

# TECHNIQUES OF HISTOCHEMISTRY AND IMMUNOHISTOCHEMISTRY

<b>1</b>	Course Title:	TECHNIQUES OF HISTOCHEMISTRY AND IMMUNOHISTOCHEMISTRY	
<b>2</b>	Course Code:	THE 6004	
<b>3</b>	Type of Course:	Compulsory	
<b>4</b>	Level of Course:	Third Cycle	
<b>5</b>	Year of Study:	1	
<b>6</b>	Semester:	2	
<b>7</b>	ECTS Credits Allocated:	5.00	
<b>8</b>	Theoretical (hour/week):	1.00	
<b>9</b>	Practice (hour/week):	4.00	
<b>10</b>	Laboratory (hour/week):	0	
<b>11</b>	Prerequisites:	THE 6005 Techniques of Light Microscopy	
<b>12</b>	Language:	Turkish	
<b>13</b>	Mode of Delivery:	Face to face	
<b>14</b>	Course Coordinator:	Prof. Dr. ZEHRA MİN BAY	
<b>15</b>	Course Lecturers:	Prof.Dr. Zehra Minbay	
<b>16</b>	Contact information of the Course Coordinator:	oeyigor@uludag.edu.tr 295 4065 U.Ü. Tıp Fak. Histoloji ve Embriyoloji AD.	
<b>17</b>	Website:		
<b>18</b>	Objective of the Course:	To educate researchers; who comprehend the detailed knowledge of histochemical and immunohistochemical techniques, who acknowledge the area of usage and the differences of these techniques and who can employ these techniques.	
<b>19</b>	Contribution of the Course to Professional Development:		
<b>20</b>	Learning Outcomes:		
		<b>1</b>	To comprehend the principles of histochemical techniques
		<b>2</b>	To employ histochemical techniques in the laboratory and interpret the results.
		<b>3</b>	To understand the principle of enzyme histochemistry and to employ these techniques in the laboratory.
		<b>4</b>	To comprehend the principles and protocols of immunohistochemical techniques
		<b>5</b>	To be able to employ light and fluorescence immunohistochemical techniques.
		<b>6</b>	To be able to perform light and fluorescence microscopic analyses in immunohistochemistry.
		<b>7</b>	To quantitatively analyse the preparations resulted after immunohistochemical staining.
		<b>8</b>	To comprehend the electroimmunohistochemistry techniques.
		<b>9</b>	

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<b>21</b>	Course Content:		
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Week	Theoretical	Practice	
1	The aim and teaching plan of the course	Overview of the histochemistry laboratory	
2	Introduction to histochemical techniques	Preparation of solutions	
3	Histochemical procedures	Principles of the techniques	
4	Enzyme histochemistry	Enzymatic reactions	
5	Enzymatic staining	Staining technique of enzyme histochemistry	
6	Principles of immunohistochemistry	Overview of the immunohistochemistry laboratory	
7	Immunohistochemical tissue preparation, fixation and sectioning	Laboratory: Fixation and sectioning	
8	Antigen Retrieval Methods	Laboratory: Antigen Retrieval	
9	Immunohistochemical methods for light microscopy	Laboratory: Immunohistochemistry for light microscopy	
10	Immunohistochemical methods for fluorescence microscopy	Laboratory: Immunohistochemistry for fluorescence microscopy	
11	Immunohistochemical methods for electron microscopy	Laboratory: Preembedding immunohistochemistry for electron microscopy and analysis	
12	Light microscopical analysis for immunohistochemistry	Laboratory: Light microscopical analysis of the preparations	
13	Fluorescence microscopical analysis for immunohistochemistry	Laboratory: Fluorescence microscopical analysis of the preparations	
14	Principles of quantitative analysis of immunohistochemical stainings	Laboratory: Quantitative analysis of immunohistochemical stainings	
<b>22</b>	Textbooks, References and/or Other Materials:	Immunocytochemistry: A Practical Approach. JE Beesley (Editor). Theory and Practice of Histological Techniques. JD	
<b>23</b>	Assesment		
<b>TERM LEARNING ACTIVITIES</b>		<b>NUMBE R</b>	<b>WEIGHT</b>
Midterm Exam		0	0.00
Quiz		0	0.00
Home work-project		2	0.00
Final Exam		1	100.00
Total		3	100.00
Contribution of Term (Year) Learning Activities to Success Grade		0.00	
Contribution of Final Exam to Success Grade		100.00	
Total		100.00	
Measurement and Evaluation Techniques Used in the Course			
<b>24</b>	<b>ECTS / WORK LOAD TABLE</b>		

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	1.00	14.00
Practicals/Labs	14	4.00	56.00
Self study and preperation	14	3.00	42.00
Homeworks	2	10.00	20.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	0	0.00	0.00
Others	0	0.00	0.00
Final Exams	1	15.00	15.00
Total Work Load			147.00
Total work load/ 30 hr			4.90
ECTS Credit of the Course			5.00

25	CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS															
	PQ1	PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ8	PQ9	PQ10	PQ11	PQ12	PQ13	PQ14	PQ15	PQ16
ÖK1	3	5	0	0	0	0	5	0	0	0	0	2	0	0	0	0
ÖK2	3	5	4	0	3	0	5	0	0	0	0	0	0	0	0	0
ÖK3	3	5	4	0	0	0	5	0	0	0	0	2	0	0	0	0
ÖK4	3	5	4	0	0	0	5	0	0	0	0	2	0	0	0	0
ÖK5	3	5	4	0	3	0	5	0	0	0	2	0	0	0	0	0
ÖK6	3	5	4	0	0	0	5	0	0	0	2	0	0	0	0	0
ÖK7	3	5	4	0	3	0	5	0	0	4	2	0	0	0	0	0
ÖK8	3	5	4	0	0	2	5	0	0	0	0	2	0	0	0	0
<b>LO: Learning Objectives    PQ: Program Qualifications</b>																
<b>Contribution Level:</b>	<b>1 very low</b>			<b>2 low</b>			<b>3 Medium</b>			<b>4 High</b>			<b>5 Very High</b>			