

| Name of the Course | Code | Semester | Theoretical (hour per week) | Practical (hour per week) | Laboratory (hour per week) | ECTS |
|--------------------------|---|-----------------------|-----------------------------|---------------------------|----------------------------|------|
| Cancer Genetics | MTP516 | 1.2. Semester/Fall | 3 | 0 | 0 | 5 |
| Perquisites | None | | | | | |
| Language | Turkish | | | | | |
| Type | Elective | | | | | |
| Teaching Methods | Interactively, Slide Presentation, If necessary, accessing data sources via internet | | | | | |
| Instructor(s) | Prof. Dr. Zafer ÇETİN / Dr. Öğr. Üyesi Elif PALA | | | | | |
| Course objectives | General principles of cancer biology, genetics of normal and malignant cells, control of cell growth, cancer genetics, oncogenesis, cancer treatment | | | | | |
| Course learning outcomes | 1. To understand the origin, development and diagnosis of cancer 2. To be able to comprehend oncogenes and tumor suppressor genes 3. To be able to define signal paths 4. To be able to comment on cancer development, angiogenesis, metastasis, tumor immunology, cancer treatment 5. To be able to understand current techniques in diagnosis and treatment | | | | | |
| References | Cancer Biology, Raymond W. Rudden, 4th Edt., 2007 Biology of Cancer, Robert A. Weinberg, 2006 Hücrenin Moleküler Biyolojisi, TÜBA yayınları (Alberts B. et al. "Molecular Biology of the Cell 4 th edition"), 2008. | | | | | |

Weekly Syllabus:

| WEEKS | Course Subjects |
|----------|--|
| 1. Week | Introduction to cancer biology |
| 2. Week | Cell cycle and basic cell kinetics |
| 3. Week | Genetics of normal and malignant cells |
| 4. Week | Control of cell growth |
| 5. Week | Carcinogenesis, causing factors and interaction with DNA repair |
| 6. Week | Cancer onset and development |
| 7. Week | Loss of differentiation, angiogenesis |
| 8. Week | Oncogenesis mechanisms at the cellular level, such as adhesion and metastasis |
| 9. Week | Programmed cell death mechanism |
| 10. Week | Tumor suppressor genes |
| 11. Week | Cancer causing agents: chemical carcinogens, ration, hormonal imbalance, viruses |
| 12. Week | Cancer and nutrition |
| 13. Week | Cancer treatment, immunotherapy and immunobiology |
| 14. Week | Tumor antigens and cancer vaccines |

Student Workload Table

| Activities | Number | Period | Total Workload |
|--|--------|--------|-----------------|
| Lecturing | Sayı | Süresi | Toplam İş Yükü |
| Laboratory | 14 | 3 | 42 |
| Practice | | | |
| Field Dstudy | | | |
| Out of Class Study Time (Free study/ Group study/ Preliminary Works) | | | |
| Presentation | 14 | 4 | 56 |
| Seminar Preparation | | | |
| Projects | | | |
| Case Study | | | |
| Article Writing / Criticizing | | | |
| Other Applications | | | |
| Mid-term Exams | 2 | 10 | 20 |
| Final Exams | 1 | 7 | 7 |
| Total Workload (hour) / 25(h) | | | 1 |
| Course ECTS | | | 125/25=5 |

Evaluation System

| Yarıyıl İçi Çalışmaları | Sayı | Katkı Payı |
|------------------------------------|------|------------|
| Midterm Exam | 1 | %50 |
| Half Year End Exam | | |
| Laboratory | | |
| Application | | |
| Field Work | | |
| Class-Specific Internship (If Any) | | |
| Assignments | 1 | %50 |
| Presentations and Seminars | | |
| Projects | | |
| Other | | |
| Do your homework | | %50 |
| Application | | %50 |
| Laboratory | | %50 |
| The sum of the grades | | 100 |

Relation of Learning Outcomes with Program Competences

| No | PROGRAM COMPETENCES | | | | | |
|--|---|-----|-----|-----|-----|-----|
| | | LO1 | LO2 | LO3 | LO4 | LO5 |
| 1 | Degree level qualification at the level of expertise in the field of molecular medicine based on up-to-date information, enhances and deepens. | 4 | 3 | 3 | 3 | 2 |
| 2 | Requires a level of knowledge of the field of molecular medicine technologies, technical equipment and machinery and tools that are specific to the field information | 3 | 3 | 4 | 5 | 4 |
| 3 | Molecular Medicine is having in the field of information integrate with information from different disciplines to create new information, comments, analysis and synthesis by using different research methods and propose solutions. | 5 | 4 | 3 | 5 | 5 |
| 4 | The report of his research the author. | 3 | 2 | 3 | 5 | 5 |
| 5 | Empirical research plans. | 3 | 4 | 3 | 3 | 2 |
| 6 | Molecular Medicine in matters requiring expertise in the field of fiction, propose solutions, and solves the problems, assesses the results obtained when necessary. | 3 | 3 | 3 | 3 | 3 |
| 7 | Molecular Medicine and public health-related priority issues Area scientific clinical and/or descriptive research/presentations/publication. | 3 | 3 | 2 | 2 | 2 |
| 8 | The information related to the field of molecular medicine evaluates and directs the learning a critical approach. | 5 | 4 | 4 | 3 | 4 |
| 9 | Professional development related to the field of molecular medicine and performs studies the principles of life-long learning. | 4 | 4 | 3 | 3 | 3 |
| 10 | Current developments in the field of Molecular Medicine information, and their work in the same field or with groups other than the written, oral and Visual systematically as he discusses and shares. | 2 | 3 | 5 | 2 | 3 |
| 11 | The vocational and professional environment, social relationships, and those relationships are a critical perspective, norms and makes the need to improve them. | 5 | 4 | 3 | 3 | 4 |
| 12 | Collection of data related to the field of molecular medicine, towards restriction, interpretation, announcing social, scientific and ethic values in oversees and teaches these values. | 3 | 3 | 3 | 2 | 2 |
| 13 | The basic unit of society, current developments in the field of Molecular Medicine is to cover the national children and family values, and evaluates in line with the realities of the country. | 5 | 4 | 5 | 5 | 4 |
| 14 | Ethical principles and the importance of the individual and of the community for the Ethics Committee, ethics. | 4 | 4 | 3 | 3 | 3 |
| 15 | Molecular Medicine in the field with strategy, policy and implementation plans and results obtained within the framework of the quality processes. | 4 | 2 | 3 | 2 | 2 |
| Contribution to the level of proficiency: 1. Lowest, 2. Low / Medium, 3. Average, 4. High, 5. Excellent | | | | | | |