Course Description Form

1. Course Name: English Language	
2. Course Code:	
3. Semester / Year: 2023/2024	
4. Description Preparation Date: 2024/2/28	
5. Available Attendance Forms:	
6. Number of Credit Hours (Total) / Number of Units (Total)3/3	
7. Course administrator's name (mention all, if more than one name)	
Name:Assist lecturer :Ashwaq Habeeb Shanshool Email: ashwaq.shanchoulckm@atu.edu.iq	
8. Course Objectives	
Course Objectives	• ..... • ..... • .....
9. Teaching and Learning Strategies	
Strategy	-Cooperative education strategy. -Teaching strategy brainstorming. -Education strategy collaborative concept planning. -Education strategy real-time feedback -Education strategy notes series. -Education strategy by exchanging opinions and discussion. -Education strategy by presenting information. -Education strategy through training and presenting scientific developments

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	3	1- Raising students' level through reading and listening language exercises 2- Knowledge of English grammar rules 3- Know the basics of grammar 4- Knowledge spelling rules sentence arrangement	Introduction to the basics tenses of English grammar	Cooperative education strategy. -Teaching strategy brainstorming. -Education strategy collaborative concept planning. -Education strategy real-time feedback -Education strategy notes series. -Education strategy by exchanging opinions and discussion. -Education strategy by presenting information. -Education strategy thro training and presenting scien developments	Daily,oral& written examinations, reports, discussions.
3	3		English senter formation rule	=	=
4	3		Proper nouns common nouns	=	=
5	3		Write about yourself, and your projects	=	=
6	3		Presentsimpletense, questionnegative Affirmative,	=	=
7	3		Present simple	=	

			continuous Adverbs		
8	3		Present perfect with examples And the	=	=
9	3		Question and imperative sentences	=	=
10	3		Past simple tense and adverbs of frequency	=	=
11	3		Past continuous Affirmati Negative ,question	=	=
12	3		Past perfect with regular verbs and irregular verbs	=	=
13	3		Past perfect continuous te Rules of " ed "	=	=
14-15	3		Future simple tense Rules of " s, es " Define types of s	=	=

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Basic English Language
Main references (sources)	Headway
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	

Course Description Form

1. Course Name: general chemistry
2. Course Code:
3. Semester / Year: first stage / 2023-2024
4. Description Preparation Date: 3/3/2024
5. Available Attendance Forms:
6. Number of Credit Hours (Total) / Number of Units (Total) 2/4
7. Course administrator's name (mention all, if more than one name)
Name: Hawraa. Saeed. Ibrahim. Email: hawra.ibrahim.ckm@atu.edu.iq
8. Course Objectives

Course Objectives	**- Definition of carbohydrate, lipids, proteins, nucleic acids and enzymes** **- biological functions and classification of lipids, proteins, nucleic acids and enzymes**

9. Teaching and Learning Strategies	
Strategy	Cooperative education strategy. Teaching strategy brainstorming. Education strategy collaborative concept planning. Education strategy real time feedback Education strategy notes series. Education strategy by exchanging opinions and discussion. Education strategy by presenting information. Education strategy through training and presenting scientific Developments.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-2	4	Study of Carbohydrates	definition, biological functions and classification of Carbohydrates	Explain lecture By use Data Show videos	Quiz Discussion Report
3-4	4	Study of lipids	definition, biological functions and classification of lipids	Explain lecture By use Data Show videos	Quiz Discussion Report
5-7	6	Study of Amino acids and proteins	definition, biological functions and classification of Amino acids and proteins	Explain lecture By use Data Show videos	Quiz Discussion Report
8-9	6	Study of Nucleotides and nucleic acids	definition, biological functions and classification of Nucleotides and nucleic acids	Explain lecture By use Data Show videos	Quiz Discussion Report
10	2	General properties of enzymes	definition, biological functions and classification of enzymes	Explain lecture By use Data Show videos	Quiz Discussion Report
11-12	4	Study of Vitamins	definition, biological functions and classification of	Explain lecture By use Data	Quiz Discussion Report

13-14 15	4 2	Solar energy technology Nanotechnology to hydrogen production	vitamins definition, functions of Solar energy definition, functions of Nanotechnology	Show videos Explain lecture By use Data Show videos	Quiz Discussion Report

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	CLINICAL BIOCHEMISTRY & METABO MEDICINE
Main references (sources)	Lehninger Principles of Biochemistry,
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	

Course Description Form

1. Course Name: Practical physiology
2. Course Code:
3. Semester / Year: First and second /2023-2024
4. Description Preparation Date:28/2/2024
5. Available Attendance Forms:
6. Number of Credit Hours (Total) / Number of Units (Total) :6/4
7. Course administrator's name (mention all, if more than one name)
Name: Assistant Lecture Zahraa hussain khadim abd Assistant Lecture Doaa abd alzahra deli Email: zahra.kazemckm@atu.edu.iq doaa.deli@atu.edu.iq

8. Course Objectives	
Course Objectives	• **General objective: Identify methods of sample .preparation and related tests** • **:Special objective** • **Knowing the method of -١testfor examination to diagnose** • **Identify the most important tests that -٢ play a role in diagnosing diseases in body..**

9. Teaching and Learning Strategies	
Strategy	.Cooperative education strategy .Teaching strategy brainstorming .collaborative concept planning Education strategy Education strategy real time feedback .Education strategy notes series

	.Education strategy by exchanging opinions and discussion .Education strategy by presenting information presenting scientific Education strategy through training and .developments

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	4	1- Identifying good technician 2- Learn the safety laboratory methods and avoid contamination	Introduction: Characteristics of good technician. How To avoid contamination of Specimen and Technician.	The method of displaying on the screen, providing electronic explanations, and discussing with the student about each topic within the lecture	ral Daily, o and written examinations, reports, .discussions
2	4	Identify about specimen process	Specimen: Type, Collection, and Preparation. Specimen identification Lab Reports: Types and righting	=	=
3	4	1- Learning Blood collection from vein and capilary blood 2-Method and	Basic steps for drawing a blood specimen by venipuncture. Complications of	=	=

		material of this technical	venipuncture. Blood collection by skin punctures (Capillary Blood). Types of Syringes used in blood collection. Patient care after blood collection.		
4	4	Applican Blood collecting technical	Repeat: Blood drawing.	=	=
5	4	1- Learning about Hemolysis 2- Study Blood coagulants type and uses	Blood sample Hemolysis: Reasons and how to avoid. Blood Coagulants: Types and Uses. (EDTA, Citrate, Oxalate, Heparin, sodium fluoride).	=	=
6	4	1- Learning about specimen rejection 2- Identify anticoagulant	Specimen rejection: Reason and How to avoid. Type of anticoagulant used and their effect on Blood Cell Morphology.	=	=
7	4	Method of blood separation and	Blood separation to Cells, plasma,	=	=

		processing	and serum. Transport, and storage blood sample		
8	4	Application of blood smear	Blood Smear: Preparation and Importance.	=	=
9	4	2- Learning PCV 2-Method and material of this technical	PCV	=	=
10	4	1-Learning RBC 2-Method and material of this technical manual	Complete Blood Counts: RBCs. Manual and Electronic Method.	=	=
11	4	1Learning WBC 2-Method and material of this technical manual	Complete Blood Counts: WBCs. Manual and Electronic Method.	=	=
12	4	Application of cell blood count	Repeat: Blood Cells Count	=	=
13	4	1-Learning hemoglobin 2-Method and material of Cyanmethemoglobin technical manual	Determination of Hemoglobin: Cyanmethemoglobin Method	=	=
14	4	1-Learning hemoglobin 2-Method and material of	Determination of Hemoglobin: Electronic Method	=	=

		electronic technical			
15	4	Repeated hemoglobin determination technical	Repeat	=	=
16	4	Learning about urine process 2-Method and material of this test manual	Urine Sample: Importance, Method of Collection, Preparation, Transport and Storage Physical Examination of Urine Sample.	=	=
17	4	Method and material of this test manual under microscope to show abnormal shape	Microscopic Examination of Urine: The identification of Epithelial Cells, Blood Cells, crystals, casts, …. etc.	=	=
18	4	Method and material of this test manual under microscope to show abnormal shape	Microscopic Examination of Urine: The identification of Bacteria, Yeast, Mucus, Casts, … …. Etc.	=	=
19	4	Repeat urine test	Repeat	=	=
20	4	Method and material of this	Chemical Examination of	=	=

		test manual by stripe and other manual technical	Urine		
21	4	Repeated many chemical test of urine	Repeated	=	=
22	4	Learning seminal fluid and Method & material of this test manual	Semen Analysis: Type of Collection & Physical Examination	=	=
23	4	Method and material of this test manual under microscope to count it	Semen Analysis: Cell Counting Technique.	=	=
24	4	Method and material of this test manual under microscope to show abnormal shape	Semen Analysis: Motility, Viability, &Morphology.	=	=
25	4	Repeat Semen Analysis.	Repeat Semen Analysis.	=	=
26	4	Learning about Stethoscope and its uses.	Stethoscope and its uses.	=	=
27	4	Learning Blood Pressure test by Mercury blood pressure device	Blood Pressure	=	=
28	4	Repeat this test	Repeated	=	=
29	4	Learning about method ESC	ESC	=	=

30	4	Learning Body Temperature by thermometer	Body Temperature	=	=

11. Course Evaluation	
Distributing the score out of 5 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc	
12. Learning and Teaching Resources	
Required textbooks (curricular books, if any)	−CL Ghai − A Textbook of Practical Physiology, Edition −Textbook Of Practical Physiology (5Th Edn) by G K Pal (Author), Pravati Pal (Author)
Main references (sources)	
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	

Course Description Form

1. Course Name: Practical Histology	
2. Course Code:	
3. Semester / Year: Semester	
4. Description Preparation Date: 27/2/2024	
5. Available Attendance Forms:	
6. Number of Credit Hours (Total) / Number of Units (Total) 3/2	
7. Course administrator's name (mention all, if more than one name)	
Name: Haneen Hussein Mohamed Email: haneen.mohammed@atu.edu.iq	
8. Course Objectives	
Course Objectives	General objective: To describe the structure of the human cell and its contents in the various organs of the human body Specific Objective: The student will be able to: 1- Complete knowledge of the tissues that make up the human body, such as epithelial and epithelial tissue, in addition to muscle and nervous tissue 2- Complete knowledge of the components of blood tissue and bone marrow and how different cells are formed.

9. Teaching and Learning Strategies	
Strategy	Cooperative education strategy. Teaching strategy brainstorming. Education strategy collaborative concept planni Education strategy real time feedback Education strategy notes series. Education strategy by exchanging opinions and discussion. Education strategy by presenting information. Education strategy through training and presenting scientific developments

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3	Study of parts and types of Microscopes	Microscope: study the microscope parts of types and lines, how can be used	Use a microscope	Quiz, reports, discussions and attendance
2	3	Used slides of Microscopes	Preparation of slides, methods and materials used	Use a microscope	Quiz, reports, discussions and attendance
3-4	6	Viewing simple and compound types epithelial sec. under a microscope	Epithelial tissue	Use a microscope	Quiz, reports, discussions and attendance
5-6	6	Viewing glandular epithelium sec. under a microscope	The Glands	Use a microscope	Quiz, reports, discussions and attendance
7-8	6	Viewing Loose and	Connective tissue	Use a	Quiz, reports,

		Dense connective tissue sec. under a microscope		microscope	discussions and attendance
9	3	Viewing hyaline, elastic and fibro cartilage sec. under a microscope	Cartilage	Use a microscope	Quiz, reports, discussions and attendance
10-11-12	9	Viewing spongy and compact bone sec. under a microscope	Bone, bone marrow	Use a microscope	Quiz and attendance
12	3	Viewing smooth, skeletal and cardiac muscle teased preparation sec. under a microscope	Muscular tissue	Use a microscope	Quiz and attendance
13	3	Viewing spinal cord sec. under a microscope	Nervous tissue	Use a microscope	Quiz and attendance
14	3	Viewing sciatic sec. under a microscope	Brain, spinal cords, meninges	Use a microscope	Quiz and attendance
15	3	Viewing large vein and large artery sec. under a microscope	Circulatory system	Use a microscope	Quiz and attendance
16	3	Viewing lymph node sec. under a microscope	Lymphoid system	Use a microscope	Quiz and attendance

17	3	Viewing stomach sec., small intestine sec., duodenum sec.,jejunum sec. and large intestine sec. under a microscope	Digestive system	Use a microscope	Quiz and attendance
18-19-20	9	Viewing esophagus and trachea sec. under a microscope	Respiratory system	Use a microscope	Quiz and attendance
21-22	6	Viewing kidney sec. under a microscope	Urinary system	Use a microscope	Quiz and attendance
23-24	6	Viewing Thyroid, Thymus, Mammary and Adrenal gland sec. under a microscope	Endocrine system	Use a microscope	Quiz and attendance
25	3	Viewing penis sec. under a microscope	Male reproductive system	Use a microscope	Quiz and attendance
26	3	Viewing Fallopian tube sec. under a microscope	Female reproductive system	Use a microscope	Quiz and attendance
27-28	6	Viewing Eye entail sec. under a microscope	Sense organ	Use a microscope	Quiz and attendance
29-30	6	Viewing Human skin Hiar sec and sweat glang. under	The integumentary system- Skin	Use a microscope	Quiz and attendance

		a microscope			

11. Course Evaluation

Distributing the score out of 40 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	Atlas of Histology Junqueiras basic histology- text
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	

Course Description Form

1. Course Name: Histology	
2. Course Code:	
3. Semester / Year: Semester	
4. Description Preparation Date: 27/2/2024	
5. Available Attendance Forms:	
6. Number of Credit Hours (Total) / Number of Units (Total) 2/4	
7. Course administrator's name (mention all, if more than one name)	
Name: Haneen Hussein Mohamed Email: haneen.mohammed@atu.edu.iq	
8. Course Objectives	
Course Objectives	General objective: To describe the structure of the human cell and its contents in the various organs of the human body Specific Objective: The student will be able to: 1- Complete knowledge of the tissues that make up the human body, such as epithelial and epithelial tissue, in addition to muscle and nervous tissue 2- Complete knowledge of the components of blood tissue and bone marrow and how different cells are formed.

9. Teaching and Learning Strategies	
Strategy	Cooperative education strategy. Teaching strategy brainstorming. Education strategy collaborative concept planning. Education strategy real time feedback Education strategy notes series. Education strategy by exchanging opinions and discussion. Education strategy by presenting information. Education strategy through training and presenting scientific developments

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Study of classification of histology and tissue preparation	Introduction and overview of methods used in histology, Classification of Histology, Tissue preparation	Explain the lecture by use data show and show videos	Quiz, reports, discussions and attendance
2	2	Study of cell structure and types	Overview of Cell structure & types	Explain the lecture by use data show and show videos	Quiz, reports, discussions and attendance
3	2	Study of primary tissues	Tissues: Concept and classifications of primary tissues	Explain the lecture by use data show and show videos	Quiz, reports, discussions and attendance
4	2	Study of epithelial	Epithelial tissue:	Explain the	Quiz, reports,

		tissue	Simple Ep. T. , Compound Ep. T.	lecture by use data show and show videos	discussions and attendance
5	2	Study of the glands	The glandular Tissues (The Glands)	Explain the lecture by use data show and show videos	Quiz, reports, discussions and attendance
6	2	Study of embryonic connective tissue	Connective and Supportive Tissue: Embryonic and adult C.T.	Explain the lecture by use data show and show videos	Quiz, reports, discussions and attendance
7	2	Study of connective tissue	Connective Tissue proper (General C.T.)	Explain the lecture by use data show and show videos	Quiz, reports, discussions and attendance
8	2	Study of cartilage (elastic, reticular and fiber cartilage)	Cartilage, Histogenesis, Growth and repair of cartilage	Explain the lecture by use data show and show videos	Quiz, reports, discussions and attendance
9	2	Study of bone (compact and spongy bone)	Bone & Histogenesis of Bone	Explain the lecture by use data show and show videos	Quiz, reports, discussions and attendance
10	2	Study of the blood	The Blood	Explain the lecture by use data	Quiz, reports, discussions and attendance

				show and show videos	
11	2	Study of bone marrow	The haemopoietic organ (bone marrow), Formation of blood cells	Explain the lecture by use data show and show videos	Quiz, reports, discussions and attendance
12	2	Study of muscular tissue (skeletal, cardiac and smooth mascle)	Muscular tissue	Explain the lecture by use data show and show videos	Quiz, reports, discussions and attendance
13	2	Study of nervous tissue	Nervous tissue: Overview of nervous system (CNS & PNS)	Explain the lecture by use data show and show videos	Quiz, reports, discussions and attendance
14-15	4	Study of the nerve cells	Nervous system: the Nerve cells (neurons) and their classification	Explain the lecture by use data show and show videos	Quiz, reports, discussions and attendance
16	2	Study of Heart and blood vessels	Circulatory system	Explain the lecture by use data show and show videos	Quiz, reports, discussions and attendance
17	2	Study of lymphoid system	Lymphoid system- Lymphatic vessels- Lymph	Explain the lecture by use data show and show videos	Quiz, reports, discussions and attendance

18	2	Study of Thymus, Lymph nodes and Spleen	Lymphoid organs	Explain the lecture by use data show and show videos	Quiz, reports, discussions and attendance
19	2	Study of respiratory of system	Respiratory system	Explain the lecture by use data show and show videos	Quiz, reports, discussions and attendance
20	2	Study of oral cavity	Digestive system/ Part one- Oral cavity	Explain the lecture by use data show and show videos	Quiz, reports, discussions and attendance
21	2	Study of gastrointestinal tracts	Digestive system/ Part two- Gastrointestinal tracts	Explain the lecture by use data show and show videos	Quiz, reports, discussions and attendance
22	2	Study of accessory glands	Digestive system/ Part three- Accessory Glands	Explain the lecture by use data show and show videos	Quiz, reports, discussions and attendance
23	2	Study of Kidneys, Ureters, Bladder and Urethra	8-9 Urinary system	Explain the lecture by use data show and show videos	Quiz, reports, discussions and attendance
24-25	4	Study of endocrine gland	Endocrine system	Explain the lecture by	Quiz, reports, discussions and

				use data show and show videos	attendance
26-27	4	Study of Penis, testes and scrotum	Male reproductive system	Explain the lecture by use data show and show videos	Quiz, reports, discussions and attendance
28	2	Study of ovaries, uterus and vagina	Female reproductive system	Explain the lecture by use data show and show videos	Quiz, reports, discussions and attendance
29	2	Study of sense organ	Sense organ	Explain the lecture by use data show and show videos	Quiz, reports, discussions and attendance
30	2	Study of skin (epiderms and derms)	The integumentary system- Skin	Explain the lecture by use data show and show videos	Quiz, reports, discussions and attendance

11. Course Evaluation

Distributing the score out of 60 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	Atlas of Histology Junqueiras basic histology- text
Recommended books and references (scientific journals, reports…)	

Electronic References, Websites	

Course Description Form

1. Course Name: Hematology
2. Course Code:
3. Semester / Year: second/ 2023-2024
4. Description Preparation Date:28/2/2024
5. Available Attendance Forms:
6. Number of Credit Hours (Total) / Number of Units (Total)
6/2
7. Course administrator's name (mention all, if more than one name)
Name: assist. Lec. doaa abdalzahra deli Email: doaa.deli@atu.edu.iq
8. Course Objectives

Course Objectives	**General Objectives: To give the student an expanded and up-to-date idea about the science of blood pathology and the normal and abnormal ranges of the blood component, in addition to the changes that occur when infected with various diseases……** • **Specific goal: Establishing a good information base on hematology so that the student can keep up with the medical community with which he will live after graduation in hospitals……** •

9. Teaching and Learning Strategies

Strategy	.Cooperative education strategy .Teaching strategy brainstorming .Education strategy collaborative concept planning

	Education strategy real time feedback .series Education strategy notes .Education strategy by exchanging opinions and discussion .Education strategy by presenting information Education strategy through training and presenting .scientific developments

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
١٦-١٧	٤	White blood cells(classification and general functions of each one)	introduction to white blood cells - study of Functions of white blood cells - study the classification white blood cells	Cooperative .education strategy Teaching strategy – .brainstorming Education – strategy collaborative .concept planning Education – time –strategy real feedback Education –– strategy notes .series Education – strategy by exchanging opinions and .discussion Education – strategy by presenting .information Education strategy through training presenting scientific developm	Daily, oral and written examinations, reports, discussions
18	2	Nonmalignant WBCs diseases (neutrophilia, neutropenia, eosinophilia, eosinopenia, monocytosis)	-learning Nonmalignant WBCs diseases -study neutrophilia, neutropenia, eosinophilia, eosinopenia,		

			monocytosis		
19	2	Disorders of lymphocytes	-Introduction the Disorders of of lymphocytes -StudyLymphocytosis -study Disorders Associated with Lymphocytosis -study the Lymphocytopenia		
20	2	Malignant diseases of WBCs (Leukemia, definition of it, types, classification, causes, leukemoid reaction)	Study Malignant diseases of WBCs -study Leukemia Definition -Learning Etiology and Risk factors of Leukemia -Study classification of Leukemia -study the causes of leukemia -study leukemoid reaction		
21	2	Acute leukemia (acute lymphocytic leukemia , acute myeloid leukemia) causes and diagnosis of each one	-Study of Acute leukemia -learning Acutelymphocytic leukemia , acute myeloid leukemia -study the causes of Acutelymphocytic leukemia ,and acute myeloid leukemia -Learning symptoms of a -study the Laboratory findings and Diagnosis of Acutelymphocytic leukemia , acute myeloid leukemia.		
22	2	Chronic leukemia (chronic lymphocytic leukemia , chronic myeloid leukemia) causes and diagnosis of each one	-Define the Introduction of Chronic leukemia -study of chronic lymphocytic leukemia , chronic myeloid leukemia -study Causes of chronic lymphocytic leukemia , chronic myeloid leukemia - study the Laboratory findings and Diagnosis of chroniclymphocytic leukemia , chronic myeloid leukemia.		
23	2	Lymphoma (Hodgkin's lymphoma , causes, lab. Findings	-Study of Lymphoma (Hodgkin's lymphoma - learning the causes, diagnosis and lab. Findings of lymphoma)		

24	2	Non-Hodgkin's lymphoma , causes and lab.findings	Study of Lymphoma (Non-Hodgkin's lymphoma - learning the causes, diagnosis and lab. Findings Non-non-Hodgkin's lymphoma)		
25	2	Platelets (morphology and general functions)	Study Platelets -Learning the (morphology general functions)		
26	2	Haemostasis	-Study Haemostasis -study the causes of Haemostasis -Learning syptom of Haemostasis study the Laboratory findin Haemostasis		
27-28	4	Bleeding disorders	Study Bleeding disorders -study the causes of Bleeding disorders -Learning symptoms of Bleeding disorders study the Laboratory finding Bleeding disorders		
29	2	Arterial thrombosis, venous thrombosis and risk factors	-Study of Arterial thrombosis, venous thrombosis and risk factors - study the causes of Arterial thrombosis, venous thrombosis -study the Laboratory fin of Arterial thrombosis, venous thrombosis		
30		Review the article	Review article		

11. Course Evaluation

Distributing the score out of 13 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Clinical Hematology(Mary louise Turgeon Lippincott and wikins
Main references (sources)	
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	

Course Description Form

1. Course Name: Hematology
2. Course Code:
3. Semester / Year: second/ 2023-2024
4. Description Preparation Date:28/2/2024
5. Available Attendance Forms:
6. Number of Credit Hours (Total) / Number of Units (Total)
6/2
7. Course administrator's name (mention all, if more than one name)
Name: assist. Lec. doaa abdalzahra deli Email: doaa.deli@atu.edu.iq
8. Course Objectives

Course Objectives	**General Objectives: To give the student an expanded and up-to-date idea about the science of blood pathology and the normal and abnormal ranges of the blood component, in addition to the changes that occur when infected with various diseases……** • **Specific goal: Establishing a good information base on hematology so that the student can keep up with the medical community with which he will live after graduation in hospitals……** •

9. Teaching and Learning Strategies

Strategy	.Cooperative education strategy .Teaching strategy brainstorming .Education strategy collaborative concept planning

	Education strategy real time feedback .series Education strategy notes .Education strategy by exchanging opinions and discussion .Education strategy by presenting information Education strategy through training and presenting .scientific developments

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
١٦-١٧	٤	White blood cells(classification and general functions of each one)	introduction to white blood cells - study of Functions of white blood cells - study the classification white blood cells	Cooperative .education strategy Teaching strategy – .brainstorming Education – strategy collaborative .concept planning Education – time –strategy real feedback Education –– strategy notes .series Education – strategy by exchanging opinions and .discussion Education – strategy by presenting .information Education strategy through training presenting scientific developm	Daily, oral and written examinations, reports, discussions
18	2	Nonmalignant WBCs diseases (neutrophilia, neutropenia, eosinophilia, eosinopenia, monocytosis)	-learning Nonmalignant WBCs diseases -study neutrophilia, neutropenia, eosinophilia, eosinopenia,		

			monocytosis		
19	2	Disorders of lymphocytes	-Introduction the Disorders of of lymphocytes -StudyLymphocytosis -study Disorders Associated with Lymphocytosis -study the Lymphocytopenia		
20	2	Malignant diseases of WBCs (Leukemia, definition of it, types, classification, causes, leukemoid reaction)	Study Malignant diseases of WBCs -study Leukemia Definition -Learning Etiology and Risk factors of Leukemia -Study classification of Leukemia -study the causes of leukemia -study leukemoid reaction		
21	2	Acute leukemia (acute lymphocytic leukemia , acute myeloid leukemia) causes and diagnosis of each one	-Study of Acute leukemia -learning Acutelymphocytic leukemia , acute myeloid leukemia -study the causes of Acutelymphocytic leukemia ,and acute myeloid leukemia -Learning symptoms of a -study the Laboratory findings and Diagnosis of Acutelymphocytic leukemia , acute myeloid leukemia.		
22	2	Chronic leukemia (chronic lymphocytic leukemia , chronic myeloid leukemia) causes and diagnosis of each one	-Define the Introduction of Chronic leukemia -study of chronic lymphocytic leukemia , chronic myeloid leukemia -study Causes of chronic lymphocytic leukemia , chronic myeloid leukemia - study the Laboratory findings and Diagnosis of chroniclymphocytic leukemia , chronic myeloid leukemia.		
23	2	Lymphoma (Hodgkin's lymphoma , causes, lab. Findings	-Study of Lymphoma (Hodgkin's lymphoma - learning the causes, diagnosis and lab. Findings of lymphoma)		

24	2	Non-Hodgkin's lymphoma , causes and lab.findings	Study of Lymphoma (Non-Hodgkin's lymphoma - learning the causes, diagnosis and lab. Findings Non-non-Hodgkin's lymphoma)		
25	2	Platelets (morphology and general functions)	Study Platelets -Learning the (morphology general functions)		
26	2	Haemostasis	-Study Haemostasis -study the causes of Haemostasis -Learning syptom of Haemostasis study the Laboratory findin Haemostasis		
27-28	4	Bleeding disorders	Study Bleeding disorders -study the causes of Bleeding disorders -Learning symptoms of Bleeding disorders study the Laboratory finding Bleeding disorders		
29	2	Arterial thrombosis, venous thrombosis and risk factors	-Study of Arterial thrombosis, venous thrombosis and risk factors - study the causes of Arterial thrombosis, venous thrombosis -study the Laboratory fin of Arterial thrombosis, venous thrombosis		
30		Review the article	Review article		

11. Course Evaluation

Distributing the score out of 13 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Clinical Hematology(Mary louise Turgeon Lippincott and wikins
Main references (sources)	
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	

Course Description Form

1. Course Name: Hematology
2. Course Code:
3. Semester / Year: First/ 2023-2024
4. Description Preparation Date:28/2/2024
5. Available Attendance Forms:
6. Number of Credit Hours (Total) / Number of Units (Total)
6/2
7. Course administrator's name (mention all, if more than one name)
Name: assist. Lec. doaa abdalzahra deli Email: doaa.deli@atu.edu.iq
8. Course Objectives

Course Objectives	**General Objectives: To give the student an expanded and up-to-date idea about the science of blood pathology and the normal and abnormal ranges of the blood component, in addition to the changes that occur when infected with various diseases……** • **Specific goal: Establishing a good information base on hematology so that the student can keep up with the medical community with which he will live after graduation in hospitals……** •

9. Teaching and Learning Strategies

Strategy	.Cooperative education strategy .Teaching strategy brainstorming .Education strategy collaborative concept planning

	Education strategy real time feedback .Education strategy notes series .strategy by exchanging opinions and discussion Education .Education strategy by presenting information Education strategy through training and presenting .scientific developments

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Introduction of hematology(definition, importance, general functions of blood)	-Introduction of hematology - study of Functions of blood - study the Composition of Blood -Learning theories the formation of blood -	Cooperative .education strategy Teaching strategy – .brainstorming Education strategy – collaborative .concept planning Education strategy – time feedback–real Education –– .strategy notes series Education strategy – by exchanging opinions and .ndiscussio Education strategy – by presenting .information Education – strategy through training presenting scientific developmer	Daily, oral and written examinations, reports, discussions
2-3	4	Hemopoiesis, erythropoiesis , morphology of RBCs, cell membrane of RBCs and metabolism of RBCs	Learning the Hematopoiesi - Types of Human Stem Cells -study of erythropoiesis study Myelopoiesis -learning the Structure function of RBC -study The RBC membrane - Metabolism of RBC		

4	2	Hemoglobin (structure, synthesis and levels in blood and in erythrocytes)	Study the Hemoglobin structure Study the function of hemoglobin		
5	2	Anemia (definition, causes, classification)	Study anemia -study the causes of anemia -Learning symptoms of anem -Study classification of anemia		
6	2	Iron metabolism , iron deficiency anemia	-Study of iron metabolism -learning iron deficiency anemia study the causes of anemia -Learning symptoms anemia -study the Tissue effects of iron deficiency -study the Laboratory findings in deficiency anemia.		
7	2	Megaloblastic anemia (B12 deficiency, causes and diagnosis) and pernicious anemia	-Define of Introduction to macrocytic anaemia -Causes of megaloblastic anemia diagnosis -study of Vitamin B12 -Study pernicious anemia -study the causes of anemia -Learning symptoms pernicious anemia		
8	2	Folate deficiency (causes, diagnosis)	-Study of Folate deficiency - learning the causes, diagnosis)		
9-10	4	Hemolytic anemia	Study anemia -study the causes of anemia -Learning symptoms anemia -Study classification of Anemia study the Laboratory findings in Hemolytic anemia.		
11	2	Thalassemia (definitions, types, causes and diagnosis)	Study Thalassemia anemia -study the causes of Thalassemia anemia -Learning symptom of anemia		

			-Study classification of Anemia study the Laboratory findings Hemolytic anemia.		
12	2	Sickle cell anemia	Study anemia -study the causes of anemia -Learning syptom of an -Study classification of Anemia study the Laboratory findings Hemolytic anemia.		
13	2	Aplastic anemia	Study anemia -study the causes of anemia -Learning symptoms of anemia -Study classification of Anemia study the Labor findings in Hemo anemia.		
14	2	Polycythemia	Study of Polycythemia - study the causes Polycythemia -learning type Polycythemia -study the Labor findings of Polycythem		
		مراجعة للمادة			

11. Course Evaluation

Distributing the score out of 13 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Clinical Hematology(Mary louise Turgeon Lippincott and wikins
Main references (sources)	
Recommended books and references (scientific journals, reports…)	
Electronic References, Websites	

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programmer specification.

١. Teaching Institution	AL-Awsat Technical University
٢. University Department/Centre	medical laboratory techniques
٣. Course title/code	Theoretical biochemistry
٤. Modes of Attendance offered	weekly
٥. Semester/Year	First and second semester/ first stage
٦. Number of hours tuition (total)	٦٠
٧. Date of production/revision of this specification	١٩/٢/٢٠٢٤
٨. Aims of the Course	
١- Giving a general idea of the nature of the metabolic processes that occur in the body and their effects on the health of the organism.	
٢- Giving an idea and basic information in biochemistry and developing the student's ability and skills in pathological analyzes	
٣- The student’s knowledge of the basic and different compounds in the organism’s body and the identification of vital values and reference to some of their pathological conditions.	

٩· Learning Outcomes, Teaching ,Learning and Assessment Methode

A١-Clarify the general concept of biochemistry and the impact of its interactions on the health of an organism.
A ٢- Introducing the student to the metabolic processes that occur inside the organism and their relationship to some cases

B. The skills goals special to the course.
B١ - Acquisition of sufficient skill to distinguish between one diseased condition and another and the metabolic process that causes it.

B٢ - Introducing the student to the basic vital compounds and their importance in the human body.
.

Teaching and Learning Methods

١- lectures
٢- Illustrations such as video
٣- Discussion

Assessment methods

١- Written exams
٢- Direct questions during the laboratory

C. Affective and value goals
C١- Commitment to the instructions and ethics of the educational institution
C ٢- Receiving the information provided in the laboratory and using it in his professional life.
.

D. General and rehabilitative transferred skills(other skills relevant to employability and personal development)

D١- Employing the information received by the student to benefit from it in his daily and practical life.

D ٢- The ability to express ideas clearly and confidently in speech

١٠. Course Structure

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
the first	٢ theoretical	Introduction to metabolic processes	١)introduction of metabolism ٢)food energy	Give lectures and show some videos	Quiz
The second	٢ theoretical	enzymes	١)enzymes and Isoenzymes ٢)Regulation of enzyme activity	Give lectures and show some videos	Quiz
the third	٢ theoretical		Inhibitors of enzymes deficient or defective enzymes	Give lectures and show some videos	Quiz
the fourth	٢ theoretical	carbohydrates	Oxidation of Glucose: glycolysis ١- Transport of glucose into cells ٢- Reaction of glycolysis	Give lectures and show some videos	Quiz
Fifth	٢ theoretical		٣- Hormonal regulation of glycolysis	Give lectures and show some videos	written exam
Sixth	٢ theoretical	/	First exam	/	Quiz
seventh	٢ theoretical	blood glucose	- regulation of Blood glucose -Diabetes mellitus	Give lectures and show some videos	Quiz
Eighth	٢ theoretical		Glycogen metabolism	Give lectures and show some videos	Quiz

ninth	٢ theoretical		١) Glycogen storage diseases ٢) Hypoglycaemia	Give lectures and show some videos	Quiz
The tenth	٢ theoretical	glycogen	١)Regulation of glycogen ٢)synthesis and degradation	Give lectures and show some videos	written exam
eleventh	٢ theoretical	/	second exam	/	Quiz
twelfth	٢ theoretical	urea	١)reactions of the TCA cycle: ٢) Oxidation of Acetyl CoA by the TCA cycle	Give lectures and show some videos	Quiz
Thirteenth	٢ theoretical		٣) Energy production by the TCA cycle ٤- Synthetic function of the TCA cycle ٥- Regulation of the TCA cycle	Give lectures and show some videos	Quiz
fourteenth	٢ theoretical	Proteins	١) structure of protein ٢) function of protein ٣) Digestion of proteins	Give lectures and show some videos	Quiz
Fifteenth	٢ theoretical		٤) Serum protein components ٥) Insulin structure	Give lectures and show some videos	Quiz
sixteen	٢ theoretical	sinter	١)LIPID METABOLISM ٢)type of lipids ٣)function of lipids	Give lectures and show some videos	Quiz
seventeenth	٢ theoretical		Oxidation of Fatty acids	Give lectures and show some videos	written exam
eighteen	٢ theoretical	/	Third exam (لبعض الطلبة بسبب الاجازات	/	Quiz

			المرضية وغيرها)		
nineteenth	٢ theoretical	cholesterol	١) Cholestrol metabolism ٢)Lipoprotein metabolism	Give lectures and show some videos	Quiz
twenty	٢ theoretical	nucleotides	١)Nucleotide metabolism ٢) Disorders of Purines & Pyramidines metabolism	Give lectures and show some videos	Quiz
twenty one	٢ theoretical		Uric acid synthesis & hyperuricemia	Give lectures and show some videos	Quiz
twenty two	٢ theoretical	hemoglobin	Hemoglobin synthesis and types	Give lectures and show some videos	Quiz
twenty third	٢ theoretical		Metabolism of hemoglobin	Give lectures and show some videos	written exam
twenty fourth	٢ theoretical	/	Fourth exam	/	Quiz
twenty-fifth	٢ theoretical	fructose	Fructose metabolism and disorder	Give lectures and show some videos	Quiz
twenty-sixth	٢ theoretical	galactose	Galactose metabolism and disorder	Give lectures and show some videos	Quiz
Twenty-seven	٢ theoretical	Important elements in the functions of a living organism	Function of Trace elements	give lectures and show some videos	Quiz
twenty-eight	٢ theoretical		Needed of Trace elements	Give lectures and show some videos	written exam
twenty-nine	٢ theoretical	/	Fifth exam	/	/
thirty	٢ theoretical	/	مراجعة	/	/

١١. Infrastructure

١. Books Required reading:	lectures
٢. Main references (sources)	١- basics in biochemistry ٢- An Introduction to Biochemistry (Dr. Khawla Al Fleih) ٣- Biochemistry (Dr. Talal Najafi)
A- Recommended books and references (scientific journals, reports…).	Scientific research in the field
B-Electronic references, Internet sites…	E-book of biochemistry lippincoot
١٢. The development of the curriculum plan	
Conducting extensive research and reports on the latest information that modern science has received on school topics.	

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programme specification.

١. Course title/code	Biochemistry practical
٢. Modes of Attendance offered	Practical
٣. Semester/Year	Quarterly system
٤. Number of hours tuition (total)	١٨ hour in week ٤unit
٥. Date of production/revision of this specification	١٩-٢-٢٠٢٤
٦. Aims of the Course	
The general objective - to give an idea and information in clinical chemistry and to develop the student's skill in pathological analyzes and how to obtain and interpret analytical results.	
The special goal - that the student be able to conduct clinical examinations and be familiar with the preparation of solutions and the use of modern equipment for detection methods and obtaining accurate results.	

٧٠ Learning Outcomes, Teaching ,Learning and Assessment Methode

A- Cognitive goals .

A١. Learn about security and safety procedures and how to deal with accidents

A٢.Studying the types of laboratory analyzes and knowing the normal ratios for each examination

A٣. Learn how to do analyzes and how to calculate them

A٤. Briefing on the types of laboratory equipment and methods of their use, in addition to identifying the names of the manufacturers

A٥.Knowing the meaning of biochemistry and its difference from general chemistry and its relationship to vital variables in the human body

A٦. Understand and keep abreast of the latest types of medical tests and how to benefit from them

B. The skills goals special to the course.

B١. To make the student familiar with the basics of biochemistry

B٢. The possibility of dealing with laboratory tools and using the laboratory

B٣. Giving the student a quality in terms of theoretical and practical medical chemical analysis

B٤. Develop the student's ability to solve chemical problems and equations.

Teaching and Learning Methods

١.The electronic lecture using the presentation program + presentation of the work steps in the form of an illustrative video

٢. Using the brainstorming method by asking intellectual questions

٣. Involve the student in the scientific subject by presenting a seminar on recent topics related to the academic subject

٤. Practical training in groups

٥. Preparing printed scientific lectures

Assessment methods

Quiz
class activities
the audience
monthly exams

C. Affective and value goals

C١.Spreading the spirit of team work through teamwork in the form of divided groups

C٢ Motivating the student to share information with

colleagues to strengthen relations between students

C٣- Enhancing the student's self-confidence by doing the seminar and deliberating with oral questions

C٤- Develop abstract thought and become familiar with the philosophy of science and methods of logical thinking

D. General and rehabilitative transferred skills(other skills relevant to employability and personal development)

D١. The student shall be able to take a medical examination with its interpretation

D٢ - Using more than one analysis method to compare the results

D٣ - Coordination with the attending physician to follow up the patient.

D ٤- Using modern equipment to perform the examination

١٠. Course Structure

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
١	٢	Specimen Collection [blood, urine, CSF].	Specimen Collection [blood, urine, CSF].	giving a lecture	oral questions
٢	٢	Specimen Transport and Specimen Processing	Specimen Transport and Specimen Processing	discussion lecture	oral questions
٣	٢	Blood collection techniques, Anticoagulant, Separation of Serum	Blood collection techniques, Anticoagulant, Separation of Serum	discussion lecture	oral questions
٤	٢	Principles Of Instrumentation [photometer, Colorimetry and Spectrophotometry ٦ Components]	Principles Of Instrumentation [photometer, Colorimetry and Spectrophotometry ٦ Components]	discussion lecture	oral questions
٥	٢	Carbohydrates tests	Carbohydrates tests	discussion lecture	oral questions
٦	٢	Molish test, Iodine test, Benedict's test and Barfoed test.	Molish test, Iodine test, Benedict's test and Barfoed test.	discussion lecture	oral questions
٧	٢	Seliwanoff's test, Osazone test, Athrone test and Dinitrosalicylic acid Method.	Seliwanoff's test, Osazone test, Athrone test and Dinitrosalicylic acid Method.	discussion lecture	oral questions
٨	٢	Roe's method, Fehling's test, Somogyi-Nelson method and Mucic	Roe's method, Fehling's test, Somogyi-Nelson method and Mucic	discussion lecture	oral questions

		acid test.	acid test.		
٩	٢	Amino acids tests	Amino acids tests	discussion lecture	oral questions
١٠	٢	Ninhydrin Test, Isatin Test and Xanthoprotic test.	Ninhydrin Test, Isatin Test and Xanthoprotic test	discussion lecture	oral questions
١١	٢	Pauly's diazo test, Sakaguchi Test, Millon's Test	Pauly's diazo test, Sakaguchi Test, Millon's Test	discussion lecture	oral questions
١٢	٢	Ehrlich Test, Nitroprusside Test, Sullivan and McCarthy's Test	Ehrlich Test, Nitroprusside Test, Sullivan and McCarthy's Test	discussion lecture	oral questions

١١. Infrastructure	
١. Books Required reading:	Principles of Medical Biochemistry, FOURTH EDITION
٢. Main references (sources)	Textbook of Medical Biochemistry Eighth Edition Dr (Brig) MN Chatterjea
A- Recommended books and references (scientific journals, reports…).	Textbook of Medical Biochemistry Eighth Edition Dr (Brig) MN Chatterjea
B-Electronic references, Internet sites…	Chemistry webs, journals, conferences that depended in the high ranked international universities.
١٢. The development of the curriculum plan	
Complete titles of scientific topics linking biochemistry with modern applications through the work of seminars for students on such topics.	

وزارة التعليم العالي والبحث العلمي
جهاز الإشراف والتقويم العلمي
دائرة ضمان الجودة والاعتماد الأكاديمي
قسم الاعتماد

دليل وصف المقرر الدراسي

٢٠٢٤

نموذج وصف المقرر

١. اسم المقرر: clinical chemistry
٢. رمز المقرر
٣. الفصل / السنة : الدراسية الثالثة
٤. تاريخ إعداد هذا الوصف : ١٩-٢-٢٠٢٤
٥. أشكال الحضور المتاحة :
٦. عدد الساعات الدراسية (الكلي)/ عدد الوحدات (الكلي) ٢/ ٢
٢
٧. اسم مسؤول المقرر الدراسي
م.م فهد داخل فهد ابوغنيم fahad.fahad@atu.edu.iq

٨. اهداف المقرر

اهداف المادة الدراسية	**الهدف العام: تعرف الطالب على أهم الكيمياء السريرية** **الهدف الخاص: سيكون الطالب قادرا على ان:**

٩. استراتيجيات التعليم والتعلم

الاستراتيجية	إستراتيجية التعليم التعاوني. استراتيجية التعليم العصف الذهني. استراتيجية التعليم تخطيط المفهوم التعاوني. استراتيجية التعليم ردود الفعل في الوقت الحقيقي استراتيجية التعليم سلسلة الملاحظات. استراتيجية التعليم بتبادل الآراء والمناقشة. استراتيجية التعليم بعرض المعلومات. استراتيجية التعليم بالتدريب وعرض المستجدات العلمية.

١٠. اولا: بنية المقرر (النظري)

الأسبوع	الساعات (النظرية)	مخرجات التعلم المطلوبة	اسم الوحدة او الموضوع	طريقة التعلم	طريقة التقييم
٢-١	٤		Water Homeostasis	إستراتيجية التعليم التعاوني. استراتيجية التعليم العصف الذهني. استراتيجية التعليم تخطيط المفهوم التعاوني. استراتيجية التعليم ردود الفعل في الوقت الحقيقي استراتيجية التعليم سلسلة الملاحظات. استراتيجية التعليم بتبادل الآراء والمناقشة. استراتيجية التعليم بعرض المعلومات. استراتيجية التعليم بالتدريب وعرض المستجدات العلمية.	الامتحانات اليومية التحريرية والتقارير، المناقشات.
٤-٣	٤		Electrolytes and Minerals metabolism	=	=
٦-٥	٤		Blood gases	=	=
٨-٧	٤		Diabetes mellitus	=	=
١١-١٠-٩	٦		Liver	=	=
١٣-١٢	٤		kidney	=	=
١٥-١٤	٤		Disorder of lipid metabolism	=	=
١٦	٢		Heart function Heart diseases	=	=
١٧	٢		pancreatic function and pancreatic diseases	=	=
١٩-١٨	٤		serum protein components disease	=	=
٢٢-٢١-٢٠	٦		enzymes	=	=
٢٥-٢٤-٢٣	٦		Tumor markers	=	=
٣٠-٢٩-٢٨-٢٧-٢٦	٦		General aspect of hormone	=	=

١١. تقييم المقرر

توزيع الدرجة من ١٠٠ على وفق المهام المكلف بها الطالب مثل التحضير اليومي والامتحانات اليومية والتحريرية والتقارير .... الخ

١٢. مصادر التعلم والتدريس

الكتب المقررة المطلوبة المختصة بالكيمياء السريرية	

Course Description Form

1. Course Name: Genetics–theory	
2. Course Code:	
3. Semester / Year: first and second semester/third stage	
4. Description Preparation Date: 28/2/2024	
5. Available Attendance Forms:	
6. Number of Credit Hours (Total) / Number of Units (Total) : 2/6	
7. Course administrator's name (mention all, if more than one name)	
Name:Najat Mohammed flyyih Email: najat.fleihckm@atu.edu.iq	
8. Course Objectives	
Course Objectives	1. Student's knowledge of human genetics 2. Understand what heredity, hereditary diseases, and inherited diseases are, gaining a distinction between them 3. Knowing the inheritance of cancerous diseases and the genes responsible for the diseases 4. Factors and causes of cancerous diseases and mutagenic substances in the surrounding environment
9. Teaching and Learning Strategies	
Strategy	Cooperative education strategy. Teaching strategy brainstorming. Education strategy collaborative concept planning. Education strategy real time feedback Education strategy notes series. Education strategy by exchanging opinions and discussion. Education strategy by presenting information. Education strategy through training and presenting scientific developments

10. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
the first	2	Introduction to human genetic.	Introduction to human genetic	Video +pdf+ppt , virtual lab	Oral exams and quiz
The second	2	Cell division	Cell division	Video +pdf+ppt	Oral exams and quiz
the third	2	Type of cell division, meiosis ,mitosis	meiosis ,mitosis	Video +pdf+ppt	Oral exams and quiz
the fourth	2	The chromosomes History -structure number karyotyping	karyotyping	Video +pdf+ppt	Oral exams and quiz
Fifth	2	The chromosomes History -structure number karyotyping	Step of karyotyping	Video +pdf+ppt	Oral exams and quiz
Sixth	2	The chromosomal abnormalities	The chromosomal abnormalities	Video +pdf+ppt	Oral exams and quiz
seventh	2	The chromosomal abnormalities	Example of The chromosomal abnormalities	Video +pdf+ppt	Oral exams and quiz
Eighth	2	First exam	\	\	First exam
ninth	2	Genetic disease due chromosomal abnormalities	Genetic disease due chromosomal abnormalities		Oral exams and quiz
The tenth	2	Genetic disease due chromosomal abnormalities	Genetic disease due chromosomal abnormalities	Video +pdf+ppt	Oral exams and quiz
eleventh	2	Patter of inheritance Mendel's laws	Patter of inheritance Mendel's laws	Video +pdf+ppt	Oral exams and quiz
twelfth	2	Dominant inheritance	Dominant inheritance	Video +pdf+ppt	Oral exams and quiz

10. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the program specification.

1. Teaching Institution	Health and Medical technique college
2. University Department/Centre	medical laboratory techniques
3. Course title/code	Practical human genetic
4. Modes of Attendance offered	Weekly
5. Semester/Year	First and second semester/ third stage
6. Number of hours tuition (total)	60 hours
7. Date of production/revision of this specification	28/2/2024
8. Aims of the Course	
1- The student's knowledge of human genetics 2. Knowing the devices and tools used in genetic tests 3. Knowing the materials and solutions used 4. Genetic testing and analysis	

9· Learning Outcomes, Teaching ,Learning and Assessment Methode

A- Cognitive goals .

A1- Commitment to the instructions and ethics of the educational institution

A2- Receiving the information provided in the laboratory and using it in his professional life-

.

B. The skills goals special to the course.

B1- Develop the skill of the student and follow up on the latest technologies and the latest findings of modern science

B2 - Acquire sufficient skill to understand and know the equipment used in genetic testing.

B3 - Student definition of medical genetics analysis B3.

Teaching and Learning Methods

1- Explanations (show the video experiments)

2- virtual lab (praxilab , lab exchange) Student groups

3- Discussion sessions after performing the experiment

Assessment methods

1- electron, written exams.

2- Preparing seminars and participating in lectures.

C. Affective and value goals

C1 - Commitment to the instructions and ethics of the educational institution

C2- Receiving the information provided and benefiting from it in his practical and professional life and, as much as possible, to correct the wrong information

D. General and rehabilitative transferred skills(other skills relevant to employability and personal development)

D1- Employing the information received by the student to benefit from it in his daily and practical life.

D 2- The ability to express ideas clearly and confidently in speech -

10. Course Structure

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
the first	2	Introduction to human genetic. information and laws related to laboratory safety and security	Introduction to human genetic	Pdf +ppt, virtual lab , virtual lab	Oral exams and quiz
The second	2	Cell division	Cell division	Pdf +ppt, virtual lab	Oral exams and quiz
the third	2	Type of cell division, meiosis ,mitosis	Slides	Pdf +ppt, virtual lab	Oral exams and quiz
the fourth	2	karyotyping	karyotyping	Pdf +ppt, virtual lab	Oral exams and quiz
Fifth	2	karyotyping	Step of karyotyping	Pdf +ppt, virtual lab	Oral exams and quiz
Sixth	2	karyotyping	Step of karyotyping	Pdf +ppt, virtual lab	Oral exams and quiz
seventh	2	The chromosomal abnormalities	Picture of The chromosomal abnormalities	Pdf +ppt, virtual lab	Oral exams and quiz
Eighth	2	First exam	\	\	First exam
ninth	2	Cytogenetic sampling	Modern technology in cytogenetic	Pdf +ppt, virtual lab	Oral exams and quiz
The tenth	2	Tissue culture	Introduction to tissue culture	Pdf +ppt, virtual lab	Oral exams and quiz
eleventh	2	Step of tissue	Type of sample and preparation	Pdf +ppt,	Oral exams and quiz

		culture		virtual lab	
twelfth	2	Step of tissue culture	Type of sample and preparation	Pdf +ppt, virtual lab	Oral exams and quiz
Thirteenth	2	Karyotyping	Step of cell prepare	Pdf +ppt, virtual lab	Oral exams and quiz
fourteenth	2	Karyotyping	Step of cell prepare	Pdf +ppt, virtual lab	Oral exams and quiz
Fifteenth	2	Second exam	\	\	Second exam
sixteen	2	Karyotyping	Step of cell prepare	Pdf +ppt, virtual lab	Oral exams and quiz
seventeenth	2	Karyotyping	Step of cell prepare	Pdf +ppt, virtual lab	Oral exams and quiz
eighteen	2	cytogenetic test	Introduction to cytogenetic test	Pdf +ppt, virtual lab	Oral exams and quiz
nineteenth	2	DNA extraction	DNA extraction	Pdf +ppt, virtual lab	Oral exams and quiz
twenty	2	How to choose perfect method	Chemical, biological. enzyme	\	Oral exams and quiz
twenty one	2	Third exam	\	\	Third exam
twenty two	2	Type of DNA extraction	Chemical, biological. enzyme	Pdf +ppt, virtual lab	Oral exams and quiz
twenty third	2	Work in lab	Work in lab	Pdf +ppt, virtual lab	Oral exams and quiz
twenty fourth	2	DNA finger printing	DNA finger printing	Pdf +ppt, virtual lab	Oral exams and quiz
twenty-fifth	2	study of family pedigree	study of family pedigree	Pdf +ppt, virtual lab	Oral exams and quiz
twenty-sixth	2	DNA Hybridization	DNA Hybridization	Pdf +ppt, virtual lab	Oral exams and quiz
Twenty-seven	2	Exam	\	Exam	Exam
twenty-eight	2	study of family pedigree	study of family pedigree	Pdf +ppt, virtual lab	Oral exams and quiz
twenty-night	2	DNA	twenty-sixth	2	Oral exams and quiz

Thirteen		Exam	\	\	\

11. Infrastructure	
1. Books Required reading:	Lecture
2. Main references (sources)	*genetic of cancer, principle of human genetic*
A- Recommended books and references (scientific journals, reports…).	*Practical of Human genetic*
B-Electronic references, Internet sites…	Net ,virtual lab program

12. The development of the curriculum plan
1- Training students to participate in preparing lectures and delivering scientific seminars and panel discussions 2- Using virtual laboratory sites to conduct and train practical laboratories that are difficult to apply

Course Description Form

1. Course Name: Genetics–theory	
2. Course Code:	
3. Semester / Year: first and second semester/third stage	
4. Description Preparation Date: 28/2/2024	
5. Available Attendance Forms:	
6. Number of Credit Hours (Total) / Number of Units (Total) : 2/6	
7. Course administrator's name (mention all, if more than one name)	
Name:Najat Mohammed flyyih Email: najat.fleihckm@atu.edu.iq	
8. Course Objectives	
Course Objectives	1. Student's knowledge of human genetics 2. Understand what heredity, hereditary diseases, and inherited diseases are, gaining a distinction between them 3. Knowing the inheritance of cancerous diseases and the genes responsible for the diseases 4. Factors and causes of cancerous diseases and mutagenic substances in the surrounding environment
9. Teaching and Learning Strategies	
Strategy	Cooperative education strategy. Teaching strategy brainstorming. Education strategy collaborative concept planning. Education strategy real time feedback Education strategy notes series. Education strategy by exchanging opinions and discussion. Education strategy by presenting information. Education strategy through training and presenting scientific developments

10. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
the first	2	Introduction to human genetic.	Introduction to human genetic	Video +pdf+ppt , virtual lab	Oral exams and quiz
The second	2	Cell division	Cell division	Video +pdf+ppt	Oral exams and quiz
the third	2	Type of cell division, meiosis ,mitosis	meiosis ,mitosis	Video +pdf+ppt	Oral exams and quiz
the fourth	2	The chromosomes History -structure number karyotyping	karyotyping	Video +pdf+ppt	Oral exams and quiz
Fifth	2	The chromosomes History -structure number karyotyping	Step of karyotyping	Video +pdf+ppt	Oral exams and quiz
Sixth	2	The chromosomal abnormalities	The chromosomal abnormalities	Video +pdf+ppt	Oral exams and quiz
seventh	2	The chromosomal abnormalities	Example of The chromosomal abnormalities	Video +pdf+ppt	Oral exams and quiz
Eighth	2	First exam	\	\	First exam
ninth	2	Genetic disease due chromosomal abnormalities	Genetic disease due chromosomal abnormalities		Oral exams and quiz
The tenth	2	Genetic disease due chromosomal abnormalities	Genetic disease due chromosomal abnormalities	Video +pdf+ppt	Oral exams and quiz
eleventh	2	Patter of inheritance Mendel's laws	Patter of inheritance Mendel's laws	Video +pdf+ppt	Oral exams and quiz
twelfth	2	Dominant inheritance	Dominant inheritance	Video +pdf+ppt	Oral exams and quiz

10. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc

وزارة التعليم العالي والبحث العلمي
جهاز الإشراف والتقويم العلمي
دائرة ضمان الجودة والاعتماد الأكاديمي
قسم الاعتماد

دليل وصف المقرر الدراسي

٢٠٢٤

نموذج وصف المقرر

١. اسم المقرر: امراض الدم
٢. رمز المقرر
٣. الفصل / السنة : الدراسية الثالثة
٤. تاريخ إعداد هذا الوصف : ١٩-٢-٢٠٢٤
٥. أشكال الحضور المتاحة :
٦. عدد الساعات الدراسية (الكلي)/ عدد الوحدات (الكلي) ٢/ ٦
٧. اسم مسؤول المقرر الدراسي
م.م دعاء عبد الزهرة دلي doaa.deli@atu.edu.iq

٨. اهداف المقرر

اهداف المادة الدراسية	**الهدف العام :** اعطاء الطالب فكرة موسعة وحديثه عن علم امرض الدم والمديات الطبيعيه وغير الطبيعيه لمكونة الدم بالاضافة للتغيرات التي تحدث عند الاصابة بالامراض المختلفة. **الهدف الخاص:** ارساء قاعدة معلومات جيده عن علم امراض الدم ليتسنى للطالب مواكبـــــــة المجتمع الطبي الذي سيعيش معه بعد التخرج في المستشفيات.

٩. استراتيجيات التعليم والتعلم

الاستراتيجية	إستراتيجية التعليم التعاوني. استراتيجية التعليم العصف الذهني. استراتيجية التعليم تخطيط المفهوم التعاوني. استراتيجية التعليم ردود الفعل في الوقت الحقيقي استراتيجية التعليم سلسلة الملاحظات. استراتيجية التعليم بتبادل الآراء والمناقشة. استراتيجية التعليم بعرض المعلومات. استراتيجية التعليم بالتدريب وعرض المستجدات العلمية.

١٠. اولا: بنية المقرر (النظري)

الأسبوع	الساعات (النظرية)	مخرجات التعلم المطلوبة	اسم الوحدة او الموضوع	طريقة التعلم	طريقة التقييم
١-	٢	١- نبذة تعريفية عن علم الدم ٢- معرفة وظائف الدم ٣- معرفة مكونات الدم ٤- معرفة مواقع تكوين الدم	Introduction of hematology(definition, importance, general functions of blood)	إستراتيجية التعليم التعاوني. استراتيجية التعليم العصف الذهني. استراتيجية التعليم تخطيط المفهوم التعاوني. استراتيجية التعليم ردود الفعل في الوقت الحقيقي استراتيجية التعليم سلسلة الملاحظات. استراتيجية التعليم بتبادل الآراء والمناقشة. استراتيجية التعليم بعرض المعلومات. استراتيجية التعليم بالتدريب وعرض المستجدات العلمية.	الامتحانات اليومية والشفوية والتحريرية والتقارير، المناقشات.
٢-٣	٤	١- معرفة تمايز ٢- وتكوين خلايا الدم ٣- معرفه أنواع الخلايا الجذعية ٤- معرفة كيف تتكون كريات الحمراء ٥- دراسة الخلايا الشبكية ٦- وضيفة كريات الدم الحمراء ٧- معرفه تركيب كريات الحمراء ٨- معرفه تركيب الغشاء لكر الدم الحمر ٩- توضيح عمليه الايض الا لكريات الدم الحمر	Hemopoiesis, erythropoiesis , morphology of RBCs, cell membrane of RBCs andmetabolism of RBCs	=	=
٤	٢	١- تعريف الهيموغلوبين ٢- معرفة تر الهيموغلوبين ٣- معرفة وظ الهيموغلوبين	Hemoglobin (structure, synthesis and levels in blood and in erythrocytes)	=	=

٥	٢	١- نبذه تعريفيه عن فقر الدم ٢- اعراض فقر الدم ٣- أسباب فقر الدم ٤- تصنيف فقر الدم	Anemia (definition, causes, classification)	=	=
٦	٢	١- نبذه تعريفية عن فقر الدم الي نقص الحديد ٢- ٢- معرفه كيف يتم توزيع الحديد بالجسم ٣- ٣- معرفه امتصاص ا بالجسم ٤- معرفة تنظيم عملية ايض بالجسم ٥- معرفه أسباب انيميا نقص ال	Iron metabolism , iron deficiency anemia	=	=
٧	٢	١- نبذه تعريفيةعن aloblastic anemia ٢- معرفة الأسباب ٣- كيفيه التشخيص ٤- معرفه pernicious anemia	Megaloblastic anemia (B١٢ deficiency, causes and diagnosis) and pernicious anemia	=	=
٨	٢	١- نبذة تعريفية عن نقص late ٢- أسباب النقص ٣- معرفة التشخيص	Folatedeficiency (causes, diagnosis)	=	=
٩-١٠	٤	١- نبذه تعريفيه عن olytic anemia ٢- تصنيف الانيميا ٣- النتائج المختبرية ٤- معرفة التحلل الي يحصل الاوعية وخارجها ٥- معرفه أسباب التحلل وداخل الاوعية	Hemolytic anemia	=	=
١١	٢ تعريف الدم المنجل انواعه و أ و طرق تشخيصه	تعريف الثلاسيميا و أنواعها و أسبابها و تشخيصها	Thalassemia (definitions, types, causes and diagnosis)	=	=
١٢	٢	تعريف فقر الدم المنجلي و انواعه و أسبابه و تشخيصه	Sickle cell anemia	=	=
١٣	٢	تعريف فقر الدم اللاتنسيجي و انواعه و أسب طرق تشخيصه	Aplastic anemia	=	=
١٤-	٢	تعريف كثرة كريات الدم ا وانواعها وكيفيه تشخيصها	Polycythemia	=	=
١٥			مراجعة للمادة		

=
=
=
=
=
=
=
طريقة التقييم
الامتحانات اليومية والشفوية والتحريرية والتقارير، المناقشات.

=
=
=
=
=
=
=
=
=
=
=
=
=
=
=
=

١١. تقييم المقرر
توزيع الدرجة من ١٣ على وفق المهام المكلف بها الطالب مثل التحضير اليومي والامتحانات اليومية والشهرية والتحريرية والتقارير .... الخ

١٢. مصادر التعلم والتدريس	
Clinical Hematology(Mary louise Turgeon Lippincott and wikins	

وزارة التعليم العالي والبحث العلمي
جهاز الإشراف والتقويم العلمي
دائرة ضمان الجودة والاعتماد الأكاديمي
قسم الاعتماد

دليل وصف المقرر الدراسي

٢٠٢٤

نموذج وصف المقرر

١. اسم المقرر: **علم الامراض النسيجية**
٢. رمز المقرر
٣. الفصل / السنة : السنة الثالثة
٤. تاريخ إعداد هذا الوصف : ١٩-٢-٢٠٢٤
٥. أشكال الحضور المتاحة : تعليم الحضوري
٦. عدد الساعات الدراسية (الكلي)/ عدد الوحدات (الكلي) ٢/ ٧
٧. اسم مسؤول المقرر الدراسي
م.م. عباس حسين عبيد abbas.obaid@atu.edu.iq

٨. اهداف المقرر

اهداف المادة الدراسية	**الهدف العام: تعرف الطالب على أهم موضوعات ومصطلحات امراض النسيجية** **الهدف الخاص: سيكون الطالب قادرا على ان:** **١- معرفة أساسيات مادة الامراض النسيجية** **٢- معرفة تقنيات المستخدمة** **٣- معرفة الطالب أهمية المادة في حياته العملية**

٩. استراتيجيات التعليم والتعلم

الاستراتيجية	إستراتيجية التعليم التعاوني. استراتيجية التعليم العصف الذهني. استراتيجية التعليم تخطيط المفهوم التعاوني. استراتيجية التعليم ردود الفعل في الوقت الحقيقي استراتيجية التعليم سلسلة الملاحظات. استراتيجية التعليم بتبادل الآراء والمناقشة. استراتيجية التعليم بعرض المعلومات. استراتيجية التعليم بالتدريب وعرض المستجدات العلمية.

١٠. اولا: بنية المقرر (النظري)

الأسبوع	الساعات (النظرية)	مخرجات التعلم المطلوبة	اسم الوحدة او الموضوع	طريقة التعلم	طريقة التقييم
١-٢	٤	١- رفع مستوى الطلبة في مفهوم المقدمة عن المادة وتركيب الخلية والانسجة التي تتغير وتستجيب للتصبيغ ٢- معرفة التقنيات المستخدمة ٣- معرفة أساسيات الخلية	Introduction, cell constituents	إستراتيجية التعليم التعاوني. استراتيجية التعليم العصف الذهني. استراتيجية التعليم تخطيط المفهوم التعاوني. استراتيجية التعليم ردود الفعل في الوقت الحقيقي استراتيجية التعليم سلسلة الملاحظات. استراتيجية التعليم بتبادل الآراء والمناقشة. استراتيجية التعليم بعرض المعلومات. استراتيجية التعليم بالتدريب وعرض المستجدات العلمية.	الامتحانات اليومية والشفوية والتحريرية والتقارير، المناقشات.
٣	٢	=	**Inflammation, Acute Inflammation**	=	=
٤	٢	=	**Repair & Degeneration**	=	=
٥	٢	=	**Chronic Inflammation**	=	=
٦	٢	=	**healing**	=	=
٧	٢	=	**changes, Degeneration**	=	=
٨	٢	=	**Atropphy**	=	=
٩	٢	=	**Necrosis,**	=	=
١٠	٢	=	**cloudy swelling**	=	=
١١	٢	=	**Gangrene**	=	=

١٢	٢	=	**diagnosis of cancer** and causes,	=	=
١٣	٢	=	**hyperatrophy**	=	=
١٤-١٥	٢	=	**مراجعة عامة**	=	=

١١. تقييم المقرر

توزيع الدرجة من ١٠٠ على وفق المهام المكلف بها الطالب مثل التحضير اليومي والامتحانات اليومية والشفوية والشهرية والتحريرية والتقارير .... الخ

١٢. مصادر التعلم والتدريس

Robbins BASIC PATHOLOGY	
ic and Advanced Laboratory Techniques in Histopathology and Cytology	
Basic Pathology	

وزارة التعليم العالي والبحث العلمي
جهاز الإشراف والتقويم العلمي
دائرة ضمان الجودة والاعتماد الأكاديمي
قسم الاعتماد

دليل وصف المقرر الدراسي

٢٠٢٤

نموذج وصف المقرر

١. اسم المقرر: **علم الامراض النسيجية**
٢. رمز المقرر
٣. الفصل / السنة : الدراسية الرابعة
٤. تاريخ إعداد هذا الوصف : ١٩-٢-٢٠٢٤
٥. أشكال الحضور المتاحة : تعليم الحضوري
٦. عدد الساعات الدراسية (الكلي)/ عدد الوحدات (الكلي) ٥/٢
٧. اسم مسؤول المقرر الدراسي
م.م. عباس حسين عبيد abbas.obaid@atu.edu.iq

٨. اهداف المقرر	
اهداف المادة الدراسية	**الهدف العام: تعرف الطالب على أهم موضوعات ومصطلحات امراض النسيجية** **الهدف الخاص: سيكون الطالب قادرا على ان:** **١- معرفة أساسيات مادة الامراض النسيجية** **٢- معرفة الامراض وطرق تشخيصها مختبريا** **٣- معرفة الطالب أهمية المادة في حياته العملية**

٩. استراتيجيات التعليم والتعلم	
الاستراتيجية	إستراتيجية التعليم التعاوني. استراتيجية التعليم العصف الذهني. استراتيجية التعليم تخطيط المفهوم التعاوني. استراتيجية التعليم ردود الفعل في الوقت الحقيقي استراتيجية التعليم سلسلة الملاحظات. استراتيجية التعليم بتبادل الآراء والمناقشة. استراتيجية التعليم بعرض المعلومات. استراتيجية التعليم بالتدريب وعرض المستجدات العلمية.

١٠. اولا: بنية المقرر (النظري)

الأسبوع	الساعات (النظرية)	مخرجات التعلم المطلوبة	اسم الوحدة او الموضوع	طريقة التعلم	طريقة التقييم
١-٢	٤	١- رفع مستوى الطلبة في مفهوم المقدمة عن المادة وتركيب الخلية والانسجة التي تتغير وتستجيب للتصبيغ ومعرفة الأورام والأكثر شيوعا ٢- معرفة التقنيات المستخدمة وطرق التشخيص ٣- معرفة أساسيات علم الامراض	Lung (atelectasias, acute lung injury)	إستراتيجية التعليم التعاوني. استراتيجية التعليم العصف الذهني. استراتيجية التعليم تخطيط المفهوم التعاوني. استراتيجية التعليم ردود الفعل في الوقت الحقيقي استراتيجية التعليم سلسلة الملاحظات. استراتيجية التعليم بتبادل الآراء والمناقشة. استراتيجية التعليم بعرض المعلومات. استراتيجية التعليم بالتدريب وعرض المستجدات العلمية.	الامتحانات اليومية والشفوية والتحريرية والتقارير، المناقشات.
٣	٢	=	Lung tumors	=	=
٤	٢	=	Kidney (glomerular disease, nephrotic syndrome)	=	=
٥	٢	=	IgA nephropathy (Berger disease)	=	=
٦	٢	=	Kidney tumors	=	=
٧	٢	=	Cancer of the oral cavity and tongue	=	=

٨	٢	=	Esophagus (lacivation, varices, esophageal carcinoma	=	=
٩	٢	=	Stomach (gastritis, ulcer)	=	=
١٠	٢	=	Stomach (carcinoma)	=	=
١١	٢	=	Large intestines (malabsorption syndrome)	=	=
١٢	٢	=	Crohn disease and hemorrhoids	=	=
١٣	٢	=	Large intestines tumors	=	=
١٥-١٤	٢	=	Hepatic tumors, cirrhosis,Liver (hepatic infection, failure)	=	=

١١. تقييم المقرر

توزيع الدرجة من ١٠٠ على وفق المهام المكلف بها الطالب مثل التحضير اليومي والامتحانات اليومية والشفوية والشهرية والتحريرية والتقارير .... الخ

١٢. مصادر التعلم والتدريس

Robbins BASIC PATHOLOGY	Tenth Edition
Robbins and Cotran Atlas of Pathology	THird Edition
Basic Pathology	