

Dentistry -- COMMITTEE-3/week 5

| COURSE TITLE | COURSE CODE | SEMESTER | THEORETICAL (hours / week) | PRACTICE (hours / week) | CREDIT | ECTS |
|--|--|----------|-------------------------------|----------------------------|----------|----------|
| COMMITTEE-3 BIOLOGICAL REGULATION | DNT 113 | 1 | 6 | 2 | 7 | 4 |
| LEVEL OF COURSE | <input type="checkbox"/> Associate's degree program <input checked="" type="checkbox"/> Bachelor's program <input type="checkbox"/> Master's program <input type="checkbox"/> PhD | | | | | |
| INSTRUCTION LANGUAGE OF THE COURSE | <input type="checkbox"/> TURKISH <input checked="" type="checkbox"/> FOREIGN LANGUAGE <input checked="" type="checkbox"/> English <input type="checkbox"/> German <input type="checkbox"/> French | | | | | |
| TYPE OF COURSE | <input checked="" type="checkbox"/> COMPULSORY <input type="checkbox"/> ELECTIVE <input type="checkbox"/> DEPARTMENTAL <input type="checkbox"/> NON-DEPARTMENTAL | | | | | |
| PREREQUISITE OF THE COURSE | NONE | | | | | |
| PURPOSE OF THE COURSE | To understand the mechanisms of intracellular regulation. To associate various chemical regulations with intracellular organelle ultrastructure. To comprehend macromolecular structure and biosynthesis. To understand metabolic control mechanisms. To know phenotypic variations (epigenetics) that are hereditary and not genetic. | | | | | |
| COURSE OBJECTIVE | To know the mechanisms and control of transcription and translation in the cell. To comprehend active and inactive synthesis areas in nucleolus organelle where RNA synthesis from DNA is performed. To comprehend epigenetics and epigenome. To understand DNA and RNA sequencing and discuss its use in biotechnology, forensic medicine, and medical diagnosis. To learn about genetic treatments in diseases. | | | | | |
| TEACHING METHOD | FACE-TO-FACE | | | | | |
| TEACHING AND LEARNING METHODS OF THE COURSE | <input type="checkbox"/> Q&A <input checked="" type="checkbox"/> Case Problem Solving/ Drama- Role/ Case Management <input checked="" type="checkbox"/> Laboratory <input type="checkbox"/> Quantitative Problem Solving <input type="checkbox"/> Fieldwork <input checked="" type="checkbox"/> Group Study / Assignment <input checked="" type="checkbox"/> Individual Assignment <input checked="" type="checkbox"/> WEB-based Learning <input type="checkbox"/> Internship <input type="checkbox"/> Practice in Field <input checked="" type="checkbox"/> Project Preparation <input type="checkbox"/> Report Writing <input type="checkbox"/> Seminar <input type="checkbox"/> Supervision <input type="checkbox"/> Social Activity <input type="checkbox"/> Occupational Activity <input type="checkbox"/> Occupational Trip <input type="checkbox"/> Application (Modelling, Design, Model, Simulation, Experiment et.) <input checked="" type="checkbox"/> Reading <input type="checkbox"/> Thesis Preparation <input type="checkbox"/> Field Study <input type="checkbox"/> Student Club and Council Activities | | | | | |

COURSE COORDINATOR (S)

Prof. M.D. H. Yegane Güven (Biochemistry)
 Asst. Prof. Hande Koçak (Medical Biology)
 Prof. M.D. Tangül Müdok -- Asst. Prof. Türkân Sarıoğlu (Histology and Embryology)
 Asst. Prof. Hasan Hüseyin Şahin (Physiology)
 Asst. Prof. Cevdet Nacar (Biophysics)

**COMMITTEE-3
 Biological
 Regulation**

Course Topics

Week 5

| ANATOMY | BIOCHEMISTRY | MEDICAL BIOLOGY | HISTOLOGY-EMB. | PHYSIOLOGY | BIOPHYSICS |
|---------|--|--|----------------|------------|--|
| | Biological Oxidations | RNA transcription mechanism, RNA function | Nucleolus | | Structure of Magnetic Resonance Device |
| | Free radicals, Antioxidants, Antioxidant Nutrients | Genetic code, protein synthesis | | | Ultrasonography |
| | Nucleic Acids and Protein Synthesis | Control mechanisms of gene expression (at transcription and translation level) | | | Laser Physics-1 |
| | Hormones and Biochemical Mechanisms of Action | Epigenetics and Epigenome | | | Laser Physics-2 |
| | Lipids and their Biological Importance | DNA and RNA sequencing with DNA replication/ Gene Therapy | | | |

LEARNING OUTCOMES

INFORMATION

(It is arranged according to theoretical and / or factual information classification)

1. Students know the transcription mechanisms of RNA from DNA.
2. Students know the location of nucleolar synthesis, where the synthesis of rRNA from rDNA within cell ultrastructure is performed.
3. Students know the chemistry of intracellular free radicals and antioxidants.
4. Students know intracellular macromolecular synthesis pathways and control mechanisms.

SKILL

(As cognitive and / or application skills)

1. Students discuss the regulation of the biological system.
2. Students list the intracellular location of gene control mechanisms at the ultra-structural level.
3. Students lists antioxidants.
4. Students know the chemical structure and synthesis mechanisms of macromolecules.

COMPETENCE

1. Students exhibit responsibility and self-discipline.
2. Students have productive and questioning personalities.
3. Students use their mother tongue effectively, strive to use their foreign language.
4. Students can work independently and take responsibility.

RESOURCES

ANATOMY

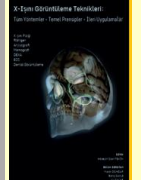
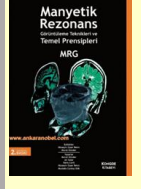
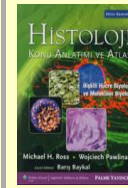
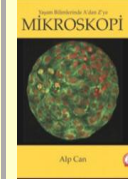
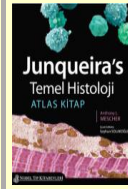
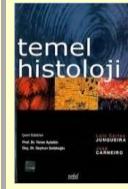
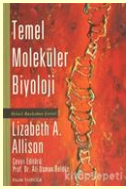
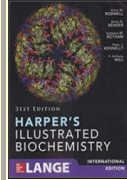
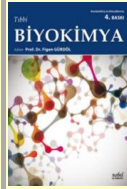
BIOCHEMISTRY

MEDICAL BIOLOGY

HISTOLOGY-EMB.

PHYSIOLOGY

BIOPHYSICS



EVALUATION SYSTEM

| YEAR / SEMESTER STUDIES | NUMBER | CONTRIBUTION RATE % |
|---|--------|---------------------|
| Attendance / Participation | | % |
| Laboratory | | % |
| Practice | | % |
| Practice Examination | | % |
| Quiz | | % |
| Homework | | % |
| Presentation | | % |
| Projects | | % |
| Course-specific Internship | | % |
| Fieldwork | | % |
| Article Critique | | % |
| Article Writing | | % |
| Module Group Study | | % |
| Brainstorming | | % |
| Role Playing + Dramatization | | % |
| Studying outside of the Classroom | | % |
| Preparatory Work, Enhancement, Practice Repetition etc. | | % |
| Homework (reading, writing, watching movies etc.) | | % |
| Project Preparation + Presentation | | % |
| Report Preparation + Presentation | | % |
| Presentation / Seminar Preparation + Presentation | | % |
| Oral Exam | | % |
| MIDTERM (Theoric%-Practical%) | | 40% (%90 - %10) |
| FINAL (Theoric%-Practical%) | | 60% (%90 - %10) |
| TOTAL | | 100% |

COURSE ECTS

European Credit Transfer System
-Student workload-

| Activities | Number (week) | Duration (hour) | Total Work Load |
|---|---------------|-----------------|-----------------|
| Course Duration | 5 | 8 | 40 |
| Laboratory | 5 | 2 | 10 |
| Practice | 0 | 0 | 0 |
| Practice Examination | 0 | 0 | 0 |
| Course-specific Internship | 0 | 0 | 0 |
| Fieldwork | 0 | 0 | 0 |
| Article Critique | 0 | 0 | 0 |
| Article Writing | 0 | 0 | 0 |
| Module Group Study | 0 | 0 | 0 |
| Brainstorming | 0 | 0 | 0 |
| Role Playing + Dramatization | 0 | 0 | 0 |
| Studying outside of Classroom (Preparatory Work, Enhancement, Practice Repetition etc.) | 5 | 8 | 40 |
| Homework (reading, writing, watching movies etc.) | 3 | 3 | 9 |
| Project Preparation + Presentation | 0 | 0 | 0 |
| Report Preparation + Presentation | 0 | 0 | 0 |
| Presentation / Seminar Preparation + Presentation | 0 | 0 | 0 |
| Oral Exam | 0 | 0 | 0 |
| Preparation for Midterm Exams | 7 | 2 | 14 |
| MIDTERM | 1 | 1 | 1 |
| Preparation for Final Exams | 14 | 2 | 28 |
| FINAL | 1 | 1 | 1 |
| Total ECTS | | | 143 |
| 30 hours = 1 ECTS | | ECTS: | 4 |