a mandatory course

3. **TEACHING STAFF:** Prof. Dr. Can Pelin, Assist. Prof. Dr. Ragıba Zağyapan, Assoc. Prof. Dr. Ayla Kürkçüoğlu

4. **LENGTH AND PERIOD:** 28 hours
   The subjects of the lectures are listed below

HOUR	SUBJECT
1 – 4	Bones of the neurocranium
5 – 6	LAB: Bones of the neurocranium
7 – 10	Bones of the visserocranium
11 – 12	LAB: Bones of the visserocranium
13 – 16	The whole of the skull
17 – 20	LAB: The whole of the skull
21 – 22	Vertebrae, sternum and ribs
23 – 24	LAB: Vertebrae, sternum and ribs
25 – 26	Joints of the vertebral column
27 – 28	LAB: Joints of the vertebral column

5. **TEACHING AND LEARNING METHODS:**The course consists of lectures with data and slide shows, laboratory lessons and cadaver dissections, practice on the modals, in class discussions, quizzes and reading assignments.

6. **ASSESSMENTS:** Students are evaluated with practical examination and later with a multiple choice exam organized by the coordination office.

7. **LANGUAGE:** The language of the course is Turkish

10. **ECTS:**

IDENTIFICATION OF THE COURSE: ENGLISH EDUCATION

The aim of English curriculum is to provide Baskent University, undergraduate and graduate students with a good command in English to follow the literature and endow them with written and oral communication skills. In the guidance of this objective, English education is implemented with emphasis on their field. Students are informed about weekly course load, code and credits during the registration period.

Term one: Provided English education is an integrated system. In addition to English grammar students follow a program that would improve their reading, writing, speaking and listening skills. Also they practice to improve their professional based vocabulary.

Term two: Each of the four basic skill is improved continuously. Within the writing skill program there is shift from term one sentence and paragraph construction level to academic writing. Speaking skill program helps to improve students academic communication skills through introductions, group discussions, case studies and brief presentations. In reading skill program students learn to transform written information to visual data (graphic, schematic, etc.) In addition to their basic skills that they have acquired in term one. In listening program, skills like receiving, responding, integrating and qualifying information and ability to take notes are given.

Term three: Capabilities that were delivered in the preceding terms are reinforced and profession based vocabulary level is expanded. In addition to reinforce four basic skills the students are taught to perform academic and professional translation techniques and to apply them in the classroom. In addition, they learn to evaluate medical reports, write operative and discharge notes and to write case reports.

Term four: In this term, exam taking techniques and strategies are taught and classroom applications are conducted using KPDS, UDS, MCAT and TUS question templates. Also, official document writing techniques are given.

Identification	**NEUROENDOCRİNE SYSTEM (SUBJECT COMMITTEE-II)**
Level	Undergraduate, compulsory
ECTS Credits	**14,5**
Responsible lecturer	**Prof. Dr. Can PELİN**
Prerequisite	None
Time course	**9 weeks (234 saat; 200+34)**
Description	This course reviews the basic principles related to anatomy, histology-embryology, physiology, biochemistry, biophysics and medical genetics of nervous and endocrine system
Objectives	The main objectives of the course are to familiarize students with the morphology of the central nervous and endocrine systems and organs of special sense and especially with the nervous pathways and their lesions, to give the basic knowledge to the students that will be useful for their courses of neurology and neurosurgery, to help students to understand basic concepts and approaches in nervous system physiology and the development and histology of nervous systems and microscopic structure of the organs of special sences like eye and ear and to describe the basic concepts and approaches of biophysical events related with nervous system to help them to develop an understanding of related biophysical issues and to explain basic concepts of the neurological and muscular disorders, to help students to understand the basic concepts and approaches in neuroendocrine system physiology and biochemistry, to teach the endocrine systems with their development and histological structure and to explain the evaluation of general hormone concept including mechanisms of action and to discuss the tissue specific metabolism.
Learnig outcomes	At the end of the course learner is expected: 1. To be able to discuss discus the morphological structure of the central nervous system, its vascularization, and the pathways. They should also be able to discus the lesions of the central nervous system related with physiology. 2. To be able to recognize and evaluate structural features of cells, tissues and organs belonging to nervous system. Their role in the human body, to distinguish the cells, tissues and organs of this system by self examination under light microscope and to be able to presume and correlate the reasons of abnormal development of this system and the underlying mechanisms knowing the basic elements of normal development 3. To be able to interprete sensory and motor functions of the central nervous system and to perform associated physical examination methods and also to discuss physiological mechanisms of special senses. 4. To be able to interprete genetic approach of clinical and diagnostic implements of the muscular and neurological disorders 5. To be able to describe the general hormone concept including mechanisms of action and to discuss the tissue specific metabolism,

	endocrine functions and basic principles and physiological regulation of the endocrine system, 6. To be able to recognize and evaluate structural features of cells, tissues and organs belonging to endocrine system. Their role in the human body, to distinguish the cells, tissues and organs of this system by self examination under light microscope and to be able to presume and correlate the reasons of abnormal development of these systems and the underlying mechanisms knowing the basic elements of normal development
Reference books	1. Taner D (2008) Nöroanatomi, Ankara METU PRESSSnell RS (1998) Clinical Anatomy for Medical Students, Washington: Lippincot-Williams&Wilkins 2. Guyton, AC, Hall, JE (2006) Textbook of Medical Physiology, Pennsylvania: WB Saunders, Eleventh ed. 3. Ganong, WF (2003) Review of Medical Physiology, USA:Mc Graw Hill,Twentieth edition.– Conwey – Spector 4. Küehnel, Wolfgang. (2003). Color Atlas of Cytology, Histology, and Microscopic Anatomy. Stuttgart – New York: Thieme Verlack 5. Fawcett, Don W. (1994). A Textbook of Histology. New York – London: Chapman and Hall. Twelfh Edition 6. Voet D, Voet JG and Pratt CW 2006, Fundamentals of Biochemistry. Second Edition, John Wiley and Sons, USA. 7. Nelson DL and Cox MM 2008, Lehninger Principles of Biochemistry. Fifth Edition, W.H. Freeman and Company, NY; USA. 8. Pehlivanlı, F., (1997) Biyofizik, 2nd edition, Ankara: Hacettepe-Taş Kitabevi Ltd. 9. Lewis R., 2001 “Human Genetics, Concepts and Applications” Mc Graw Hill New York.
Teaching methods	Class-lectures supported with multi-media techniques and the laboratory practice
Assessment methods	Subject committee examination (multiple choice test) (75%) and practical examination (laboratory skills) (20%) , Medical English examination (5%)
Language	Turkish

IDENTIFICATION OF THE COURSE: BIOCHEMISTRY

1. **Description:** In this committee, the course deals with hormone biochemistry.

2. **Level:**
   - **a. Prerequisite:** None.
   - **b. Objectives:** To familiarize the general hormone concept including mechanisms of action and to discuss the tissue specific metabolism.
   - **c. Learning Outcomes:** To clarify the metabolism of hormones.
   - **d. References:**

1. Gardner D.G. , Shoback D. 2011. Greenspan's Basic and Clinical Endocrinology. 9th Ed. Mc Graw Hill Lange, NY, USA.
2. Bhagavan, N.V., 2002, Medical Biochemistry. Fourth Edition, Acedemic Press, NewYork, USA.
3. Devlin, T.M. 2006, Textbook of Biochemistry with Clinical Correlations. Sixth Edition, Wiley-Liss, Inc., New York, USA.
4. Murray, R.K., Granner, D.K., Mayes, P.A. and Rodwell, V.W. 2000, Harper's Biochemistry. 25th Edition, Appleton and Lange, Stamford, Connecticut.
5. Nussey, S.S. and Whitehead, S.A., 2002, Endocrinology: An Integrated Approach. BIOS ScientificPublishers Limited, Oxford, UK.

3. **The Status of the Course:** It is a compulsory course.

4. **Teaching Staff:** Prof. Dr. E. Suna Türkoğlu, Prof. Dr. Derya Aldemir

5. **Period and Plan of the Course:** 26 hours. Topics to be covered are shown below:

Hour	Topic
1	Properties of Hormones
2,3	Mechanisms of Hormone Action
4,5,6,7	Hormones of Hypothalamus, Pituitary and Pineal Glands
8,9,10,11	Metabolism of Thyroid Hormones
12,13	Hormones Related with Calcium and Phosphorus Metabolism
14,15	Metabolism of Pancreas Hormones
16,17	Cardiovascular system related hormones
18	Renal Hormones
19-24	Adrenal gland hormones
25, 26	Adipose tissue hormones

6. **Teaching and learning methods:** The course will consist of lectures, class discussions, and reading assignments.

7. **Assessment:** The coordination office through test examinations evaluates students.

8. **The language:** The language of the course is Turkish.

IDENTIFICATION OF THE COURSE: BIOPHYSICS

1. **Description:** This course reviews the basic concepts of the nervous system from biophysical point of view. During this course, the topics to be discussed will cover the biophysical basis of signal propagation in excitable cells, compound action potential, dipole model in a volume conductor, spontaneous and evoked electrical activities of the brain, neural coding, information transmission and communication, and information processing.

2. **Level:**
   a. **Prerequisite:** None

   b. **Objectives:** To familiarize the students with the basic concepts and approaches of biophysical events related with nervous system to help them to develop an understanding of related biophysical issues. It is believed that this experience will be useful to them during their career. The final exam will cover all the topics.

   c. **Learning outcomes:** At the end of this committee, the students are expected to be familiar with the basic concepts and approaches of biophysical events related with nervous system to help them to develop an understanding of related biophysical issues.

   d. **References**

Berne, R.M. and Levy, M.N., (2000) *Principles of Physiology*, 3rd edition, US: A Harcourt Health Sciences Company.

Costanzo, L.S., (1998) *Physiology*, Saunders text and review series, USA: W.B. Saunders company.

Davies, A., Blakeley, A.G.H., Kidd, C., (2001) *Human Physiology*, Churchill Livingstone, Spain, Harcourt Publishers Ltd.

Ganong, W.F., (2002) *Tıbbi Fizyoloji*, Turkish edition: Nobel Tıp Kitabevi Ltd.

Guyton, A.C., Hall, J.E., (2001) *Tıbbi Fizyoloji*, 1st edition in Turkish: Yüce Basım ve Nobel Tıp Kitabevi Ltd.

Martin, G.N., (1998) *Human Neurophysiology*, Prentice Hall Europe: Guilford and Kings Lynn, Biddles Ltd.

Pehlivanlı, F., (1997) *Biyofizik*, 2nd edition, Ankara: Hacettepe-Taş Kitabevi Ltd.

Ronto, G., and Tarjan, I., (1999) *An Introduction to Biophysics with Medical Orientation*, Semmelweis Kiado, Budapest, Hungary: Akademiai Kiado.

3. **Mandatory or optional course units:** It is a mandatory course.

4. **Teaching staff:** Assoc. Prof. Dr. Erhan Kızıltan, Assoc. Prof. Dr. Neslihan Toyran Al-Otaibi, Ph.D

5. **Length and Period:** 16 hours. Topics to be covered are shown below:

HOURS	TOPICS
1- 3	Passive membrane model and cable theorem
4	Compound action potential
5, 6	Dipole model in a volume conductor
7, 8	Formation of brain potentials
9, 10	Spontaneous and evoked electrical activities of the brain
11-13	Neural coding, information transmission and communication
14	Information processing
15-16	Laboratory: recording of brain potentials

6. **Teaching and Learning Methods**
The course will consist of lectures, class discussions, and laboratory applications.

7. **Assessment:**
The coordination office through test examinations evaluates students.

8. **The Language:**
The language of the course is Turkish.

IDENTIFICATION OF THE COURSE: HISTOLOGY AND EMBRYOLOGY

1. **COURSE DESCRIPTION:** The course gives knowledge of the development and histology of nervous system, special senses and endocrine system with the application of practical work to to examine organs under microscope.

2. **LEVEL OF THE COURSE**
   a. **Prerequisities of the course:** None
   b. **Objectives of the course:** To familiarize the students with the development and histology of nervous and endocrine systems and microscopic structure of the organs of special sences like eye and ear.
   c. **Learning outcomes of the course:**
      1) Be able to recognize and evaluate structural features of cells, tissues and organs belonging to nervous and endocrine systems and their role in the human body
      2) Be able to distinguish the cells, tissues and organs of this system by self examination under light microscope
      3) Be able to presume and correlate the reasons of abnormal development of these systems and the underlying mechanisms knowing the basic elements of normal development
   d. **References of the course:**

      1. Küehnel, Wolfgang. (2003). Color Atlas of Cytology, Histology, and Microscopic Anatomy. Stuttgart – New York: Thieme Verlack
      2. Fawcett, Don W. (1994). A Textbook of Histology. New York – London: Chapman and Hall. Twelfh Edition
      3. Gartner, Leslie P. (2006). Color Textbook of Histology. Philadhelphia – London: Lippincott Williams&Wilkins A Wolters Kluwer Company. Fourth Edition.
      4. Ross, Michael H. (2003). Histology A Textbook and Atlas. Philadelphia: Williams and Wilkins. Fourth Edition.
      5. Junqueria, Luis C. (2005). Basic Histology Text and Atlas. Philadelphia: McGraw-Hill Companies. Eleventh Edition.
      6. Alberts, B. (2002). Molecular Biology of The Cell. New York: Garland Science. Fourth Edition.
      7. Kierszenbaum Abraham L. (2006). Histoloji ve Hücre Biyolojisi: Patolojiye Giris" (Histology and Cell Biology: An Introduction to Pathology), Palme Yayıncılık.
      8. Sadler, T.W. (2004) Langman's Medical Embryology. Baltimore – Maryland : Lippincott Williams&Wilkins. Ninth Edition
      9. Ovalle William K. ,Nahirney Patrick C. , (2009) Netter Temel Histoloji (Netter's Essential Histology), Güneş Tıp Kitabevleri
      10. Moore Keith L. ,Persaud T.V.N. (2009). Klinik Yönleriyle İnsan Embriyolojisi ,Nobel Tıp Kitapları

3. **STATUS OF THE COURSE (COMPULSORY/ELECTIVE)**

This course is a compulsory course

4. **NAME OF THE TEACHING STAFF OF THE COURSE**

Prof. Dr. Attila Dağdeviren, Dr. Nejmi Zağyapan, Dr. Fatma Helvacıoğlu

5. **THE PERIOD AND THE PLAN OF THE COURSE**

The course is a 23 hours course.

TOPICS

1, 2	Development and anomalies of the nervous system
3,4	Histology of the central nervous system
5,6	Peripheral nervous system and receptors
7, 8, 9	Development and histology of the eye
10, 11,12	Development and histology of the ear
13, 14	Practice of the central nervous system and special senses
15,16	Development and histology of the hypophysis and epiphysis
17,18	Development and histology of the thyroid and parathyroid glands
19, 20	Histology of surrenal glands, Langerhans islets and DNES
21,22,23	Practice of endocrine system

6. **TEACHING AND LEARNING METHODS OF THE COURSE:** Multimedia visual aid supported class lectures and light microscopic supervised self-examination of histological slides
7. **ASSESSMENT METHOD AND THE GRADING OF THE COURSE:** Within the subject committee examination (multiple choice test).
8. **LANGUAGE OF INSTRUCTION:** Turkis**h**

IDENTIFICATION OF THE COURSE: PHYSIOLOGY

1. **Description:** This course reviews basic themes and detailed mechanisms in nervous system physiology. After a brief overview of the course, we will examine a number of theoretical and substantive issues in the area of the general organization of the brain, nutrition, brainstem, cerebellum, cerebrum and nervous functions. Also basic themes and detailed mechanisms in neuroendocrine system physiology are introduced. The area of hormone synthesis, regulation of hormone secretion, regulation of hormone receptors, hypothalamic-pituitary relationships, troid gland, adrenal glands etc, in the endocrine physiology are reviewed.

2. **Level:**
   a. **Prerequisite:** None
   b. **Objectives:** The first objective of the course is to familiarize students with the basic concepts and approaches in nervous system and endocrine physiology. The second objective is to help students to understand experimental study in the light of the theoretical framework mentioned above. It is believed that this experience will be helpful for the students during their career. The final exam will cover all topics.
   c. **Learning outcomes:** At the end of the course learner is expected to be able to;
      i. Interprete sensory and motor functions of the central nervous system and to perform associated physical examination methods and also to discuss physiological mechanisms of special senses.
      ii. Discuss the endocrine functions and basic principles and physiological regulation of the endocrine system.

   d. **References:**

Textbooks

Carpenter, RHS, (1997) Neurophysiology, 3rd Ed. Arnold Publishing, London, UK.

Guyton, AC, Hall, JE (2006) Textbook of Medical Physiology, Pennsylvania:WB Saunders, Eleventh ed.

Ganong, WF (2003) Review of Medical Physiology, USA:Mc Graw Hill,Twentieth edition.

Berne, RM, Levy, MN (2004) Principles of Physiology, Missouri:Mosby, Inc. Fifth ed.

Vander, A, Sherman, J, Luciano, D (2001) Physiology-The Mechanisms of Body Function. New York: Von Hoffmann press, Eight edition.

Costanzo, LS (2002) Physiology, Pennsylvania: Saunders, Second Ed.

Sherwood, L (1995) Fundamentals of Physiology: A Human Perspective, 2nd Ed. West Publishing Co. USA.

Silverthorn, DU (2001) Human Physiology: An Integrated Approach, 2nd Ed.

Prentice Hall Int. New Jersey, USA.

Nicholls JG, Martin, AR, Wallace, BG, Fuchus, PA (2001) From Neuron to Brain, 4th Ed. Sinauer Associates Inc. Sunderland USA.

Feldman, RS, Meyer, JS, Quenzer, LF (1997) Principles of Neuropsychopharmacology, Sinauer Associates Inc. Sunderland USA.

Cooper GM (2000) The Cell: A Molecular Approach, 2nd Ed. Sinauer Associates Inc. Sunderland USA.

Purves, D, Augustine, GJ, Fitzpatrick, D et al. (2001) Neuroscience, 2nd Ed. Sinauer Associates Inc. Sunderland USA.

Levitan, IB, Kaczmarek, LK (1997) The Neuron: Cell and Molecular Biology, 2nd Ed. Oxford University Pres, NY, USA.

3. **Mandatory or optional course units:** It is a mandatory course.

4. **Teaching staff:** Prof. Dr. Nimet Ünay Gündoğan MD
Assoc. Prof. Dr. Tuğrul Cabıoğlu MD, Ph.D.
Dr. Leyla Aydın MD, Ph. D
Dr. Şebnem İlhan Ph. D

5. **Length and Period:** 62 hours; topics to be covered are shown below:

Hours	Topics
1	Organızatıon of the nervous system
2, 3, 4, 5	Braınstem, cranıal nerves
6, 7	Retıcular formatıon posture and balance
8, 9	Cerebellum
10	Thalamus
11, 12	Basal ganglıa
13, 14	Sensory cortex
15, 16	Motor cortex
17, 18	Electroencephalography
19, 20	Sleep physıology
21,22	Learnıng and memory
23	Lımbıc system and hypothalamus
24, 25	Braın cırculatıon and cerebrospınal fluıd
26,27	Cerebrospınal fluıd
28,29,30	Laboratory: “Central Nervous System”
31	Gustatıon and olfactıon
32,33	Physıology of paın
34,35,36	Sense of vısıon
37,38	Physıology of hearıng
39,40	Vestıbular system and balance
41,42	Cutaneous senses
43,44	Laboratory: Sensory Physiology

45,46	General introduction to hormones
47	Functional relationship of the hypophysis and hypothalamus
48, 49, 50	Physiology of hypophysis hormones
51, 52	Physiology of thyroid hormones
53, 54	Physiology of calcium and phosphor related hormones
55, 56,57	Physiology of endocrine pankreas
58, 59, 60	Hormones of adrenal cortex and medulla
61, 62	Physiology of adipose tissue hormones

6. **Teaching and learning methods:** The course will consist of lectures, class discussions and laboratory applications.

7. **Assessments:** The coordination office through test examinations evaluates students.

8. **The language:** The language of the course is Turkish.

IDENTIFICATION OF THE COURSE: MEDICAL GENETICS

1. **Description:** After the completion of this lecture, students will have the knowledge of molecular mechanisms of neurological and muscular disorders.

3. Level:

a. **Prerequisite:** None
b. **Objective:** The objective of the course is to give a brief overview on the basic concepts of the neurological and muscular disorders.
c. **Learning outcomes:** We believe that this lecture will be help student in earning to talent in interpreting in genetic approach of clinical and diagnostic implements of the muscular and neurological disorders.
d. **References:**

1. Lewis R., 2001 "Human Genetics, Concepts and Applications" Mc Graw Hill New York.
2. Nussbaum RL, Mc Innes RR, Willard HF, Thompson MW (2007) Thompson & Thompson genetics in medicine, 7th Edition. Philadelphia: Saunders/Elsevier.

4. Compulsory or electively course units: It is a compulsory course.
5. Teaching staff: Assist**.** Prof. Dr. Yunus Kasım Terzi
6. Length and period: 4 hours in this committee

Hours	**Topics**
1-2	Hereditary muscle disorders
3-4	Hereditary neurodegenerative disorders

6. **Teaching and learning methods:** The course will consist of lectures and class discussions.

8. Assessment: The coordination office through test examinations evaluates students.

9. The language: The language of the course is Turkish.

10. ECTS credit allocation

IDENTIFICATION OF THE COURSE: ANATOMY

1. **DESCRIPTION:** The course reviews the macroscopic and microscopic structure of the central nervous system, its blood supply and venous drainage and the meninges. Then determines the main nervous pathways connecting the different structures of the nervous system on a functional base. The major lesions related with the pathways, nuclei, motor and sensory areas of the cerebral cortex and those of cranial nerves will also be studied. In addition the course also reviews the morphology of the organs of special sense, related pathways and their lesions. The morphology of endocrine glands is also reviewed on a physiological base.
2. **Level**

a. **Prerequisite:** None

b. **Objectives:** To familiarize the students with the morphology of the central nervous system and organs of special sense and especially with the nervous pathways and their lesions. The main aim of the course is to give the basic knowledge to the students that will be useful for their courses of neurology and neurosurgery. To familiarize the students with the morphology of endocrine glands and to make them ready to understand their functions and diseases easily.

c. **Learning outcomes:** At the end of the course the students are expected to;

   i. Discuss the morphological structure of the central nervous system, its vascularization, and the pathways. They should also be able to discus the lesions of the central nervous system related with physiology.

   ii. Discuss the morphology of endocrine system with respect to location, communication, blood supply and innervations.

d. **References**

Textbooks

- Taner D (2008) Nöroanatomi, Ankara METU PRESS
- Ozan H (2004) Anatomi, Ankara NOBEL
- Snell RS (1998) Clinical Anatomy for Medical Students, Washington: LIPPINCOT-WILLIAMS&WILKINS
- Moore KL (1999) Clinically Oriented Anatomy, Baltimore WILLIAMS & WILKINS
- Snell RS (1997) Clinical Neuroanatomy for Medical Students, Phladelphia LIPPINCOTT – RAVEN
- Waxman SG (2002) Correlative Neuroanatomy. Lange Medical Books
- Romanes GJ (1997) Cunningam's Manual of Practical Anatomy: Head and Neck and Brain, Oxford, Oxford University Press
- Clancy J, McVicar AJ (2002) Physiology & Anatomy: A h-Homeostatic Approach, London ARNOLD
- Carpenter MB (1976) Human Neuroanatomy, Baltimore THE WILLIAMS & WILKINS COMPANY
- Wiliams PL, Warwick R, Dyson M, Bannister LH (1989) Gray's Anatomy, Edinburgh London CHURCHILL LIVINGSTONE

Atlases

- Netter FH (1994) Atlas of Human Anatomy, New Jersey CIBA – GEIGY CORPORATION
- Sobotta Atlas der Anatomie des Menschen (İnsan Anatomisi Atlası) (1977) Ed. H. Ferner and J. Staubesand., BaltimoreUrban & Schwarzenberg (Three Volume)

3. **Mandatory or Optional Course:** This course is a mandatory course
4. **Teaching Staff**

   Prof. Dr. Can Pelin MD Ph.D
   Assoc. Prof. Dr. Ayla Kürkçüoğlu MD PhD
   Assist. Prof. Dr. Ragıba Zağyapan, Ph.D

5. **Length and Period:** 71 hours

   The tittles of the lectures are listed below

HOUR	***SUBJECT***
1	Introduction to Nervous System
2-3	Central Nervous System: General Morphology
4-5	Morphology of the Spinal Cord
6-7	Lab: Morphology of the Spinal Cord
8-9	Bulbus
10-11	Pons
12-13	Mesencephalon
14-15	Lab: Brain-Stem
16-17	Cranial Nerves
18-19	Cranial Nerves
20-22	Cranial Nerves
23, 24	Lab: Cranial Nerves
25, 26	The Cerebellum
27	Formatio Reticularis
28	Thalamus
29	Hypothalamus
30	Epithalamus and Subthalamic Nucleus
31, 32	Cerebral Hemispheres: General Topography
33,34	Spinal Cord: Descending Pathways
35,36	Spinal Cord: Ascending Pathways
37,38	Lab: Dissection of the Brain
39	Basal ganglions
40	Cerebral Hemispheres: Medullary Substance
41,42	Cerebral Hemispheres: Motor and Sensory Areas
43	The Sympathetic System
44	The Parasympathetic System
45,46	Limbic System and Rhinencephalon
47,48	Brain Ventricles and Cerebrospinal Fluid
49,50	Meninges and Sinuses Of The Brain
51	Vessels of the Central Nervous System
52,53	Lab: Dissection of the Brain
54,55	The Orbit and Its Contents
56,57	The Eyeball
58,59	Lab: The Orbit and Its Contents And The Eyeball
60	The Visual Pathway
61,62	The Ear
63,64	Auditory Pathway
65	Vestibular System

66	Lab: The Ear
67	Hypophysis Cerebri
68	Gl. Thyroidea Gl. Parathyroidea
69	Gl. Subrarenalis and Thymus
70-71	“Endocrine glands” Lab.

6. **Teching and Learning Methods**
   The course consists of lectures with data and slide shows, laboratory lessons and cadaver dissections, practice on artificial modals and isolated organs, in class discussions, quizzes and reading assignments.

7. **Assessments:** Students are evaluated by laboratory examinations and, multiple choice examinations organize by the coordination office.

8. **Language:** the language of the course is turkish

IDENTIFICATION OF THE COURSE: ENGLISH EDUCATION

The aim of English curriculum is to provide Baskent University, undergraduate and graduate students with a good command in English to follow the literature and endow them with written and oral communication skills. In the guidance of this objective, English education is implemented with emphasis on their field. Students are informed about weekly course load, code and credits during the registration period.

Term one: Provided English education is an integrated system. In addition to English grammar students follow a program that would improve their reading, writing, speaking and listening skills. Also they practice to improve their professional based vocabulary.

Term two: Each of the four basic skill is improved continuously. Within the writing skill program there is shift from term one sentence and paragraph construction level to academic writing. Speaking skill program helps to improve students academic communication skills through introductions, group discussions, case studies and brief presentations. In reading skill program students learn to transform written information to visual data (graphic, schematic, etc.) In addition to their basic skills that they have acquired in term one. In listening program, skills like receiving, responding, integrating and qualifying information and ability to take notes are given.

Term three: Capabilities that were delivered in the preceding terms are reinforced and profession based vocabulary level is expanded. In addition to reinforce four basic skills the students are taught to perform academic and professional translation techniques and to apply them in the classroom. In addition, they learn to evaluate medical reports, write operative and discharge notes and to write case reports.

Term four: In this term, exam taking techniques and strategies are taught and classroom applications are conducted using KPDS, UDS, MCAT and TUS question templates. Also, official document writing techniques are given.

Identification	**MUSCULOSKELETAL SYSTEM (SUBJECT COMMITTEE-III)**
Level	Undergraduate, compulsory
ECTS Credits	**7,5**
Responsible lecturer	**Assist. Prof.Dr. Ragıba Zağyapan**
Prerequisite	None
Time course	**5 weeks (124 h; 81+43)**
Description	This course reviews the basic principles related to anatomy, histology-embryology, physiology and biochemistry of musculoskeletal system
Objectives	The main objectives of the course are to familiarize students with morphological structure, the innervation and vascularization of musculoskeletal system, to help students to understand the functional components of musculoskeletal system in relation to neuromuscular junction and excitation-contraction coupling and to emphasize the influence of basic biochemical mechanisms and their interactions on the movement phenomena.
Learnig outcomes	At the end of the course learner is expected: . To discuss the morphological structure of the components of musculoskeletal system such as bones, joints, and muscles, their relationship with each other, their vasculature and innervations regarding possible lesions, 2. To be able to explain the the physiological properties of muscle types, synaptic and peripheral nervous neurotransmission and also to discuss the mechanism related to muscle contraction, neurotransmission and reflexes, 3. To be able to describe the basic biochemical mechanisms related to muscular contraction related to resting and exercising states
Reference books	1. Taner D. Fonksiyonel Anatomi: Ekstremiteler ve Sırt Bölgesi, Ankara: PALME 2. Snell RS .Clinical Anatomy for Medical Students, Washington: Lippincot-Williams&Wilkins 3. Guyton, AC, Hall, JE. Textbook of Medical Physiology, Pennsylvania:WB Saunders, 4. Ganong, WF (2003) Review of Medical Physiology, USA:Mc Graw Hill,Twentieth edition.– Conwey – Spector 5. Küehnel, Wolfgang. (2003). Color Atlas of Cytology, Histology, and Microscopic Anatomy. Stuttgart – New York: Thieme Verlack 6. Fawcett, Don W. (1994). A Textbook of Histology. New York – London: Chapman and Hall. Twelfh Edition 7. Voet D, Voet JG and Pratt CW 2006, Fundamentals of Biochemistry. Second Edition, John Wiley and Sons, USA. 8. Nelson DL and Cox MM 2008, Lehninger Principles of Biochemistry. Fifth Edition, W.H. Freeman and Company, NY; USA.
Teaching methods	Class-lectures supported with multi-media techniques and the laboratory practice
Assessment methods	Subject committee examination (multiple choice test) and practical examination (laboratory skills)
Language	Turkish

IDENTIFICATION OF THE COURSE: BİOCHEMİSTRY

1. **Description:** In this committee, the course deals with the biochemistry of muscle tissue and exercising muscle
2. **Level:**

a. Prerequisite: None.
b.Objectives: To familiarize the biochemistry of muscle tissue and to discuss the importance of this tissue in exercise.
c. Learning Outcomes: To understand the biochemistry of muscle tisue with respect to different exercise types.
d. References:

1. Voet D, Voet JG and Pratt CW 2006, Fundamentals of Biochemistry. Second Edition, John Wiley and Sons, USA.
2. Nelson DL and Cox MM 2008, Lehninger Principles of Biochemistry. Fifth Edition, W.H. Freeman and Company, NY; USA.
3. Devlin TM 2006, Textbook of Biochemistry with Clinical Correlations. Sixth Edition, Wiley-Liss, Inc., New York, USA.

3. The Status of the Course: It is a compulsory course.

4. Teaching Staff: Prof. Dr. E. Suna Türkoğlu, Prof. Dr. Derya Aldemir

5. Period and Plan of the Course: 4 hours. Topics to be covered are shown below:

Hour	Topic
1-2	Biochemistry of Muscle Tissue
3-4	Biochemistry of Exercise

6. **Teaching and Learning Methods:** The course will consist of lectures, class discussions, and reading assignments.

7. **Assessment:** The coordination office through test examinations evaluates students.

8. **The Language:** The language of the course is Turkish.

IDENTIFICATION OF THE COURSE: PHYSIOLOGY

1. **Description:** This course reviews basic themes and major works in muscle and nerve physiology. After a brief overview of the course, we will examine a number of theoretical and substantive issues in the area of muscle and nerve physiology. We will then proceed to address the molecular metabolism of contraction in skeletal, smooth and cardiac muscles, structure of peripheral and autonomic nervous system. In addition, the experimental study will reinforce theoretical knowledge practically.

2. **Level:**
   a. **Prerequisite:** Students must be accomplished the Locomotor System I committee.
   b. **Objectives:** The first objective of the course is to familiarize students with the basic concepts and approaches in human locomotion. The second objective is to help students to understand experimental study in the light of the theoretical framework mentioned above. It is believed that this experience will be helpful for them during their career. The final exam will cover all topics.
   c. **Learning outcomes:** At the end of the course learner is expected to be able to explain the physiological properties of muscle types, synaptic and peripheral nervous neurotransmission and also to discuss the mechanism related to muscle contraction, neurotransmission and reflexes.
   d. **References:**

Textbooks

Guyton, AC, Hall, JE (2006) Textbook of Medical Physiology, Pennsylvania:WB Saunders, Eleventh ed.

Ganong, WF (2003) Review of Medical Physiology, USA:Mc Graw Hill,Twentieth edition.

Brown SP, Miller WC, Eason JM (2006) Exercise Physiology, Basis of Human Movement in Health and Disease, USA: Lippincott Williams and Wilkins.- First ed.

Berne, RM, Levy, MN (2004) Principles of Physiology, Missouri:Mosby, Inc. Fifth ed.

Vander, A, Sherman, J, Luciano, D (2001) Physiology-The Mechanisms of Body Function. New York:Von Hoffmann press, Eight edition.

Costanzo, LS (2002) Physiology, Pennsylvania: Saunders, Second Ed.

Sherwood, L (1995) Fundamentals of Physiology: A Human Perspective, 2nd Ed. West Publishing Co. USA.

Silverthorn, DU (2001) Human Physiology: An Integrated Approach, 2nd Ed.

Prentice Hall Int. New Jersey, USA.

e. **Mandatory or optional course units:** It is a mandatory course.

3. **Teaching staff:** Prof. Dr. Nimet Ünay Gündoğan MD, Assoc. Prof. Dr. Tuğrul Cabıoğlu MD, Ph.D., Dr. Leyla Aydın MD, Ph.D., Dr. Şebnem İlhan Ph.D

4. **Length and Period:** 30 hours; topics to be covered are shown below:

Hours	Topics
1, 2, 3, 4, 5	Physiology of skeletal muscle
6, 7, 8	Physiology of smooth muscle
9, 10	Excercise physiology
11	Physiology of periferal nervous system
12	Conduction properties of peripheral nerves
13, 14	Synaptic transmission
15, 16	Mediators in neural tissue
17,18, 19	Spinal reflexes
20, 21, 22	Autonomic nervous system
23, 24, 25, 26	Laboratory: Muscle Physiology
27, 28, 29, 30	Laboratory: Periferal Nervous System

5. **Teaching and learning methods:** The course will consist of lectures and laboratory applications.

6. **Assessments:** The coordination office through test examinations evaluates students.

7. **The language:** The language of the course is Turkish.

IDENTIFICATION OF THE COURSE:ANATOMY

1. **Description:** The course reviews the main characteristics of the muscular tissue and the morphology of the muscular structure of the human body (mainly of the upper and lower limbs) on the functional base. In addition to this nerves and vessels of the limbs will be discussed in details. Cadaver dissections will also support the course.

2. **Level**

   a. Prerequisite: None

   b. Objectives: To familiarize the students with the morphology of the muscular system connected with the skeletal system, their innervations and vessels. To discuss the lesions of the musculosceletal system related with anatomy.

   c. Learning outcomes: At the end of the course the students are expected to discuss the morphological structure of the components of musculoskeletal system such as bones, joints, and muscles, their relationship with each other, their vasculature and innervations. They should also be able to discuss their lesions related with anatomy an physiology.

   d. References

   Textbooks

   - Taner D (2008) Fonksiyonel Anatomi: Ekstremiteler ve Sırt Bölgesi, Ankara: PALME
   - Ozan H (2004) Anatomi, Ankara NOBEL
   - Snell RS (1998) Clinical Anatomy for Medical Students, Washington: LIPPINCOT-WILLIAMS&WILKINS
   - Moore KL (1999) Clinically Oriented Anatomy, Baltimore WILLIAMS & WILKINS
   - Romanes GJ (1997) Cunningam's Manual of Practical Anatomy: Upper and Lower Limbs,Oxford, Oxford University Press
   - Clancy J, McVicar AJ (2002) Physiology & Anatomy: A-Homeostatic Approach, London ARNOLD
   - Wiliams PL, Warwick R, Dyson M, Bannister LH (1989) Gray's Anatomy, Edinburgh London CHURCHILL LIVINGSTONE

   Atlases

   - Darke RL, Vogl AW, Mitchell AWM, Tibbitts RM, Richardson PE (Çeviri ed. Prof. Dr. Sezgin İlgi, Prof. Dr. Mehmet Yıldırım. Gray's Anatomi Atlası. (2009) Güneş Tıp Kitapevleri Ankara
   - Grant's Eleventh Edition (2005) Lippincott Williams & Wilkins
   - Netter FH (Çeviri ed. Prof. Dr. Meserret Cumhur (2008) İnsan Anatomisi Atlası Nobel Tıp Kitapevleri Ankara
   - İnsan Anatomisi Fotoğraflı Disseksiyon Atlası Türkçe Baskı Rohen / Yokochi / Lütjen – Drecoll Çeviri: Salih Murat Akkın
   - Sobotta Anatomi Atlası A.Elhan (2006) Beta Basın Evi

3. **Mandatory Ory Or Optional Course:** This course is a mandatory course

4. **Teaching Staff**
   Dr. Can Pelin, MD Ph.D
   Dr. Ragıba Zağyapan, Ph.D
   Dr. Ayla Kürkçüoğlu MD PhD

5. **Length and Period:** 71 hours
   The subjects of the lectures are listed below

Hour	**Topic**
1 – 2	Anatomy of the Face and Scalp
3-4	Lab: “Anatomy of the Face”
5-6	Bones of Upper Limb
7-8	“ Bones of Upper Limb ” Lab
9-10	Upper Limb Joints
11	“Upper Limb Joints ” Lab
12	Muscles of Back: Superficial Layer
13	The Suboccipital Region and Superficial Deep Muscles of the Back
14-15	Lab:“The Suboccipital Region and Superficial and Deep Muscles of the Back”
16-17	Pectoral Region and The Mammary Glands
18-19	“Pectoral Region ” Lab
20	Posterior Aspect of the Shoulder and Arm
21	Anterior Aspect of the Arm
22 – 23	Lab: “Anterior and Posterior Aspects of the Shoulder and Arm”
24-25	Axilla and Brachial Plexus
26-27	Axilla and Brachial Plexus
28-29	Lab: “Axilla and Brachial Plexus”
30-31	The Flexor Aspect of the Forearm and Fossa Cubiti
32-33	Lab: “The Flexor Aspect of the Forearm and Fossa Cubiti”
34	The Extensor Aspect of The Forearm
35-36	Anatomy of the Hand
37-38	Lab: “The Flexor Aspect of the Forearm and Anatomy of the Hand”
39	Arteries of the Upper Extremity
40-41	Pelvic Skeleton
42-43	Lab: “ Pelvic Skeleton ”
44-45	Bones of Lower Limb
46-47	Lab: “Bones of Lower Limb ”
48-49	Lower Limb Joints
50	Lab: “Lower Limb Joints ”
51-52	Gluteal Region
53-54	Lab: “Gluteal Region”
55-56	The Anterior and Medial Aspects of the Thigh
57-58	Lab: “The Anterior and Medial Aspects of the Thigh”
59-60	Lateral and Posterior Aspect of the Thigh, Popliteal Fossa
61	Posterior Aspect of the Leg
62-63	Lab :”Posterior Aspect of the Leg and Tight”
64	Lateral and Anterior Aspect of the Leg
65-66	Lab: “Lateral and Anterior Aspect of the Leg”
67-68	Anatomy of the Foot

69-70	Lab: “Anatomy of the Foot”
71	Arteries of the Lower Extremity

6. **Teaching and Learning Methods**
   The course consists of lectures with data and slide shows, laboratory lessons and cadaver dissections, practice on the modals, in class discussions, quizzes and reading assignments.

7. **Assessments:** Students are evaluated with practical examination and later with a multiple choice exam organized by the coordination office.

8. **Language:** The language of the course is Turkish

IDENTIFICATION OF THE COURSE: ENGLISH EDUCATION

The aim of English curriculum is to provide Baskent University, undergraduate and graduate students with a good command in English to follow the literature and endow them with written and oral communication skills. In the guidance of this objective, English education is implemented with emphasis on their field. Students are informed about weekly course load, code and credits during the registration period.

Term one: Provided English education is an integrated system. In addition to English grammar students follow a program that would improve their reading, writing, speaking and listening skills. Also they practice to improve their professional based vocabulary.

Term two: Each of the four basic skill is improved continuously. Within the writing skill program there is shift from term one sentence and paragraph construction level to academic writing. Speaking skill program helps to improve students academic communication skills through introductions, group discussions, case studies and brief presentations. In reading skill program students learn to transform written information to visual data (graphic, schematic, etc.) In addition to their basic skills that they have acquired in term one. In listening program, skills like receiving, responding, integrating and qualifying information and ability to take notes are given.

Term three: Capabilities that were delivered in the preceding terms are reinforced and profession based vocabulary level is expanded. In addition to reinforce four basic skills the students are taught to perform academic and professional translation techniques and to apply them in the classroom. In addition, they learn to evaluate medical reports, write operative and discharge notes and to write case reports.

Term four: In this term, exam taking techniques and strategies are taught and classroom applications are conducted using KPDS, UDS, MCAT and TUS question templates. Also, official document writing techniques are given.

Identification	**CARDİOVASCULAR AND RESPİRATORY SYSTEMS (SUBJECT COMMITTEE-IV)**
Level	Undergraduate, compulsory
ECTS Credits	**11**
Responsible lecturer	**Prof. Dr. Nimet ÜNAY GÜNDOĞAN, Dr. Leyla AYDIN**
Prerequisite	None
Time course	**6 weeks (168 h; 132+36)**
Description	This course reviews the basic principles related to anatomy, histology-embryology, physiology, biophysics and biochemistry of cardiovascular and respiratory systems
Objectives	The main objectives of the course are to familiarize students with morphological /fine structure, development and the innervation and vascularization of cardiovascular and respiratory organs in relation to their localizations in the human body, to teach the basics of normal and abnormal development of the head and neck region, respiratory and cardiovascular systems; histology of these systems, blood, hemopoesis and lymphoid system theoretically and practically, to help students to understand the functional components of cardiovascular and respiratory systems including blood, dynamics of circulation and respiration, to describe congenital developmental disorders and to familiarize the biochemistry of blood tissue and to emphasize the molecular mechanism of oxidative and nitrosative stress.
Learnig outcomes	At the end of the course learner is expected: 1. To discuss to discus on the morphological structure and the locations of the components of circulation and respiratory systems and evaluate their disorders related with physioanatomy 2. To be able to explain the physiological properties of cardiovascular and respiratory systems and to discuss the interaction among them. 3. To be able to recognize and evaluate structural features of cells, tissues and organs belonging to cardiovascular, respiratory, hemopoietic and lymphoid systems and their role in the human body, to distinguish the cells, tissues and organs of these systems by self examination under light microscope and to presume and correlate the reasons of abnormal development of these systems and the underlying mechanisms knowing the basic elements of normal development 4. To be able to explain the biochemistry of blood tissue and to emphasize the molecular mechanism of oxidative and nitrosative stress 5. To be able to be familiar with the basic concepts and approaches of biophysical events related with the circulatory and respiratory systems to help them to develop an understanding of biophysical issues in these systems.
Reference books	1. Taner D. Fonksiyonel Anatomi: Ekstremiteler ve Sırt Bölgesi, Ankara: PALME 2. Snell RS. Clinical Anatomy for Medical Students, Washington: Lippincot-Williams&Wilkins 3. Guyton, AC, Hall, JE. Textbook of Medical Physiology,

	Pennsylvania:WB Saunders. 4. Ganong, WF. Review of Medical Physiology, USA:Mc Graw Hill, Conwey – Spector 5. Küehnel, Wolfgang. Color Atlas of Cytology, Histology, and Microscopic Anatomy. Stuttgart – New York: Thieme Verlack 6. Fawcett, Don W. A Textbook of Histology. New York – London: Chapman and Hall. 7. Voet D, Voet JG and Pratt CW. Fundamentals of Biochemistry. John Wiley and Sons, USA. 8. Nelson DL and Cox MM. Lehninger Principles of Biochemistry. W.H. Freeman and Company, NY; USA. 9. Pehlivan, F. Biyofizik, Ankara: Hacettepe-Taş Kitabevi Ltd.
Teaching methods	Class-lectures supported with multi-media techniques and the laboratory practice
Assessment methods	Subject committee examination (multiple choice test) and practical examination (laboratory skills), medical english examination
Language	Turkish

IDENTIFICATION OF THE COURSE: BIOCHEMISTRY

1. **Description:** In this committee, the course deals with the biochemistry of blood tissue.

2. **Level:**
   - **a. Prerequisite:** None.
   - **b. Objectives:** To familiarize the biochemistry of blood tissue and to emphasize the molecular mechanism of oxidative and nitrosative stress.
   - **c. Learning Outcomes:** To understand blood tissue biochemistry and to familiarize the ischemia-reperfusion injury.
   - **d. References:**

1. Halliwell, B. and Gutteridge, J.M.C. 2002, Free Radicals in Biology and Medicine. Third Edition, Oxford University Press.
2. Devlin, T.M. 2006, Textbook of Biochemistry with Clinical Correlations. Sixth Editions, Wiley-Liss, Inc., New York, USA.
3. Voet D, Voet JG and Pratt CW 2006, Fundamentals of Biochemistry. Second Edition, John Wiley and Sons, USA.
4. Baynes, J. and Dominiczak, M.H. 1999, Medical Biochemistry. Mosby, New York, USA.

3. **The Status of the Course:** It is a compulsory course.

4. **Teaching Staff:** Prof. Dr. Derya Aldemir

5. **Period and Plan of the Course:** 14 hours. Topics to be covered are shown below:

Hour	Topic
1,2	Blood, Lymph and Circulation Systems
3,4	Biochemistry of Erythrocytes
5	Biochemistry of Platelets
6,7	Coagulation
8	Fibrinolysis
9,10	Biochemistry of Endothelium
11,12	Metabolism of Reactive Oxygen Species
13,14	The Metabolic Response to Ischemia-Reperfusion Injury

6. **Teaching and Learning Methods:** The course will consist of lectures, class discussions, and reading assignments.

7. **Assessment:** The coordination office through test examinations evaluates students.

8. **The Language:** The language of the course is Turkish.

IDENTIFICATION OF THE COURSE: BIOPHYSICS

1. **Description:** This course reviews the basic concepts of the circulatory and respiratory systems from biophysical point of view. During the course, the topics to be discussed will cover the biophysical basis of circulation and respiration with special emphasis on the dynamics of fluids and gases. In addition, the potentials which can be recorded on the surface of the body arising from the dipoles in the heart (electrocardiography = EKG) will be examined.

2. **Level:**
   a. **Prerequisite:** None

   b. **Objectives:** To familiarize the students with the basic concepts and approaches of biophysical events related with the circulatory and respiratory systems to help them to develop an understanding of biophysical issues in these systems. It is believed that this experience will be useful for them during their career. The final exam will cover all topics.

   c. **Learning outcomes:** At the end of this committee, the students are expected to be familiar with the basic concepts and approaches of biophysical events related with the circulatory and respiratory systems to help them to develop an understanding of biophysical issues in these systems.

   d. **References**

Berne, R.M. and Levy, M.N., (2000) *Principles of Physiology*, 3rd edition, US: A Harcourt Health Sciences Company.

Guyton, A.C., Hall, J.E., (2001) *Tıbbi Fizyoloji*, 1st edition in Turkish: Yüce Basım ve Nobel Tıp Kitabevi Ltd.

Pehlivanlı, F., (1997) *Biyofizik*, 2nd edition, Ankara: Hacettepe-Taş Kitabevi Ltd.

Ronto, G., and Tarjan, I., (1999) *An Introduction to Biophysics with Medical Orientation*, Semmelweis Kiado, Budapest, Hungary: Akademiai Kiado.

3. **Mandatory or optional course units:** It is a mandatory course.

4. **Teaching staff:** Assoc. Prof. Dr. Neslihan Toyran Al-Otaibi, Assoc. Prof. Dr.Erhan Kızıltan

5. **Length and Period:** 6 hours. Topics to be covered are shown below:

HOURS	TOPICS
1- 3	DYNAMICS OF CIRCULATION
4-6	DYNAMICS OF RESPIRATION

6. **Teaching and Learning Methods**
   The course will consist of lectures, and class discussions.

7. **Assessment:**
   The coordination office through test examinations evaluates students.

8. **The Language:**
   The language of the course is Turkish.

IDENTIFICATION OF THE COURSE: HISTOLOGY AND EMBRYOLOGY

1. **COURSE DESCRIPTION:** The course includes normal and abnormal development of pharyngeal aparatus, the face, cardiovascular and respiratory systems. Blood and hemopoesis, histology of cardiovascular, lymphoid and respiratory systems are also reviewed. Each histology topic is followed by a practical work providing chance of self-examination using light microscope to distinguish cells and tissues.

2. **LEVEL OF THE COURSE**
   a. **Prerequisities of the course:** None
   b. **Objectives of the course:** To teach the basics of normal and abnormal development of the head and neck region, respiratory and cardiovascular systems; histology of these systems, blood, hemopoesis and lymphoid system theoretically and practically.
   c. **Learning outcomes of the course:**
      1) Be able to recognize and evaluate structural features of cells, tissues and organs belonging to cardiovascular, respiratory, hemopoietic and lymphoid systems and their role in the human body
      2) Be able to distinguish the cells, tissues and organs of these systems by self examination under light microscope
      3) Be able to presume and correlate the reasons of abnormal development of these systems and the underlying mechanisms knowing the basic elements of normal development
   d. **References of the course:**

   1. Küehnel, Wolfgang. (2003). Color Atlas of Cytology, Histology, and Microscopic Anatomy. Stuttgart – New York: Thieme Verlack
   2. Fawcett, Don W. (1994). A Textbook of Histology. New York – London: Chapman and Hall. Twelfh Edition
   3. Gartner, Leslie P. (2006). Color Textbook of Histology. Philadhelphia – London: Lippincott Williams&Wilkins A Wolters Kluwer Company. Fourth Edition.
   4. Ross, Michael H. (2003). Histology A Textbook and Atlas. Philadelphia: Williams and Wilkins. Fourth Edition.
   5. Junqueria, Luis C. (2005). Basic Histology Text and Atlas. Philadelphia: McGraw-Hill
      Companies. Eleventh Edition.
   6. Alberts, B. (2002). Molecular Biology of The Cell. New York: Garland Science. Fourth Edition.
   7. Kierszenbaum Abraham L. (2006). Histoloji ve Hücre Biyolojisi: Patolojiye Giris" (Histology and Cell Biology: An Introduction to Pathology), Palme Yayıncılık.
   8. Sadler, T.W. (2004) Langman's Medical Embryology. Baltimore – Maryland : Lippincott Williams&Wilkins. Ninth Edition
   9. Ovalle William K. ,Nahirney Patrick C. , (2009) Netter Temel Histoloji (Netter's Essential Histology), Güneş Tıp Kitabevleri
   10. Moore Keith L. ,Persaud T.V.N. (2009). Klinik Yönleriyle İnsan Embriyolojisi ,Nobel Tıp Kitapları

3. **STATUS OF THE COURSE (COMPULSORY/ELECTIVE)**
   This course is a compulsory course

4. **NAME OF THE TEACHING STAFF OF THE COURSE**
   Prof. Dr. Attila Dağdeviren, Uzm. Dr. Nejmi Zağyapan, Öğr. Gör. Dr. Fatma Helvacıoğlu

5. **THE PERIOD AND THE PLAN OF THE COURSE**
   The course is a 27 hours course.

TOPICS

Hours	**Topics**
1, 2, 3	Development of the cardiovascular system
4, 5, 6	Histology of the cardiovascular system
7, 8	Practice of the cardiovascular system and blood
9, 10	Immune System: Primary Lymphoid Organs
11,12	Secondary Lymphoid Organs
13,14	Practice of the lymphoreticular system
15,16	Hematopoesis and stem cells
17,18	Peripheral blood cells
19,20	Development of the pharingeal apparatus, head and neck
21, 22	Development of the respiratory system
23, 24	Histology of airways
25-26	Histology of lungs
27,28	Practice of the respiratory system

6. **TEACHING AND LEARNING METHODS OF THE COURSE:** Multimedia visual aid supported class lectures and light microscopic supervised self-examination of histological slides

7. **ASSESSMENT METHOD AND THE GRADING OF THE COURSE:** Within the subject committee examination (multiple choice test) and practical exam on microsopic slides

8. **LANGUAGE OF INSTRUCTION:** Turkish

IDENTIFICATION OF THE COURSE: PHYSİOLOGY

1. **Description:** This course reviews basic themes and major issues in circulatory and respiratory physiology. After a brief overview, we will examine a number of theoretical and substantive issues in the area of functions of blood, components of blood, the prevention of blood loss, blood types, cardiovascular dynamics, regulation of heart rate and blood pressure, respiratory tract, mechanics of breathing, factors affecting gas exchange and gas solubility, gas transport, neurochemical control of breathing. In addition, the experimental study will reinforce theoretical knowledge by practical.

2. **Level:**
   a. **Prerequisite:** None
   b. **Objectives:** The first objective of the course is to familiarize students with the basic concepts and approaches in circulatory and respiratory physiology. The second objective is to help students to understand experimental study in the light of the theoretical framework mentioned above. It is believed that this experience will be helpful for them during their career. The final exam will cover all topics.
   c. **Learning outcomes:** At the end of the course learner is expected to be able to explain the physiological properties of cardiovascular and respiratory systems and to discuss the interaction among them.
   d. **References:**

Textbooks

Guyton, AC, Hall, JE (2006) Textbook of Medical Physiology, Pennsylvania:WB Saunders, Eleventh ed.

Ganong, WF (2003) Review of Medical Physiology, USA:Mc Graw Hill,Twentieth edition.

Berne, RM, Levy, MN (2004) Principles of Physiology, Missouri:Mosby, Inc. Fifth ed.

Vander, A, Sherman, J, Luciano, D (2001) Physiology-The Mechanisms of Body Function. New York: Von Hoffmann press, Eight edition.

Costanzo, LS (2002) Physiology, Pennsylvania: Saunders, Second Ed.

Sherwood, L (1995) Fundamentals of Physiology: A Human Perspective, 2nd Ed. West Publishing Co. USA.

Silverthorn, DU (2001) Human Physiology: An Integrated Approach, 2nd Ed. Prentice Hall Int. New Jersey, USA.

3. **Mandatory or optional course units:** It is a mandatory course.

4. **Teaching staff:** Prof. Dr. Nimet Ünay Gündoğan, Assoc. Prof. Dr. Tuğrul Cabıoğlu, Assoc. Prof. Dr. Erhan Kızıltan, Dr. Leyla Aydın, Dr. A. Şebnem İlhan

5. **Length and Period:** 62 hours; topics to be covered are shown below:

Hours	Topics
1, 2	PHYSICAL AND CHEMICAL PROPERTIES OF BLOOD AND ITS ROLE
3, 4	THE FUNCTIONS OF THE RED BLOOD CELLS
5, 6	THE FUNCTIONS OF THE WHITE BLOOD CELLS
7	THE FUNCTIONS OF THE PLATELETS
8, 9	THE MECHANISMS OF COAGULATION AND ANTICOAGULATION
10	BLOOD TYPES AND TRANSFUSION REACTIONS
11, 12, 13, 14, 15	THE PRINCIPLES OF HAEMODYNAMICS
16,17	PHYSIOLOGICAL PROPERTIES OF HEART MUSCLE
18	PRESSURE-VOLUME RELATIONS IN THE HEART
19,20	THE REGULATION OF ARTERIAL PRESSURE
21,22	CORONARY CIRCULATION
23,24	ARTERİAL BLOOD PRESSURE
25, 26	HEART SOUNDS, HEART BLOCKS
27,28, 29,30	ELECTROCARDIOGRAPHY
31, 32	SHOCK
33	INTRODUCTION TO RESPIRATORY PHYSIOLOGY, RESPIRATORY MECHANICS
34	RESPIRATORY SYSTEM, BLOOD SUPPLY OF LUNGS, SURFACTANT AND SURFACE EXTENSION
35	MECHANICS OF LUNG VENTILATION
36	VOLUME AND CAPACITY OF LUNGS
37	LUNG COMPLIENCE
38, 39	VENTILATION –PERFUSION RELATION
40	ABNORMALITIES OF DIFFUSION
41, 42	TRANSPORT OF OXYGEN AND CARBON DIOXIDE
43, 44	REGULATION OF RESPIRATION AND RESPIRATORY PATHOLOGIES
45,46	CARDIOVASCULAR AND RESPIRATORY CHANGES IN EXERCISE
47, 48	HUMAN PHYSIOLOGY IN EXTREME CONDITIONS
49,50,51,52,	Laboratory: PHYSIOLOGY OF BLOOD
53,54, 55, 56,	Laboratory: PHYSIOLOGY OF BLOOD and CIRCULATION
57,58,59,60	Laboratory: PHYSIOLOGY OF CIRCULATION
61, 62	Laboratory: PHYSIOLOGY OF RESPIRATORY SYSTEM

6. **Teaching and learning methods:** The course will consist of lectures, class discussions and laboratory applications.

7. **Assessments:** The coordination office through test examinations evaluates students.

8. **The language:** The language of the course is Turkish.

IDENTIFICATION OF THE COURSE: ANATOMY

1. **Description:** The course reviews the morphology of the organs belong to cardiovascular and respiratory systems on a physiological base. The course also reviews their localizations in the human body and their relations with each other and with the other structures, their innervations, vessels and lymphatic derange. The anatomical structure of the thoracic cavity, mediastinum and its contents will also be determined. In addition muscular structure of the neck its contents will be studies.

2. **LEVEL**

a. Prerequisite: None

b. Objectives: To familiarize the students with the morphology of the cardiovascular and respiratory systems and to make them ready to understand their functions and to discuss the basic disorders related with anatomy.

c. Learning outcomes: At the end of the course should be able to discus on the morphological structure and the locations of the components of circulation and respiratory systems and evaluate their disorders related with physioanatomy

d. References

Textbooks

- Sancak B, Cumhur M (2008) Fonksiyonel Anatomi: Baş-Boyun ve İç Organlar, Ankara: METU PRESS
- Ozan H (2004) Anatomi, Ankara NOBEL
- Snell RS (1998) Clinical Anatomy for Medical Students, Washington: LIPPINCOT-WILLIAMS&WILKINS
- Moore KL (1999) Clinically Oriented Anatomy, Baltimore WILLIAMS & WILKINS
- Snell RS (1997) Clinical Neuroanatomy for Medical Students, Phladelphia LIPPINCOTT – RAVEN
- Romanes GJ (1997) Cunningam's Manual of Practical Anatomy: Head and Neck and Brain, Oxford, Oxford University Press
- Janfaza P, Nadol JB (Jr), Galla RJ, Fabian RL Montgomery WW (2001) Surgical Anatomy of the Head and Neck Washington: LIPPINCOT-WILLIAMS&WILKINS
- Clancy J, McVicar AJ (2002) Physiology & Anatomy: A h-Homeostatic Approach, London ARNOLD
- Wiliams PL, Warwick R, Dyson M, Bannister LH (1989) Gray's Anatomy, Edinburgh London CHURCHILL LIVINGSTONE

Atlases

- Darke RL, Vogl AW, Mitchell AWM, Tibbitts RM, Richardson PE (Çeviri ed. Prof. Dr. Sezgin İlgi, Prof. Dr. Mehmet Yıldırım. Gray's Anatomi Atlası. (2009) Güneş Tıp Kitapevleri Ankara
- Grant's Eleventh Edition (2005) Lippincott Williams & Wilkins
- Netter FH (Çeviri ed. Prof. Dr. Meserret Cumhur (2008) İnsan Anatomisi Atlası Nobel Tıp Kitapevleri Ankara
- İnsan Anatomisi Fotoğraflı Disseksiyon Atlası Türkçe Baskı Rohen / Yokochi / Lütjen – Drecoll Çeviri: Salih Murat Akkın
- Sobotta Anatomi Atlası A.Elhan (2006) Beta Basın Evi

3. **Mandatory or Optional Course:** This course is a mandatory course

4. **Teaching Staff**
   Dr. Can Pelin, MD Ph.D
   Dr. Ragıba Zağyapan, Ph.D
   Dr. Ayla Kürkçüoğlu MD PhD

5. **Length and Period:** 38 hours
   Tittles of the lectures are listed below

HOUR	**SUBJECT**
1,2	The Thoracic Wall
3-4	Lymphatic System
5	Mediastinum
6,7	Lab: "The Thoracic Wall"
8,9	The Heart and the Pericardium
10	Fetal Circulation
11-12	Lab: " The Heart and the Pericardium"
13,14	The Great Vessels and the Posterior Mediastinum
15	Clinical Anatomy
16-17	Anatomy of the Nose
18-19	Pharynx
20-21	Larynx
22-23	Lab: Nose and Larynx
24-25	Trachea and Lungs
26	Diaphragm
27-28	Lab: Trachea, Lungs and Diaphragm
29-30	The Root of the Neck
31-32	Anterior and Lateral Regions of the Neck
33-34	Lab: The Root of the Neck,The Occipital Region and Anterior and Lateral Regions of the Neck
35-36	Fossa Infratemporalis ve Fossa Pterygopalatina
37-38	Fossa Infratemporalis ve Pterygopalatina"Lab.

6. **Teching and Learning Methods:** The course consists of lectures with data and slide shows, laboratory lessons and cadaver dissections, practice on artificial modals and isolated organs, in class discussions, quizzes and reading assignments.

7. **Assessments:** Students are evaluated by laboratory examinations and, multiple choice examinations organize by the coordination office.

8. **Language:** The language of the course is Turkish

IDENTIFICATION OF THE COURSE:ENGLISH EDUCATION

The aim of English curriculum is to provide Baskent University, undergraduate and graduate students with a good command in English to follow the literature and endow them with written and oral communication skills. In the guidance of this objective, English education is implemented with emphasis on their field. Students are informed about weekly course load, code and credits during the registration period.

Term one: Provided English education is an integrated system. In addition to English grammar students follow a program that would improve their reading, writing, speaking and listening skills. Also they practice to improve their professional based vocabulary.

Term two: Each of the four basic skill is improved continuously. Within the writing skill program there is shift from term one sentence and paragraph construction level to academic writing. Speaking skill program helps to improve students academic communication skills through introductions, group discussions, case studies and brief presentations. In reading skill program students learn to transform written information to visual data (graphic, schematic, etc.) In addition to their basic skills that they have acquired in term one. In listening program, skills like receiving, responding, integrating and qualifying information and ability to take notes are given.

Term three: Capabilities that were delivered in the preceding terms are reinforced and profession based vocabulary level is expanded. In addition to reinforce four basic skills the students are taught to perform academic and professional translation techniques and to apply them in the classroom. In addition, they learn to evaluate medical reports, write operative and discharge notes and to write case reports.

Term four: In this term, exam taking techniques and strategies are taught and classroom applications are conducted using KPDS, UDS, MCAT and TUS question templates. Also, official document writing techniques are given.

Identification	**GASTROINTESTINAL SYSTEM AND METABOLISM (SUBJECT COMMITTEE-V)**
Level	Undergraduate, compulsory
ECTS Credits	**8**
Responsible lecturer	**Prof.Dr. Derya AKAYDIN ALDEMİR**
Prerequisite	None
Time course	**5 weeks (135 h; 100 + 35)**
Description	This course reviews the basic principles related to anatomy, histology-embryology, physiology and biochemistry of gastrointestinal system and metabolism
Objectives	The main objectives of the course are to familiarize students with with the morphology of the gastrointestinal system and to make them ready to understand their functions and to discuss the basic disorders related with anatomy, to describe the histological structure of digestive system and associated glands, to help students to understand to inform students about functions of digestive system including motility, secretion, digestion and absorption and also to enable students to comprehend the interaction between gastrointestinal system, endocrine system and nervous system, to explain digestion and absorption of basic biological molecules, their metabolisms, interrelationships of metabolism and inborn errors of metabolism.
Learnig outcomes	At the end of the course learner is expected: 1. To be able to discuss the morphological structures and the locations of the components of the gastrointestinal system, general structure of the abdominal wall and the abdominal cavity and to discus their disorders related with physioanatomy. To be able to explain the physiological properties of cardiovascular and respiratory systems and to discuss the interaction among them. 2. To be able to associate the functional interaction between gastrointestinal system, endocrine system and nervous system; to be able to describe mechanisms underlying gastrointestinal motor and secretory functions and to incorporate them into clinical skills in the future. 3. To be able to explain digestion and absorption of basic biological molecules, their metabolisms, interrelationships of metabolism and inborn errors of metabolism. 4. To be able to recognize and evaluate structural features of cells, tissues and organs belonging to digestive system and associated glands and their role in the human body, to distinguish the cells, tissues and organs of this system by self examination under light microscope and to presume and correlate the reasons of abnormal development of this system and the underlying mechanisms knowing the basic elements of normal development 5. To be able to interpret genetic approach of clinical and diagnostic implements of the diseases
Reference books	1. Taner D (2008) Fonksiyonel Anatomi: Ekstremiteler ve Sırt Bölgesi,

	Ankara: PALME 2. Snell RS (1998) Clinical Anatomy for Medical Students, Washington: Lippincot-Williams&Wilkins 3. Guyton, AC, Hall, JE (2006) Textbook of Medical Physiology, Pennsylvania:WB Saunders, Eleventh ed. 4. Ganong, WF (2003) Review of Medical Physiology, USA:Mc Graw Hill,Twentieth edition.– Conwey – Spector 5. Küehnel, Wolfgang. (2003). Color Atlas of Cytology, Histology, and Microscopic Anatomy. Stuttgart – New York: Thieme Verlack 6. Fawcett, Don W. (1994). A Textbook of Histology. New York – London: Chapman and Hall. Twelfh Edition 7. Voet D, Voet JG and Pratt CW 2006, Fundamentals of Biochemistry. Second Edition, John Wiley and Sons, USA. 8. Medical Biochemistry-Baynes and Dominiczak, 9. Textbook of Biochemistry with Clinical Correlations-Devlin, 10. Principles of Medical Biochemistry-Meisenberg 11. Nelson DL and Cox MM 2008, Lehninger Principles of Biochemistry. Fifth Edition, W.H. Freeman and Company, NY; USA. 12. Lewis R., 2001 “Human Genetics, Concepts and Applications” Mc Graw Hill New York.
Teaching methods	Class-lectures supported with multi-media techniques and the laboratory practice
Assessment methods	Subject Committee Examination (multiple choice test) (78 %) and Practical Examination (laboratory skills) (17 %) and Medical English Examination (% 5)
Language	Turkish

IDENTİFİCATİON OF THE COURSE: BIOCHEMISTRY

1. **Description:** Metabolism and its interrelationships**.**
2. **Level:**
   - **a. Prerequisite:** None.
   - **b. Objectives:** To familiarize digestion and absorption of basic biological molecules, their metabolisms, interrelationships of metabolism and inborn errors of metabolism.
   - **c. Learning Outcomes:** To understand the function and an importance of digestive system in biochemical approach and to clarify the metabolism concept including inborn error of metabolism.
   - **d. References:**

1. Bhagavan, N.V., 2002, Medical Biochemistry. Fourth Edition, Acedemic Press, NewYork, USA.
2. Devlin, T.M. 2006, Textbook of Biochemistry with Clinical Correlations. Sixth Edition, Wiley-Liss, Inc., New York, USA.

3. **The Status of the Course:** It is a compulsory course.
4. **Teaching Staff:** Prof. Dr. E. Suna Türkoğlu, Prof. Dr. Derya Akaydın Aldemir
5. **Period and Plan of the Course:** 36 hours (6h Lab). Topics to be covered are shown below:

Saat	**Konu**
1	Digestion: General Considerations
2,3	Absorption: Epithelial Transport
4	Digestion and absorption of proteins
5,6	Digestion and absorption of carbohydrates and lipids
7-10	Carbohydrates Metabolism
11-13	Lipid Metabolism
14-16	Lab : Analysis of Blood Glucose (3h)
17, 18	Amino Acid Metabolism
19-24	Metabolic Interrelationships
25	Inborn Errors of Metabolism
26-28	Lab : Methods of Protein Analysis (3h)
29-31	Metabolism and pH Regulation
32-33	Mechanisms of Detoxification
34-36	Metabolisms of Inorganic Compounds

6. **Teaching and Learning Methods:** The course will consist of lectures, class discussions, and reading assignments.
7. **Assessment:** The coordination office through test examinations evaluates students.
8. **The Language:** The language of the course is Turkish.

IDENTIFICATION OF THE COURSE: HISTOLOGY AND EMBRYOLOGY

1. **COURSE DESCRIPTION:** The course includes the development and histological structure of the digestive system with practical work.

2. **LEVEL OF THE COURSE**

a. Prerequisities of the course: None

b. Objectives of the course: To teach the histological structure of digestive system and associated glands theoretically and practically.

c. Learning outcomes of the course:

1) Be able to recognize and evaluate structural features of cells, tissues and organs belonging to digestive system and associated glands and their role in the human body
2) Be able to distinguish the cells, tissues and organs of this system by self examination under light microscope
3) Be able to presume and correlate the reasons of abnormal development of this system and the underlying mechanisms knowing the basic elements of normal development

d. References of the course:

1. Küehnel, Wolfgang. (2003). Color Atlas of Cytology, Histology, and Microscopic Anatomy. Stuttgart – New York: Thieme Verlack

2. Fawcett, Don W. (1994). A Textbook of Histology. New York – London: Chapman and Hall. Twelfh Edition

3. Gartner, Leslie P. (2006). Color Textbook of Histology. Philadhelphia – London: Lippincott Williams&Wilkins A Wolters Kluwer Company. Fourth Edition.

4. Ross, Michael H. (2003). Histology A Textbook and Atlas. Philadelphia: Williams and Wilkins. Fourth Edition.

5. Junqueria, Luis C. (2005). Basic Histology Text and Atlas. Philadelphia: McGraw-Hill Companies. Eleventh Edition.

6. Alberts, B. (2002). Molecular Biology of The Cell. New York: Garland Science. Fourth Edition.

7. Kierszenbaum Abraham L. (2006). Histoloji ve Hücre Biyolojisi: Patolojiye Giris" (Histology and Cell Biology: An Introduction to Pathology), Palme Yayıncılık.

8. Sadler, T.W. (2004) Langman's Medical Embryology. Baltimore – Maryland : Lippincott Williams&Wilkins. Ninth Edition

9. Ovalle William K. ,Nahirney Patrick C. , (2009) Netter Temel Histoloji (Netter's Essential Histology), Güneş Tıp Kitabevleri

10. Moore Keith L. ,Persaud T.V.N. (2009). Klinik Yönleriyle İnsan Embriyolojisi ,Nobel Tıp Kitapları

3. **STATUS OF THE COURSE (COMPULSORY/ELECTIVE)**

This course is a compulsory course

4. **NAME OF THE TEACHING STAFF OF THE COURSE**

Prof. Dr. Attila Dağdeviren, Dr. Nejmi Zağyapan, PhD

5. **THE PERIOD AND THE PLAN OF THE COURSE**

The course is a 18 hours course.

6. **TOPICS**

Hours	Topics
1, 2,3	Development and anomalies of the digestive system
4,5	Histology of the upper digestive system
6-8	Histology of the lower digestive system
9, 10	Lab: “Histology of the upper digestive system”
11, 12	Lab: “Histology of the lower digestive system”
13, 14	Histology of the liver
15, 16	Histology of the gall bladder and pancreas
17, 18	Lab: “ Liver, gall bladder, pancreas”

7. **TEACHING AND LEARNING METHODS OF THE COURSE:** Multimedia visual aid supported class lectures and light microscopic supervised self-examination of histological slides
8. **ASSESSMENT METHOD AND THE GRADING OF THE COURSE:** The coordination office through test examinations evaluates students. Practical examination on microscopic slides.
9. **LANGUAGE OF INSTRUCTION:** Turkish

IDENTIFICATION OF THE COURSE: PHYSIOLOGY

1. **Description:** This course reviews basic themes and major issues in digestive physiology and metabolism based on the interaction between gastrointestinal system, endocrine system and nervous system. After a brief overview concerning gastrointestinal functional regulation, fundamental functions of digestive system including motility, secretion, digestion and absorption are discussed in line with basic principles concerning vitamins and minerals and regulation of basal metabolic rate and body temperature.

2. **Level:**
   a. **Prerequisite:** None
   b. **Objectives:** This course aims to inform students about functions of digestive system including motility, secretion, digestion and absorption and also to enable students to comprehend the interaction between gastrointestinal system, endocrine system and nervous system
   c. **Learning outcomes:** At the end of the course learner is expected to be able to associate the functional interaction between gastrointestinal system, endocrine system and nervous system; to be able to describe mechanisms underlying gastrointestinal motor and secretory functions and to incorporate them into clinical skills in the future.

   d. References:

Johnson, LR, (2001) Gastrointestinal Physiology, 6th Ed. Mosby Inc. Missouri, USA.
Guyton, AC, Hall, JE (2006) Textbook of Medical Physiology, Pennsylvania:WB Saunders, Eleventh ed.
Ganong, WF (2003) Review of Medical Physiology, USA:Mc Graw Hill, Twentieth edition.
Berne, RM, Levy, MN (2004) Principles of Physiology, Missouri:Mosby, Inc. Fifth ed.
Vander, A, Sherman, J, Luciano, D (2001) Physiology-The Mechanisms of Body Function. New York: Von Hoffmann press, Eight edition.
Costanzo, LS (2002) Physiology, Pennsylvania: Saunders, Second Ed.
Sherwood, L (1995) Fundamentals of Physiology: A Human Perspective, 2nd Ed. West Publishing Co. USA.
Silverthorn, DU (2001) Human Physiology: An Integrated Approach, 2nd Ed. Prentice Hall Int. New Jersey, USA

3. **Mandatory or optional course units:** It is a mandatory course.

4. **Teaching staff:** Prof. Dr. Nimet Ünay Gündoğan MD
   Assoc. Prof. Dr. Tugrul Cabıoglu MD.
   Dr. Leyla Aydın MD, PhD
   Dr. A. Şebnem İlhan, PhD

5. **Length and Period:** 25 hours; topics to be covered are shown below:

Hours	Topics
1,2	Gastrointestinal Functional Regulation
3	Chewing and Swallowing
4	Gastric Motility
5	Motility of Small Intestine and Colon
6	Saliva Secretion
7	Gastric Secretion
8	Small Intestine and Colon Secretion
9	Panreatic Secretion
10	Bile Secretion
11	Digestion
12	Absorption
13	Intestinal Fluid-Electrolyte Transport
14	Physiologic Role of Vitamins and trace Elements
15	Regulation of Body Temperature
16-17	Basal Metabolic Rate, Energy Balance, Hunger and Satiety
18-21	Laboratory: Gastrointestinal Digestion-I
22-25	Laboratory: Gastrointestinal Digestion-II

6. **Teaching and learning methods:** The course will consist of lectures, class discussions and laboratory applications.

7. **Assessments:** The coordination office through test examinations evaluates students.

8. **The language:** The language of the course is Turkish.

IDENTIFICATION OF THE COURSE: MEDICAL GENETICS

1. Description: After the completion of this lecture, students will have the knowledge of molecular genetics mechanisms of metabolic disorders.

2. Level:

a. **Prerequisite:** None
b. **Objective:** The objective of the course is to give a brief overview on the basic concepts of the metabolic disorders.
c. **Learning outcomes:** We believe that this lecture will be help student in earning to talent in interpreting in genetic approach of clinical and diagnostic implements of the diseases.
d. References:

1. Lewis R., 2001 "Human Genetics, Concepts and Applications" Mc Graw Hill New York.
2. Nussbaum RL, McInnes RR, Willard HF, Thompson MW (2007) Thompson & Thompson genetics in medicine, 7th Edition. Philadelphia: Saunders/Elsevier.

3. Compulsory or electively course units: It is a compulsory course.

4. Teaching staff: Prof. Dr. Feride İffet Şahin

5. Length and period: 2 hours in this committee:

Hours	Topics
1-2	Hereditary Metabolic Diseases

6. Teaching and learning methods: The course will consist of lectures and class discussions.

7. Assessment: The coordination office through test examinations evaluates students.

8. The language: The language of the course is Turkish.

IDENTIFICATION OF THE COURSE: ANATOMY

1. **Description:** The course reviews the morphology of the gastrointestinal tract and secondary digestive organs, their localizations in the human body, relations with the other structures, innervations, vessels and lymphatic drainage on a functional base. Muscular structure and the topography of the posterior ant anterior abdominal walls and some basic lesions such as inguinal, femoral or umbilical hernias will also be discussed during the course.
2. **Level**
   a. **Prerequisite:** None
   b. **Objectives:** To familiarize the students with the morphology of the gastrointestinal system and to make them ready to understand their functions and to discuss the basic disorders related with anatomy.
   c. **Learning outcomes:** At the end of the course the students should be able to discus the morphological structures and the locations of the components of the gastrointestinal system, general structure of the abdominal wall and the abdominal cavity and to discus their disorders related with physioanatomy.
   d. **References**

Textbooks

- Sancak B, Cumhur M (2008) Fonksiyonel Anatomi: Baş-Boyun ve İç Organlar, Ankara: METU PRESS
- Ozan H (2004) Anatomi, Ankara NOBEL
- Snell RS (1998) Clinical Anatomy for Medical Students, Washington: LIPPINCOT-WILLIAMS&WILKINS
- Moore KL (1999) Clinically Oriented Anatomy, Baltimore WILLIAMS & WILKINS
- Clancy J, McVicar AJ (2002) Physiology & Anatomy: A Homeostatic Approach, London ARNOLD
- Carpenter MB (1976) Human Neuroanatomy, Baltimore THE WILLIAMS & WILKINS COMPANY
- Wiliams PL, Warwick R, Dyson M, Bannister LH (1989) Gray's Anatomy, Edinburgh London CHURCHILL LIVINGSTONE

Atlases

- Darke RL, Vogl AW, Mitchell AWM, Tibbitts RM, Richardson PE (Çeviri ed. Prof. Dr. Sezgin İlgi, Prof. Dr. Mehmet Yıldırım. Gray's Anatomi Atlası. (2009) Güneş Tıp Kitapevleri Ankara
- Grant's Eleventh Edition (2005) Lippincott Williams & Wilkins
- Netter FH (Çeviri ed. Prof. Dr. Meserret Cumhur (2008) İnsan Anatomisi Atlası Nobel Tıp Kitapevleri Ankara
- İnsan Anatomisi Fotoğraflı Disseksiyon Atlası Türkçe Baskı Rohen / Yokochi / Lütjen – Drecoll Çeviri: Salih Murat Akkın
- Sobotta Anatomi Atlası A.Elhan (2006) Beta Basın Evi

3. **Mandatory Or Optional Course:** This course is a mandatory course

4. **Teaching Staff**

Dr. Can Pelin, MD Ph.D
Dr. Ragıba Zağyapan, Ph.D
Dr. Ayla Kürkçüoğlu MD PhD

5. **Length And Period:** 33 hours

The tittles of the lectures are listed below

HOUR	SUBJECT
1-2	Anatomy of the Mouth
3	Temporal and Parotid Regions
4	Temporomandibular Joint and Digestive Muscles
5-6	Lab: Anatomy of the Mouth and Digestive Muscles
7	Topography of the Abdomen
8	The Anterior Abdominal Wall
9-10	Inguinal Canal
11-12	Lab:The Anterior Abdominal Wall
13-14	The Peritoneum, the Lesser and Greater Omenta and the Omental Bursa
15-16	The Esophagus and the Stomach
17	The Duodenum
18	The Jejunum and Ileum
19-20	The Large Intestines
21-22	The Liver and the Biliary Ducts
23-24	Lab: The Esophagus, The Stomach, The Small and The Large Intestine
25	Pancreas and the Spleen
26-27	Lab: The Liver, Pancreas and the Spleen
28-29	The Arteries of the Digestive System
30	The Posterior Abdominal Wall and the Great Vessels
31	The Portal System
32-33	Lab: the Great Vessels and the Nerves of the Digestive System and The Posterior Abdominal Wall

6. **Teaching and Learning Methods**

The course consists of lectures with data and slide shows, laboratory lessons and cadaver dissections, practice on artificial modals and isolated organs, in class discussions, quizzes and reading assignments.

7. **Assesments**: Students are evaluated by laboratory examinations and, multiple choice examinations organize by the coordination office.

8. **Language:** The language of the course is Turkish

IDENTIFICATION OF THE COURSE: ENGLISH EDUCATION

The aim of English curriculum is to provide Baskent University, undergraduate and graduate students with a good command in English to follow the literature and endow them with written and oral communication skills. In the guidance of this objective, English education is implemented with emphasis on their field. Students are informed about weekly course load, code and credits during the registration period.

Term one: Provided English education is an integrated system. In addition to English grammar students follow a program that would improve their reading, writing, speaking and listening skills. Also they practice to improve their professional based vocabulary.

Term two: Each of the four basic skill is improved continuously. Within the writing skill program there is shift from term one sentence and paragraph construction level to academic writing. Speaking skill program helps to improve students academic communication skills through introductions, group discussions, case studies and brief presentations. In reading skill program students learn to transform written information to visual data (graphic, schematic, etc.) In addition to their basic skills that they have acquired in term one. In listening program, skills like receiving, responding, integrating and qualifying information and ability to take notes are given.

Term three: Capabilities that were delivered in the preceding terms are reinforced and profession based vocabulary level is expanded. In addition to reinforce four basic skills the students are taught to perform academic and professional translation techniques and to apply them in the classroom. In addition, they learn to evaluate medical reports, write operative and discharge notes and to write case reports.

Term four: In this term, exam taking techniques and strategies are taught and classroom applications are conducted using KPDS, UDS, MCAT and TUS question templates. Also, official document writing techniques are given.

Identification	**UROGENITAL SYSTEM (SUBJECT COMMITTEE-VI)**
Level	Undergraduate, compulsory
ECTS Credits	**5.5**
Responsible lecturer	**Prof. Dr. Nimet Ünay GÜNDOĞAN** **Dr. A.Şebnem İLHAN, P.Hd**
Prerequisite	None
Time course	**4 weeks (85 h; 61+24)**
Description	This course reviews the basic principles related to anatomy, histology-embryology, physiology and biochemistry of urogenital system
Objectives	The main objectives of the course are to familiarize students with the morphology of urogenital organs and endocrine glands and to make the students ready to understand their functions and diseases easily, to help students to understand the basic concepts and approaches in reproductive system physiology including experimental study in the light of the theoretical framework, to teach the urinary and reproductive systems with their development and histological structure and to explain the evaluation of excretory mechanisms
Learnig outcomes	At the end of the course learner is expected: 1. To be able to discuss the morphological structure an the locations of the components of the urogenital systems, pelvic wall and pelvic cavity and to discuss their disorders related with physioanatomy 2. To be able to explain renal excretory and endocrine functions 3. To be able to describe the biochemical evaluation of renal functions 4. To be able to recognize and evaluate structural features of cells, tissues and organs belonging to urogential system and their role in the human body, to distinguish the cells, tissues and organs of this system by self examination under light microscope and to be able to presume and correlate the reasons of abnormal development of these systems and the underlying mechanisms knowing the basic elements of normal development
Reference books	1.Guyton, AC, Hall, JE (2006) Textbook of Medical Physiology, Pennsylvania: WB Saunders, 11th ed. 2. Ganong, WF (2003) Review of Medical Physiology, USA: Mc Graw Hill, Twenty-first edition. 3.Berne, RM, Levy, MN (2000) Principles of Physiology, Missouri:Mosby, Inc. Third ed. 4. Costanzo, LS (2002) Physiology, Pennsylvania: Saunders, Second Ed. 5. Yiğit R. İ.Ü. İstanbul Tıp Fakültesi Temel ve Klinik Bilimler Ders Kitapları; Genel Fizyoloji, Kardiyopulmoner ve Kan Fizyolojisi, Kontrol Sistemleri, Sindirim ve Boşaltım Fizyolojisi. (2001) 6. Clinical Anatomy, Snell 7. Taner D (2008) Fonksiyonel Anatomi: Ekstremiteler ve Sırt Bölgesi, Ankara: PALME 8. Snell RS (1998) Clinical Anatomy for Medical Students, Washington: Lippincot-Williams&Wilkins 9. Biyokimya, Montgomery – Conwey – Spector

	10. Voet D, Voet JG and Pratt CW 2006, Fundamentals of Biochemistry. Second Edition, John Wiley and Sons, USA. 11. Nelson DL and Cox MM 2008, Lehninger Principles of Biochemistry. Fifth Edition, W.H. Freeman and Company, NY; USA. 12. Histology: A Text and Atlas, Ross – Kaye - Pawlina 13. Küehnel, Wolfgang. (2003). Color Atlas of Cytology, Histology, and Microscopic Anatomy. Stuttgart – New York: Thieme Verlack 14. Fawcett, Don W. (1994). A Textbook of Histology. New York – London: Chapman and Hall. Twelfh Edition
Teaching methods	Class-lectures supported with multi-media techniques and the laboratory practice
Assessment methods	Committee theorical examination (%75) Practical/ laboratory examination (%20) Occupational English examination (%5)
Language	Turkish

IDENTIFICATION OF THE COURSE : BIOCHEMISTRY

1. Description: In this committee, the course deals with biochemical evaluation of kidney function and metabolism of hormones.

2. Level:

a. Prerequisite: None.

b. Objectives: To familiarize the evaluation of excretory mechanisms and general hormone concept including mechanisms of action and to discuss the tissue specific metabolism.

c. Learning Outcomes: To understand kidney function in biochemical point of view and to clarify the metabolism of hormones.

d. References:

1. Bhagavan, N.V., 2002, Medical Biochemistry. Fourth Edition, Acedemic Press, NewYork, USA.

2. Devlin, T.M. 2006, Textbook of Biochemistry with Clinical Correlations. Sixth Edition, Wiley-Liss, Inc., New York, USA.

3. Murray, R.K., Granner, D.K., Mayes, P.A. and Rodwell, V.W. 2000, Harper's Biochemistry. 25th Edition, Appleton and Lange, Stamford, Connecticut.

4. Nussey, S.S. and Whitehead, S.A., 2002, Endocrinology: An Integrated Approach. BIOS ScientificPublishers Limited, Oxford, UK.

3. The Status of the Course: It is a compulsory course.

4. Teaching Staff: Prof. Dr. E. Suna Türkoğlu, Prof. Dr. Derya Aldemir

5. Period and Plan of the Course: 12 hours (6h lab). Topics to be covered are shown below:

Hour	**Topic**
1, 2	Excretory Mechanisms
3 -5	Lab: Urinalysis (3 h)
6 – 8	Lab: Renal Function Tests (3 h)
9,10	Hormones of the Gonads
11,12	Metabolism of Placental Hormones

6. Teaching and learning methods: The course will consist of lectures, class discussions, and reading assignments.

7. Assessment: The coordination office through test examinations evaluates students.

8. The language: The language of the course is Turkish.

IDENTIFICATION OF THE COURSE : HISTOLOGY AND EMBRYOLOGY

1. **COURSE DESCRIPTION:** The course reviews histology and development of urinary and reproductive system, . Course also includes 10 hours of practical work for microscopic structures of organs.

2. **LEVEL OF THE COURSE**
   a. **Prerequisities of the course:** None
   b. **Objectives of the course:** To teach the urinary and reproductive systems with their development and histological structure.
   c. **Learning outcomes of the course:**
      1) Be able to recognize and evaluate structural features of cells, tissues and organs belonging urogential system and their role in the human body
      2) Be able to distinguish the cells, tissues and organs of this system by self examination under light microscope
      3) Be able to presume and correlate the reasons of abnormal development of these systems and the underlying mechanisms knowing the basic elements of normal development
   d. **References of the course:**

1. Küehnel, Wolfgang. (2003). Color Atlas of Cytology, Histology, and Microscopic Anatomy. Stuttgart – New York: Thieme Verlack
2. Fawcett, Don W. (1994). A Textbook of Histology. New York – London: Chapman and Hall. Twelfh Edition
3. Gartner, Leslie P. (2006). Color Textbook of Histology. Philadhelphia – London: Lippincott Williams&Wilkins A Wolters Kluwer Company. Fourth Edition.
4. Ross, Michael H. (2003). Histology A Textbook and Atlas. Philadelphia: Williams and Wilkins. Fourth Edition.
5. Junqueria, Luis C. (2005). Basic Histology Text and Atlas. Philadelphia: McGraw-Hill Companies. Eleventh Edition.
6. Alberts, B. (2002). Molecular Biology of The Cell. New York: Garland Science. Fourth Edition.
7. Kierszenbaum Abraham L. (2006). Histoloji ve Hücre Biyolojisi: Patolojiye Giris" (Histology and Cell Biology: An Introduction to Pathology), Palme Yayıncılık.
8. Sadler, T.W. (2004) Langman's Medical Embryology. Baltimore – Maryland : Lippincott Williams&Wilkins. Ninth Edition
9. Ovalle William K. ,Nahirney Patrick C. , (2009) Netter Temel Histoloji (Netter's Essential Histology), Güneş Tıp Kitabevleri
10. Moore Keith L. ,Persaud T.V.N. (2009). Klinik Yönleriyle İnsan Embriyolojisi ,Nobel Tıp Kitapları

3. STATUS OF THE COURSE (COMPULSORY/ELECTIVE)

This course is a compulsory course

4. NAME OF THE TEACHING STAFF OF THE COURSE

Prof. Dr. Attila Dağdeviren, Dr. Nejmi Zağyapan, Dr. Fatma Helvacıoğlu

5. THE PERIOD AND THE PLAN OF THE COURSE

The course is a 20 hours course.

TOPICS

Hours	Topics
1, 2,	Development of the urinary system
3,4	Histology of the kidney
5,6	Histology of the urinary tract
7,8	Practice of the urinary system
9,10	Development of the genital system
11,12	Histology of the male reproductive system
13,14	Practice of the male reproductive system
15,16	Histology of the female reproductive system
17,18	Practice of the female reproductive system

6. **TEACHING AND LEARNING METHODS OF THE COURSE:** Multimedia visual aid supported class lectures and light microscopic supervised self-examination of histological slides

7. **ASSESSMENT METHOD AND THE GRADING OF THE COURSE:** Within the subject committee examination (multiple choice test) and practical examination on microscopic slides

8. **LANGUAGE OF INSTRUCTION:** Turkish

IDENTIFICATION OF THE COURSE : PYSIOLOGY

1. **Description:** This course reviews basic themes and detailed mechanisms in reproductive system physiology. After a brief overview of the course, we will examine a number of theoretical and substantive issues in the area of

2. **Level:**
    a. **Prerequisite:** None
    b. **Objectives:** The first objective of the course is to familiarize students with the basic concepts and approaches in reproductive system physiology. The second objective is to help students to understand experimental study in the light of the theoretical framework mentioned above. It is believed that this experience will be helpful for the students during their career. The final exam will cover all topics.
    c. **Learning outcomes:** At the end of the course learner is expected to be able to discuss the renal excretory functions and basic principles and physiological regulation of the reproductive endocrinology.
    d. **References:**

Textbooks

Guyton, AC, Hall, JE (2006) Textbook of Medical Physiology, Pennsylvania:WB Saunders, Eleventh ed.

Ganong, WF (2003) Review of Medical Physiology, USA:Mc Graw Hill,Twentieth edition.

Berne, RM, Levy, MN (2004) Principles of Physiology, Missouri:Mosby, Inc. Fifth ed.

Vander, A, Sherman, J, Luciano, D (2001) Physiology-The Mechanisms of Body Function. New York:Von Hoffmann press, Eight edition.

Costanzo, LS (2002) Physiology, Pennsylvania: Saunders, Second Ed.

Sherwood, L (1995) Fundamentals of Physiology: A Human Perspective, 2nd Ed. West Publishing Co. USA.

Silverthorn, DU (2001) Human Physiology: An Integrated Approach, 2nd Ed. Prentice Hall Int. New Jersey, USA.

    e. Molina PE (2004) Endocrine Physiology, Lange Physiology series. USA:Mc Graw Hill. First ed.

Greenspan, FS, Baxter, JD (1994) Basic&Clinical Endocrinology, 4th Ed. Appleton-Lange Medical Boks, Connecticut, USA.

3. **Mandatory or optional course units:** It is a mandatory course.

4. **Teaching staff:** Prof. Dr. Nimet Ünay Gündoğan MD, Assoc. Prof. Dr. Tuğrul Cabıoğlu MD, Ph.D. Faculty of Medicine.

5. **Length and Period:** 24 hours; topics to be covered are shown below:

Hours	Topics
1, 2	INTRODUCTION TO URINARY SYSTEM AND RENAL CIRCULATION
3, 4	FUNCTIONS OF RENAL GLOMERULUS
5, 6	REABSORBTION AND SECRETION IN RENAL TUBULI
7, 8	AUTOREGULATION OF GLOMERULAR FILTRATION RATE
9, 10	CLEARANCE
11, 12	CONCENTRATION AND DILUTION OF URINE
13, 14	MICTURATION
15, 16	ACID-BASE BALANCE
17	DISCUSSION
18,19,20	Laboratory: URINARY PHYSIOLOGY
21	PHYSIOLOGY OF GONADOTROPHIC HORMONES
22	PHYSIOLOGY OF MALE GENITAL HORMONES
23,24	PHYSIOLOGY OF FEMALE GENITAL HORMONES

6. **Teaching and learning methods:** The course will consist of lectures, class discussions and laboratory applications.

7. **Assessments:** The coordination office through test examinations evaluates students.

8. **The language:** The language of the course is Turkish.

IDENTIFICATION OF THE COURSE : ANATOMY

1. **Description:** The course reviews the morphology of the urinary organs, male and female reproductive organs on a physiological base. Not only their structure but their localization in the human body, innervations, vessels, lymphatic drainage and some variations will be studied as well. In addition the structure of pelvic region, the differences between male and female pelvis and perineum will be identified.

2. **Level**

a. Prerequisite: None

b. Objectives: To familiarize the students with the morphology urogenital organs and to make the students ready to understand their functions and diseases easily.

c. Learning outcomes: At the and of the course the students are expected to discuss the morphological structure an the locations of the components of the urogenital systems, pelvic wall and pelvic cavity and to discus their disorders related with physioanatomy.

d. References

Textbooks

- Sancak B, Cumhur M (2008) Fonksiyonel Anatomi: Baş-Boyun ve İç Organlar, Ankara: METU PRESS
- Ozan H (2004) Anatomi, Ankara NOBEL
- Snell RS (1998) Clinical Anatomy for Medical Students, Washington: LIPPINCOT-WILLIAMS&WILKINS
- Moore KL (1999) Clinically Oriented Anatomy, Baltimore WILLIAMS & WILKINS
- Waxman SG (2002) Correlative Neuroanatomy. Lange Medical Books
- Clancy J, McVicar AJ (2002) Physiology & Anatomy: A Homeostatic Approach, London ARNOLD
- Wiliams PL, Warwick R, Dyson M, Bannister LH (1989) Gray's Anatomy, Edinburgh London CHURCHILL LIVINGSTONE

Atlases

- Darke RL, Vogl AW, Mitchell AWM, Tibbitts RM, Richardson PE (Çeviri ed. Prof. Dr. Sezgin İlgi, Prof. Dr. Mehmet Yıldırım. Gray's Anatomi Atlası. (2009) Güneş Tıp Kitapevleri Ankara
- Grant's Eleventh Edition (2005) Lippincott Williams & Wilkins
- Netter FH (Çeviri ed. Prof. Dr. Meserret Cumhur (2008) İnsan Anatomisi Atlası Nobel Tıp Kitapevleri Ankara
- İnsan Anatomisi Fotoğraflı Disseksiyon Atlası Türkçe Baskı Rohen / Yokochi / Lütjen – Drecoll Çeviri: Salih Murat Akkın
- Sobotta Anatomi Atlası A.Elhan (2006) Beta Basın Evi

3. **Mandatory or Optional Course:** This course is a mandatory course

4. **Teaching Staff**

Dr. Can Pelin, MD Ph.D
Dr. Ragıba Zağyapan, Ph.D
Dr. Ayla Kürkçüoğlu MD PhD

5. **Length and Period:** 17 hours

The tittles of the lectures are listed below

HOUR	SUBJECT
1-2	The Kidneys and the Ureters
3-4	The urinary bladder and the urethra
5-6	Lab: The Kidneys , the Ureters,the Urinary Bladder and the Urethra
7	The Pelvis
8	The Perineum
9-10	Male Genital Organs
11	Lab: "Male Genital Organs"
12 – 13	Female Genital Organs
14	Lab: "Female Genital Organs"
15 – 16	The Internal Iliac Artery and the Pudental Plexus
17	Lab: "The Internal Iliac Artery and the Pudental Plexus"

6. Teching and Learning Methods

The course consists of lectures with data and slide shows, laboratory lessons and cadaver dissections, practice on artificial modals and isolated organs, in class discussions, quizzes and reading assignments.

7. Assessments: Students are evaluated by laboratory examinations and, multiple choice examinations organize by the coordination office.

8. Language: The language of the course is Turkish

IDENTIFICATION OF THE COURSE : ENGLISH EDUCATION

The aim of English curriculum is to provide Baskent University, undergraduate and graduate students with a good command in English to follow the literature and endow them with written and oral communication skills. In the guidance of this objective, English education is implemented with emphasis on their field. Students are informed about weekly course load, code and credits during the registration period.

Term one: Provided English education is an integrated system. In addition to English grammar students follow a program that would improve their reading, writing, speaking and listening skills. Also they practice to improve their professional based vocabulary.

Term two: Each of the four basic skill is improved continuously. Within the writing skill program there is shift from term one sentence and paragraph construction level to academic writing. Speaking skill program helps to improve students academic communication skills through introductions, group discussions, case studies and brief presentations. In reading skill program students learn to transform written information to visual data (graphic, schematic, etc.) In addition to their basic skills that they have acquired in term one. In listening program, skills like receiving, responding, integrating and qualifying information and ability to take notes are given.

Term three: Capabilities that were delivered in the preceding terms are reinforced and profession based vocabulary level is expanded. In addition to reinforce four basic skills the students are taught to perform academic and professional translation techniques and to apply them in the classroom. In addition, they learn to evaluate medical reports, write operative and discharge notes and to write case reports.

Term four: In this term, exam taking techniques and strategies are taught and classroom applications are conducted using KPDS, UDS, MCAT and TUS question templates. Also, official document writing techniques are given.

Identification	**BIOLOGICAL BASIS OF DISEASES**
Level	**Undergraduate, compulsory**
ECTS Credits	**6**
Responsible lecturer	**Dr. Ebru EVREN**
Prerequisite	**None**
Time course	**5 weeks (107 hours; 103+4)**
Description	This course reviews the basic principles of infection and immunity, mycology and parasitology, and the major receptor molecules, pharmacokinetics, pharmacodynamics, and drug-drug interactions and adverse and toxic effects of drugs, specific immune system responses and pathologic basis of diseases. Patient-Physician Communication Course is introduced.
Objectives	The main objectives of the course are to familiarize students with the basic pharmacological concepts and autocoid pharmacology, to inform students about pathogenesis of infection disease and immune response to etiologic agents, structural and functional attributes of parasites and their potential to produce infectious disease, to gain experience in microbiology laboratory procedures, fungal and parasitologic examination and to describe the basic concepts and nomenclature in the cellular pathology and hemodynamic disorders to help them to develop an understanding of the major organ pathologies using immunologic, molecular and pathophysiologic mechanisms.
Learnig outcomes	At the end of the course learner is expected: 1. To be able to describe the basic principles of pharmacology with pharmacokinetic and pharmacodynamic aspects, to explain the pharmaceutical forms and administration routes of drugs, the mechanisms and principle management strategies for drug intoxication, 2. To describe the new drug development strategies and basic pirinciples in autocoid pharmacology, 3. To be able to discuss how infection agents cause diseases and to be able to align parasites and fungal agents which infect human, 4. To be able to understand general pathogenesis and morphology of cellular pathology and hemodynamic disorders.
Reference books	1. Kayaalp, S.O. 2005. Rasyonel Tedavi Yönünden Tıbbi Farmakoloji, 11th Edition, Hacettepe-Taş Kitapçılık Ltd. Şti., Ankara, Türkiye. 2. Kayaalp, S.O. 2007. Klinik Farmakolojinin Esasları ve Temel Düzenlemeler, 4th Edition, Pelikan Yayıncılık. 3. Brooks GF, Butel JS, Morse SA (2008) “Jawetz, Melnick, & Adelberg’s Medical Microbiology”, Twenty-fourth edition, McGraw-Hill Companies inc., USA 4. Murray PR, Rosenthal KS, Kobayashi GS, Pfaller MA (2002) “Medical Microbiology”, Fourth edition, Mosby Inc, Missouri USA 5. Roitt I, Brotoff J, Male D (2005) “Immunology” Seventh edition, Mosby Inc, Missouri USA 6. Parslow TG, Stites DP, Terr AI, Imboden JB (2001) “Medical Immunology” Tenth edition, McGraw-Hill Companies inc., USA

	7. Pathologic Basis of Disease; Eds. Cotran R.S., Kumar V.K., Collins T., Sixth Edition, W. B. Saunders Company, 1999 8. Histology for Pathologist; Ed. Sternberg S. S., First Edition, Raven Press, New York, 1992
Teaching methods	Class-lectures supported with multi-media techniques and the laboratory practice
Assessment methods	Subject committee examination (multiple choice test) and practical examination (laboratory skills)
Language	Turkish

IDENTIFICATIONOF THE COURSE: MICROBIOLOGY

1. DESCRIPTION: This course reviews basic principles of mycology and parasitology. The first part of the course covers important pathogens and diseases of humans including protozoa, helmints and arthropodes. The second part of the course included all the pathogen fungus that related human diseases in systematic order. Microbiological laboratory diagnosis will be practiced with experimental study to reinforce theoretical knowledge.

2. LEVEL:

a. **Prerequisite:** TIP 128

b. **Objectives:** The aim of this course to explain the structural and functional attributes of parasites and fungi, their potential to produce infectious disease. Practical exercises will be expert students in microbiological laboratory diagnoses.

c. **Learning outcomes**: Students will learn how fungal infection agents make disease and all parasites which infect human.

d. **References**

Textbooks

Brooks GF, Butel JS, Morse SA (2008) "Jawetz, Melnick, & Adelberg's Medical Microbiology", Twenty-fourth edition, McGraw-Hill Companies inc., USA

Murray PR, Rosenthal KS, Kobayashi GS, Pfaller MA (2002) "Medical Microbiology", Fourth edition, Mosby Inc, Missouri USA

Topçu AW, Söyletir G, Doğanay M (2002) "İnfeksiyon Hastalıkları ve Mikrobiyolojisi" Cilt1-2, Nobel Matbaacılık. Türkiye.,

Murray PR, Baron EJ, Pfaller MA Tenover FC, Yolk RH (2008) "Manual of Clinical Microbiology", 9.th edition, ASM Pres, Washington, USA

Mims C, Dockrell, Goering RV, Roitt I, Wakelin D, Zuckerman M (2004) "Medical Microbiology" Third edition, Mosby Inc, Missouri USA

Forbes BA, Sahm DF, Weissfeld AS (2007) "Bailey and Scott's Diagnostic Microbiology" 13.th Edition, Mosby Inc, Missouri USA

Supplementary Reading List

http://www.med.sc.edu:85/book/welcome.htm
http://gsbs.utmb.edu/microbook/toc.htm

3. COMPULSORY OR ELELCTİVEL COURSE

This course is a compulsory course.

4. TEACHING STAFF

Prof.Dr. J.Sedef GÖÇMEN
Assoc.Prof. Dr. Müge Demirbilek EKİCİ
Dr. Ebru EVREN

5. LENGTH AND PERIOD

This course consists of 28 hours. Topics to be covered are as shown below;

Hours	Topics
1, 7	Protozoa infections
8,13	Helminth infections
14.15	Arthropodes
16,17	Laboratory practice
18	Enviromental microbiology
19,20	Superficial and cutaneous mycoses
21	Subcutaneous mycoses
22,23	Systemic mycoses
24,25,26	Opportunistic mycoses
27,28	Laboratory practice

6. TEACHING AND LEARNING METHODS

The course will consist of lectures; laboratory courses and class discussions.

7. ASSESMENT

The coordination office through test examinations evaluates students. Also laboratory practical examinations constructed.

8. LANGUAGE: The language of course is Turkish.

IDENTIFICATIONOF THE COURSE: IMMUNOLOGY

1. COURSE DESCRIPTION: This lecture is first to describe the building blocks of the immune system-cells, organs and the major receptor molecules, including antibodies, T cell receptors and MHC molecules. Following to deal with the initiation of the immune response, leading from antigen presentation and stimulation, through cell activation pathways to the action of cytokines. Activation of cellular response and antibody production and cyto-toxic response will be discussed.

2. LEVEL:

a. Prerequisities: none

b. Objectives: The aim of this lecture is to describe the general aspects of immune system and to discuss the response of immune system to antigen which entry and the relation of the diseases ant immune regulation mechanisms.

c. **Learning outcomes:** Students will learn outcome of immune system organization.

d. References

Textbooks

Roitt I, Brotoff J, Male D (2005) "Immunology" Seventh edition, Mosby Inc, Missouri USA

Parslow TG, Stites DP, Terr AI, Imboden JB (2001) "Medical Immunology" Tenth edition, McGraw-Hill Companies inc., USA

Supplementary Reading List

http://www.med.sc.edu:85/book/welcome.htm

3. COMPULSORY OR ELECTİVEL COURSE

This course is a compulsory course

4. TEACHING STAFF

Assoc.Prof. Dr. Müge Demirbilek EKİCİ
Dr. Ebru EVREN

5. LENGTH AND PERIOD

This course consists of 18 hours. Topics to be covered are as shown below;

Hours	Topics
1,2	Introduction to immune system. Cells, tissues and organs of imuune system
3	Innate immunity
4	Antigen
5	Antibody

6	Complement
7,8	MHC Molecules: Structure and Function of Antigen Processing and Presentation
9	Cytokines
10	Inflammation
11,12	Cellular and humoral immunity
13	Vaccines
14,15,16	Hypersensitivity reactions
17,18	Serological tests

6. TEACHING AND LEARNING METHODS

The course will consist of lectures; presentations and class discussions.

7. ASSESMENT

The coordination office through test examinations evaluates students.

8. LANGUAGE: The language of course is Turkish.

IDENTIFICATIONOF THE COURSE: PATHOLOGY

1. **DESCRIPTION**
   This course deals with pathologic basis of cardiovascular and lung diseases as well as immunulogic and molecular and pathophysiologic mechanisms of diseases.

2. **LEVEL**
   a. **Prerequisite:** None

   b. **Objectives**: The objective of the course is to familiarize students with the basic concepts and nomenclature in the cellular pathology and hemodynamic disorders and to help them to develop an understanding of the major organ pathologies using immunologic, molecular and pathophysiologic mechanisms.

   c. **Learning of outcomes:** At the end of the course, the student is expected to be able to understand general pathogenesis and morphology of cellular pathology and hemodynamic disorders.

   d. **References:**
      1. Pathologic Basis of Disease; Eds. Cotran R.S., Kumar V.K., Collins T., Sixth Edition, W. B. Saunders Company, 1999
      2. Histology for Pathologist; Ed. Sternberg S. S., First Edition, Raven Press, New York, 1992

3. **MANDATORY OR OPTIONAL COURSE**
   This course is a mandatory course.

4. **TEACHING STAFF**
   Assoc. Prof. Dr. Nihan Haberal Reyhan
   Dr. Şebnem Ayva
   Dr. Eylem Akar

LENGTH AND PERIOD
This course includes 10 hours of lectures. Topics to be covered are as follows:

Committee 7: Biologic basis of diseases

1	The methods of pathology
2	Hemodynamic disorders: Edema, Hyperemia, congestion, , hemorrhage
3	Hemodynamic disorders: thrombosis, embolism, infarction, shock
4,5	Cellular pathology: Adaptations, intracellular accumulations, pigmentations, calsification
6	Cellular pathology: Changes in the level of organells
7,8	Cellular pathology: Cellular damage, cell death

6. TEACHING AND LEARNING METHODS OF THE COURSE

This course includes lectures, class discussions and laboratuary practises

7. ASSESSMENT METHODS OF THE COURSE

The students are responsible from al the lectures. If it is necessary students will be oriented to reference books. It is expected for all students to attend all the lectures. At the end of each comittee each student will take multi-choice exam.

8. THE LANGUAGE OF INSTRUCTION

Turkish.

IDENTIFICATION OF THE COURSE: PHARMACOLOGY

1. DESCRIPTION

This course reviews the introduction to pharmacology, pharmacokinetics, pharmacodynamics, drug interactions, adverse and toxic effects of drugs, basic principles of intoxication treatment, development of new drugs, and autacoid pharmacology.

2. LEVEL

a. Prerequisities: None except for being successfully promoted from Phase I

b. Objectives: The first objective of the course is to familiarize students with the basic pharmacological concepts. The second objective is to focus on the autacoid pharmacology.

c. Learning outcomes: At the end of the course the student is expected to be able to discuss the basic principles of pharmacology with pharmacokinetic and pharmacodynamic aspects, to explain the pharmaceutical forms and administration routes of drugs, to discuss the mechanisms and principle management strategies for drug intoxication. The student is also expected to describe the new drug development strategies. In addition, the student should discuss the basic pirinciples in autacoid pharmacology.

d. References

1. Kayaalp, S.O. 2005. Rasyonel Tedavi Yönünden Tıbbi Farmakoloji, 11th Edition, Hacettepe-Taş Kitapçılık Ltd. Şti., Ankara, Türkiye.
2. Kayaalp, S.O. 2007. Klinik Farmakolojinin Esasları ve Temel Düzenlemeler, 4th Edition, Pelikan Yayıncılık.
3. Hardman J.G. ve Limbird L.E. (editors) 2006. Goodman & Gilman's The Pharmacological Basis of Therapeutics, 11th Edition, McGraw-Hill, New York, U.S.A.
4. Brunton L., Parker K., Blumenthal D., Buxton I. 2008. Goodman & Gilman's Manual of Pharmacology and Therapeutics, International Edition, McGraw-Hill, New York, U.S.A.
5. Katzung B.G. 2004. Basic & Clinical Pharmacology, 9th Edition, Appleton & Lange, Stamford, U.S.A.
6. Rang H.P., Dale M.M., Ritter J. M., Moore P. K. 2003. Pharmacology, 5th Edition, Churchill Livingstone, Elsevier, Loanhead, Scotland.
7. Bennett P.N., Brown M. J. (editors), 2003. Clinical Pharmacology, 9th Edition, Churchill Livingstone, Elsevier, Spain.
8. Bachman K.A. (editor), 2003.Drug Interactions Handbook, Lexi-Comp Inc., Hudson-Ohio, U.S.A.

3. THE STATUS OF THE COURSE

MED 242-PHARMACOLOGY is a mandatory course

4. TEACHING STAFF OF THE COURSE

Meral Tuncer (Professor of Pharmacology, MD)
Ş. Remzi Erdem (Professor of Pharmacology, MD)
Müge Tecder-Ünal (Assoc. Professor of Pharmacology, MD)
Tolga Reşat Aydos (Assistant Professor of Pharmacology, MD)

5. THE PERİOD AND THE PLAN OF THE COURSE

MED 242-PHARMACOLOGY course is a component of an integrated one-committee course, which consists of 4 weeks. Topics to be covered as follows:

1	Introduction to pharmacology
2	Pharmaceutical forms of drugs
3	Administration routes and mechanism of action of drugs
4-5	Translocation of drug molecules through biological membranes
6	Pharmacokinetics-1:Absorption
7	Pharmacokinetics-2:Distribution
8	Pharmacokinetics-3: Metabolism (Biotransformation)
9	Pharmacokinetics-4: Elimination
10-11	Factors that affect therapeutic outcome
12,13	Dose, concentration-effect relationship
14	Receptors and drug-receptor interaction
15	Pharmacokinetic interactions between drugs
16	Pharmacodynamic interactions between drugs
17	Adverse and toxic effects of drugs
18	General principles of intoxication treatment
19,20	New drug development
21	Autacoid pharmacology
22	Histamine
23	Histamine receptor antagonists
24,25	Serotonin
26,27,28	Eicosanoids
29,30	Other vasoactive autacoids

6. TEACHING AND LEARNING METHODS

PHARMACOLOGY consists of lectures and class discussions.

7. ASSESSMENT METHODS AND GRADING OF THE COURSE

There is not any specific examination for the PHARMACOLOGY course. Instead, the committee examination includes multiple choice questions dealing with related topics within the course. Phase II Coordination Office determines the ratio of the total number of PHARMACOLOGY questions in the committee exam due to the proportion of the course within the committee.

8. THE LANGUAGE OF INSTRUCTION: The language of the course is Turkish.

IDENTIFICATIONOF THE COURSE: MED 245 ENGLISH EDUCATION

The aim of English curriculum is to provide Baskent University, undergraduate and graduate students with a good command in English to follow the literature and endow them with written and oral communication skills. In the guidance of this objective, English education is implemented with emphasis on their field. Students are informed about weekly course load, code and credits during the registration period.

Term one: Provided English education is an integrated system. In addition to English grammar students follow a program that would improve their reading, writing, speaking and listening skills. Also they practice to improve their professional based vocabulary.

Term two: Each of the four basic skill is improved continuously. Within the writing skill program there is shift from term one sentence and paragraph construction level to academic writing. Speaking skill program helps to improve students academic communication skills through introductions, group discussions, case studies and brief presentations. In reading skill program students learn to transform written information to visual data (graphic, schematic, etc.) In addition to their basic skills that they have acquired in term one. In listening program, skills like receiving, responding, integrating and qualifying information and ability to take notes are given.

Term three: Capabilities that were delivered in the preceding terms are reinforced and profession based vocabulary level is expanded. In addition to reinforce four basic skills the students are taught to perform academic and professional translation techniques and to apply them in the classroom. In addition, they learn to evaluate medical reports, write operative and discharge notes and to write case reports.

Term four: In this term, exam taking techniques and strategies are taught and classroom applications are conducted using KPDS, UDS, MCAT and TUS question templates. Also, official document writing techniques are given.