



وزارة التعليم العالي والبحث العلمي
جهاز الاشراف والتقييم العلمي
دائرة ضمان الجودة والاعتماد الاكاديمي
قسم الاعتماد الدولي

وصف مقرر مادة التقنيات الطبية

الجامعة: جامعة الفرات الاوسط التقنية
الكلية المعهد: المعهد التقني الطبي كوفه
القسم العلمي: التحليلات المرضية
المادة: التقنيات الطبية
تاريخ ملء الملف:

التوقيع :
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التاريخ:

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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 programmed specification.

1. Teaching Institution	Al-Furat AL-Awsat technical university
2. University Department/Centre	Medical Technical Institute
3. Course title/code	
4. Programme(s) to which it contributes	Weekly contribute
5. Modes of Attendance offered	
6. Semester/Year	Semester for medical technology
7. Number of hours tuition (total)	180 hrs.
8. Date of production/revision of this specification	
9. Aims of the Course	

Targets of lesson :-

General :

Identify the principles of **experience and basic laboratory tests and which will completed in the second grade specialization subjects**

Special:

1. Identify the rudiments of the instruments and

laboratory equipment and materials.

2. Identify the principles of microbiology science.
3. Identify the principles of bacteria science.
4. Identify the principles of blood science.
5. Identify the principles of urine check.
6. Identify the principles of quality control.

10. Learning Outcomes, Teaching ,Learning and Assessment Method

A- Knowledge and Understanding

1. Identify the rudiments of the instruments and laboratory equipment and materials.
2. Identify the principles of microbiology science.
3. Identify the principles of bacteria science.
4. Identify the principles of blood science.
5. Identify the principles of urine check.
6. Identify the principles of quality control.

B. Subject-specific skills

- B1. Apply the laboratory works in its specialization .
- B2. Analyzed all the tests .
- B3. To run and maintain lab. Equipments used.

Teaching and Learning Methods

Lectures ,practice ,training and summer training , power point presentations, seminars .etc.

Assessment methods

Oral exam . written exam .mid exam .final exam . in addition to daily assessment ,absences , and seminars.

C. Thinking Skills

- C1. Internet survey.
- C2. Discussions.
- C3. Follow up of graduate students.
- C4. Programs for graduate students after graduation ..

Teaching and Learning Methods

Lectures, theoretical and practical.
 Reality visiting.
 Power point illustrations
 Meetings and discussions.

Assessment methods

- 1-A questionnaire .
- 2- Programs conferences.
- 3- Meetings and discussions.

D. General and Transferable Skills (other skills relevant to employability and personal development)

- 1- internet use
- 2-. student use methods of researches.
- 3-. Follow up of graduate students.
- 4- Programs for graduate students after graduation

**The Ministry of Higher Education and Scientific
 Research
 Foundation of Technical Education
 Medical Specialties
 Section / Medical**

Name of COURSE	the year	weekly hours			
		theory	practical	Total	units
Medical laboratory Techniques and Quality control	first				
		2	4	6	12

Language teaching / English	book systematic	
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Medical Laboratory

Vocabulary theory	
Week NO.	Details of the vocabulary
1	<p>-introduction to the topic includes</p> <p>-a full review of the basic techniques and delivery up of Auto-analysis includes analysis techniques to identify sick of the disease bacteria, blood, and clinical chemistry.</p> <p>-identify the various laboratory glasses and how to deal with laboratory methods of washing and sterilization, conservation and use.</p> <p>-aboratory safety and how to avoid accidents and errors that are inadvertently laboratory in a laboratory and some first aid to do so.</p>
2	<p>Introduction to microbiology :-</p> <p>-include the classification of micro-organisms and the importance of science and its impact on life with the historical perspective of scientists who contributed to the development of science.</p> <p>-Introduction to identify bacteria, including the structure of cell bacteria, forms, aggregation, groupings.</p>
3	<p>Physiology of bacteria:-</p> <p>-identification of the metabolism of bacteria and sources of energy and nutrition, breathing, the impact of temperature, pH, humidity, oxygen on the growth of bacteria.</p>

4	<p>Sterilization:-For the identify ways of cleaning, sterilization and disinfectant by physical, chemical and mechanical means. Identify different sterilization equipment and materials used in chemical sterilization.</p>
5	<p>Staining of bacteria:-</p> <ul style="list-style-type: none"> - Identify ways to staining bacteria and types of bacterial dyes simple, compound and special - learning students how making bacterial smear and staining with different kinds of stains - staining bacterial smear by gram stain and learn how can identify gram positive and gram negative bacteria - study the character , definition of some types of bacteria after staining - as well as learn how to prepare wet sear and usefulness.
6	<p>Bacterial culture:-</p> <ul style="list-style-type: none"> -identify the laboratory culture media for growth microorganisms, particularly bacteria, -including liquid and solid media and and their types according components like simple, special , compound, selective with examples -learning types and methods of preparation and preservation media.

7	<p>Ways OF culturing bacteria:- Including</p> <ul style="list-style-type: none">-Methods of culture bacteria on solid and liquid media from liquid and solid media and from different kinds of pathological samples-laboratory models and methods for incubation bacteria aerobically and an aerobically- studying the characterization of colonies and community solid, liquid and described how the diagnosis.
8	<p>Collection medical specimens for bacteriological examination:</p> <ul style="list-style-type: none">- identification types samples and learn how can collected from patients and how conservation and sent to the laboratory and deal with laboratory containers collected and sterilized its.identify the types of– bacteria negative and gram positive nature of the sick and unsatisfactory and how to distinguish them.

<p>9</p>	<p>Microbial diagnosis:-</p> <ul style="list-style-type: none"> - emphasis on microbial diagnosis steps in general. - laying emphasis on urine, stool, sputum, swabs and various other samples. - identify how doing sensitive test - Writing the final report of the examination.
<p>11</p>	<ul style="list-style-type: none"> - Introduction to include knowledge of blood and blood information, concerns and an overview of the tests and their importance for the health of the patient. - Blood components: defined and the source of its composition and its importance in the body and its basic and natural proportions of the body. - Identification of the different blood cells, the student learns characteristics of Red blood cells and white blood cells , platelets and a source in the body composition and usefulness, percentage of their respective proportions in healthy human body .

<p>12&1 3</p>	<p>Anticoagulants materials: the student learns</p> <ul style="list-style-type: none"> -types of Anticoagulants, characterizations of these materials and methods of preparation, storage and added ratios of blood when used in each blood tests. -learn the difference between serum and plasma, and how to prepare each. - learn the blood collection methods: the identification of the types of blood such as arterial and venous and capillary blood and methods of collection blood techniques from its and how conservation. -learn labeling and numbered containers of blood samples according the test and the name of the patient and the date and the importance of focusing on the age, sex,...etc
<p>14</p>	<p>Haemoglobin(Hb): includes the</p> <ul style="list-style-type: none"> - identification of the source of the word hemoglobin, its components, originating in the body, giving rates of protein, iron and other components for itself, the red blood cells. -identify his task such as transfer of oxygen.(-study different ways to measure it in the laboratory, including chemical and color intensity of colors and others. -color ways to measure hemoglobin includes a comparison of color between blood test sample and standard colored heamoglobin solution by Shaly tools used to the principle of action require a haemometer and its components - <i>Cyanoihemoglobin</i> methods - measured Hb using the method of colors by a spectrometer and how to get the result and explain the lack of technical errors in this case compared to Shaly. - learn how to write the result. identify the way of writing the final report of the result with a descent and natural values of Hb for men and women, children and infants all the way with the disease when values change from the normal.

15& 16

PCV: measuring the packed cells volume called the haematocrit.

Students learn methods of measuring the volume of red blood cells, including wintrobe and capillary methods. And identify

- The amount of blood with drawn each method
- The devices used to require from the venous blood and capillary blood
- The types of devices such as tubes and methods of measuring PCV.
- Identify the Normal values and situations that are not sick outside the values of the human person.

ESR: Erythrocyte sedimentation rate ,students learners

- An overview of red blood cells in the body and its importance, and factors influencing sedimentation rate and its relationship with the number of red blood cells in the body and stages of sedimentation

-ways to measure the speed of sedimentation red blood cells by wintrobe and westergreen methods

-The devices used and tools used in every method

-As well as factors influencing the work and errors that cause erroneous results

- normal values in females and males and usefulness in the diagnosis of certain diseases

BT (Bleeding Time):- measuring the time of bleeding and hemorrhaging, including the length of time the causes of bleeding compared in terms of normal value and ways to measuring BT.

CT (clotting time):-learning

- what is the effect factors that increased the reduction or lack of normal value and important in the diagnosis of certain diseases.

-Methods of measuring clotting way including identification of devices used test and the way poetry measurement with the statement avoided the mistake of giving students an idea of the morbidity of increased clotting time.

- Measurement includes the study of normal value of clotting time in different methods

<p>17 & 18</p>	<p>Cells count:- the student learns a count the different blood cells including</p> <ul style="list-style-type: none"> -The tests to calculate the number of <ol style="list-style-type: none"> 1. RBC 2. total number of WBC 3. total number of platelets <p>As well as the expense of blood cells: the student learn the</p> <ul style="list-style-type: none"> -Methods of counting the EVRY KIND OF CELLS BY different way and to focus on using a common HAEMOCYTOMETER and explain all components for counts -with the knowledge of the volume of blood and ANTICOAGULANTS and solution used in all kinds of work. - And learn when to withdraw the account of the blood cells from finger and vein ; -Identify the techniques for counting using Hb pipettes or special cell counts pipettes (WBC or RBC pipettes) -Method to calculate the number of normal blood cells and conditions at the increases and decreases. -writing the final report
<p>19</p>	<p>Differential blood counts:-approximate counting white blood cells and give an overview of the methods used in counting Different white blood cells which is the way of tranches and how to cover the glass and the statement of the best ways and important, work light touch blood properly. the student learns</p> <ul style="list-style-type: none"> -how can prepare thin blood smear - how can prepare thick blood smear -how can staining thin blood smear by different kinds of blood stains specially lishman stain - how can classification and distinguish between all kinds of WBC and counting its in the smear -with study the percentages of each of them in normal blood -and then learn the techniques and methods of calculation - and recording the report and compare the results of normal values.
<p>20</p>	<p>General review, Seminar with the discussion and examination.</p>

21 &
22 &
23

GUE:-General urine examination. the student learns

- A general information about urinary tract specially the KIDNEY and their functions and physiological importance in keeping the water balance in the body and the balance of acid and extruded waste through the urine briefly.

-A general urine examination includes a picture of the components of urine as proportions quantities and types of salt water and natural materials in the urine and the amount raised per day and the impact of each percentage change in the diagnosis of certain diseases.

- Techniques for collection Urine sample :- the definition of a student on how to collect urine samples and guide the patient and the importance of a clean container with an emphasis on the codification of the patient's name and other information will also be the definition of how to collect urine samples from the patient unconscious.

-Paul qualities of the students to recognize the natural properties of Urine smell , , specific and the presence of acid , sugar ,proteins or not.

- the material used for keeping urine remains valid tested within 24 -48 hours by adding some chemicals which should not affect the natural characteristics of its components.

-Physical examination of the GUE: the student to learn that tests and materials needed by the work and how to read the results(like the test for pH, sugar, protins.acids..etc.

-Chemical examination of the GUE: identify the student tests of the chemical generation, such as sugar, albumin examination (protein) and yellow salts and other ways to measure how the writing of the results.

- Microscopic examination: learning the student

- **how can prepare** a sediment of urine

-Identify all kinds of organized component and non organized in the deposit urine and the identification of natural forms are also identified other forms of natural sediment, which, if any, show cases satisfactory with a focus on the sediment Living with graphics.

-A detailed explanation of the deposits of non-living deposits and different types of acidic urine by using graphics.

-Students learn how to analyze by strips methods and how to read the result.

-Students learn how to write the final report of the examination.

24	<p>examination of semen: students to learn the method of calculation using Neubauer chamber. Learning all types of normal and abnormal of Sperm character with study the way of writing the final report and compared</p>
25	<p>GSE(General STOOL examination -stool analysis: students learn how to prepare a model OF SLIDE PREPARATION for microscopic examination of the STOOL and explain some simple types of parasites found in faeces.</p>
26 & 27 & 28	<p>learning the principles of quality control:</p> <ul style="list-style-type: none"> – definition of quality control. –the emergence and development of metrology, – standards units of the international system of measurement. – concept of quality control - meaning quality. –factors affecting the level– of quality and quality system. –Quality control in laboratories - Standards of raw materials used in laboratories - the instrumentation Standards - Standards casings and explosive - Standards Laboratory Glassware - specifications laboratory methods used in testing and analysis. –learning Test methods: Natural tests - chemical tests - tests mechanism. –Quality marks: The standardization and specifications in handling chemicals, storage, packaging and inspection. –Basic statistical methods to control quality - analysis of data - the statistical test of the hypotheses - the statistical charts.
29 &	<p>general review and evaluation of students</p>

Vocabulary process (PRACTECAL)	
week	Details of the vocabulary
1&2	<p>1-Introduction on the subject of medical laboratory techniques.</p> <p>2- Glassware and materials used in some tests.</p> <p>3- He explained some first aid and laboratory safety at work.</p> <p>4- Introduction on the theme Bacteriology.</p>
3	<p>disinfection and sterilization explanation for all the TYPES of sterilization using Physical and Chemicals methods.</p>
4	<p>The preparation of the cultures media of solid and liquid media and knowledge of different types and usefulness of each type.</p>
5	<p>Methods and Types of culturing microorganism. culture liquid and solid BY different types of bacteria from the liquid and solid MEDIA and from models of different medical specimens diseases.</p>
6	<p>Study colonies developing character and description.</p>
7	<p>microscope: study the pieces and how to check it. "</p>
8	<p>laboratory dyes :-study of the types and methods of preparation, how to prepare an</p>

	<p>air dry and wet smear from colonies growing in MEDIA and from models of different medical specimen</p> <p>-study how fixed it</p>
9	<p>How to paint dry swab that is simple and examined with the results of the examination and identification of the bacteria forms and groupings.</p>
10	<p>Mark nature: how to dry paint touch with Mark that is learning the outcome of character and paint different types of bacteria developing among the solid and liquid.</p>
11	<p>methods of sampling and laboratory tests to deal with it in a special bacteria sick and planting antenna and Ahoaiia.</p>
12	<p>public review and examination.</p>
13	<p>introduction to the science of blood and use of anti-clotting and Trbakp with the preparation and use of blood Baltrakiz required.</p>
14	<p>methods for extracting blood, learning the method of drawing blood from a finger electrophoresis and intravenous blood.</p>
15	<p>check hemoglobin Sally manner.</p>
16	<p>Sainoimoglobin check hemoglobin and the use of a spectrometer.</p>

17	expense of red blood cells compressed.
18	check the speed of blood deposition.
19	account bleeding time account clotting time
20& 21& 22	calculate the number of red blood cells.- calculate the number of- white blood cells. calculate the number of tablets blood.-
23& 24	touch the blood.- preparation method way to give the- tinge of blood. method of calculating the number of white blood cells- approximate. Review and examination.
25& 26	examined-The sperm. check out the year.-
27& 28& 29	year Adrar examination, including tests Alveziaoip, chemical and microscopic examination and the way of writing the report.
30	review and examination

13. Admissions	
Pre-requisites	
Minimum number of students	
Maximum number of students	