

MALTEPE UNIVERSITY
FACULTY OF MEDICINE
MEDICINE
2025-2026 Academic Year

Course name: Cancer and Stem Cells			Course code: TIP 253
ECTS: 2	-	Undergraduate	Elective
2 h/week	Lectures:1 h/week Application:1 h/week		Course language:Turkish

Lecturer of the Course and contact info:

Assist. Prof. Dr. Zeynep AKBULUT (Spring)

Faculty of Medicine Cancer and Stem Cell Center, e-mail:zeynep.akbulut@maltepe.edu.tr, extension:2720

Section Code:

TIP 253 01, TIP 253 0101, TIP 253 02, TIP 253 0201

Office Hours:

(If any) Web address of the course or the lecturer:

<https://www.maltepe.edu.tr/mukkam>

Objectives of the Course:

This class starts with the basic principles and descriptions related to cancer and stem cells, and then continues with the recent innovations about those topics. After the lecture about the basics of the preparation of a scientific project; the students are separated into groups. Each group starts to study on a research project. Those groups are required to present their projects at the end of the semester. Coming theoretical and practical lectures are about the research techniques that are used in the cancer and stem cell research center. The students will apply those techniques to complete their research projects. At the end of the semester; the students will present their projects and the results. The best study will be chosen by a jury at the end of the year. The aim of this class is to help the students to gain the basic knowledge about cancer and stem cells, to learn about different experimental methods and finally to prepare/complete/ present a scientific research project.

Learning Outcomes and Subordinate Skills:

At the end of the semester the students will be able to:

1. the students to gain the basic knowledge about cancer and stem cells, to learn about different experimental methods and finally to prepare/complete/ present a scientific research project.

Generic Competencies:

1. Questioning, Rational, Follow ethical and moral rules 2. Work in teams, Use time effectively, Critical thinking

Instructional Methods and Techniques:

This class starts with the basic principles and descriptions related to cancer and stem cells, and then continues with the recent innovations about those topics. After the lecture about the basics of the preparation of a scientific project; the students are separated into groups. Each group starts to study on a research project. Those groups are required to present their projects at the end of the semester.

Mode of Delivery:

Face to face

Place of Special Course Internship (If any):

Cancer and Stem Cell Center Lab.

Pre-requisites:

None.

Co-requisites:

None.

Recommended Optional Programme Components:

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Course Contents:

The course will begin with the definition of Cancer and Stem Cells; and will continue with the presentation of innovations in this field to students. Theoretical and practical information will be provided on research methods actively used in the Cancer and Stem Cell Center. In addition, students will be provided with basic information on the preparation of a research project, and the foundations of scientific research techniques such as finding and reading literature, and using online databases will be laid.

Course Category:

1.	Core Courses	X
2.	Major Area Courses	
3.	Supportive Courses	
4.	Transferable Skill Courses	
5.	Communication and Management Skills Courses	

Recommended Readings:

1. Human Stem Cell Technology and Biology- Research Guide and Laboratory Manue The Biology of Cancer
2. The Biology of Cancer

Course Outline:

Weeks	Subjects to be Discussed / Covered
1 . Week	Developments in Cancer and Stem Cells
2 . Week	Techniques of Cell Culture Laboratory and General Rules on Laboratory /Cell precipitation- cryopreservation- passaging
3 . Week	Research Techniques of Cancer and Stem Cell in Cell Culture-1 Cell viability analysis (theoretical and practices)
4 . Week	Research Techniques of Cancer and Stem Cell in Cell Culture-2 Morphological and Immunohistochemical analysis of cell culture (theoretical and practices)
5 . Week	How is research and analyse a scientific article?- What is writing a scientific report?
6 . Week	Midterm
7 . Week	Preparing the project
8 . Week	Research Techniques of Cancer and Stem Cell in Cell Culture-3 Biochemical Analysis of cell culture (theoretical and practices)
9 . Week	Molecular Analysis Techniques in Cell Culture (Theoretical and Practices)
10. Week	Biomaterials Used in Cell Culture (Theoretical) Demonstration of the use of 3D Bioprinter (Theoretical and Practices)
11. Week	Using of Online Databases
12. Week	Scientific Research Methods
13. Week	Final Exam
14. Week	make-up exam
15. Week	Final Exam
16. Week	Final Exam

In Maltepe University, there is no general mid-term week for all courses. Each midterm for each course is given by the instructor of the course, by adding an extra week to the above 16 weeks course outline.

Evaluation System

Semester Requirements	Number	Percentage of grade
Attendance	14	40 (%)
Laboratory	-	-
Application	-	10 (%)
Field Work	-	-
Special Course Internship (If any)	-	-
Homework Assignments	-	-
Presentations	-	-
Project	-	-
Seminar	-	-
Quiz	-	-
Listening	-	-
Mid-Terms	-	20 (%)
Final	-	30 (%)
Total		100

ECTS Student Workload Table

Activities	Number	Duration (hours)	Workload
Course Hours (Including exam week 14x hours/week)	14	2	28
Laboratory	-	-	-
Application	-	-	-
Field Work	-	-	-
Special Course Internship (If any)	-	-	-
Study Hours-out of Class (pre/after studies)	-	-	-
Presentation / Seminar Preparation	-	-	-
Project	-	-	-
Homework Assignments	-	-	-
Quiz	-	-	-
Listening	-	-	-
Mid-Terms	1	1	1
Final	1	1	1
Total Workload			30

Relationship Between Course Learning Outcomes and MEDICINE Programme Key Learning Outcomes

No	Programme Key Learning Outcomes	Level of Contribution				
		1	2	3	4	5
1	Describe the normal structure and functions of the organism.	X				
2	Explain pathogenesis, clinical and diagnostic features of diseases.		X			
3	Take the patient's history and perform general-system based physical exam.		X			
4	Treat patients in emergency situations and transport the patient when needed.		X			
5	Apply basic medical procedures necessary for diagnosis and treatment of diseases.					
6	Perform preventive medicine and forensic medicine applications.					
7	Gain knowledge about the structure and functioning of the National Health System.					
8	Define legal responsibilities and ethical principles.	X				
9	Perform first level treatment for common diseases in the community based on scientific data and by using highly effective methods.	X				
10	Organize and attend to scientific meetings and conduct scientific projects.		X			
11	Know at least one common foreign language sufficient to keep up with current medical literature and communicate with peers; and use statistics and computer programmes to evaluate scientific studies.		X			