Republic of Iraq
Ministry of Higher Education & Scientific Research
Supervision and Scientific Evaluation Directorate
Quality Assurance and Academic Accreditation
International Accreditation Dept.

Academic Program Specification Form For The Academic Year 2015-2016

University: al-Mustansiriyah
College : Pharmacy college
Number Of Departments In The College :4
Date Of Form Completion :15/5/2016

Dean 's Name
Dr: Jaber Hameed Hussien

Date :
Signature

Dean 's Assistant For Scientific Affairs
Dr: Inam Sameh Arif

Date :
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Quality Assurance and University Performance Manager
Rana Alla Badri

Date :
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Template for program specification

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

Program specification

This Programme Specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if takes full advantage of the learning opportunities that are provided. It is supported by a specification for each course that contributes to the programme.

1. Teaching Institution	Ministry of Higher Education & Scientific Research
2. University Department/Centre	University of Al-Mustansiriyah
3. Programme Title	pharmacy science
4. Title of Final Award	Bachelor in pharmacy science
5. Modes of Attendance offered	Semester
6. Accreditation	ACPE
7. Other external influences	Theoretical study+ lab training
8. Date of production/revision of this specification	15/5/2015
9. Aims of the Program	
a-Assist to understand the subjects and how to develop	
b-Providing a solid foundation for a successful career for graduates	

c-Students enable to develop the knowledge and skills of the laboratory during the laboratory work using many techniques and devices chemical
d-Supply Student with some basic skills, such as the analysis results and the use of the Internet
e-Improved student's ability for self-study

10. Learning Outcomes, Teaching, Learning and Assessment Methods
A-Knowledge and Understanding **1-knowledge of the basic principles relating to study relevant subjects branch statement** **2 - understanding of the curriculum** **3- use painting and pen illustrations and other means**
B. Subject-specific skills **1 - theoretical application on practical experiences** **2 - Use of the devices by the student** **3 - Action Posters multiple topics**
Teaching and Learning Methods
Action Research **Encouraging readers to read books** **Make raised and seminars** **Participate in workshops**
Assessment methods
1-Queses **2-Oral exam** **3- mid term exam** **4- Final exam**
C. Thinking Skills **1. Connecting chemical Albaaloger ideas and terms that are comprehensible to the student** **2-- use information from a variety of sources including scientific journals**

Teaching and Learning Methods
1. Emphasize the need for learning and teaching experience **2. discuss teamwork** **3. writing self-reports**
Assessment methods
sudden deductive questions during the debate on the various aspects of education

D. General and Transferable Skills (other skills relevant to employability and planning and implementation of laboratory experiments using chemical equipment and apparatuses **2. analyze, interpret and evaluate experimental data and make a quantitative assessment of the mistakes in the experimental measurements** **3. The application of computer programs for the analysis of experimental data and writing scientific reports** **4. Using literature and material to write a report on the experience of certain data**
Teaching and Learning Methods
1-reading the Report on the experience with the explanation of the result **2 - use computer**
Assessment Methods
Skills are evaluated through a written report and hold examinations editorial

11. Programmed Structure				**Awards and Credits (practical)**
Level / Year	**Course or Module Code**	**Course or Module Title**	**Credit Rating (Theory)**	
	50304104	**Biology**	**2**	**2**

1st class	50304110	Histology	2	2
	50304111	Anatomy	1	2
	50304106	Mathematics and biostatistics	3	-
	50304109	Medical physics	2	2
	50304112	Human rhight	1	0
	50304105	Computer sciences	2	2
2ed class	50304204	Medical microbiology	2	2
	50304209	Medical parasitology and virology	3	2
	50304205	Democracy	1	0
3ed class	50304304	Biochemistry(1)	3	2
	50304303	Pathophysiology	2	2
	50304309	Biochemistry(2)	3	2
4th class	50304404	Public health	2	-
5th class	50304505	Clinical chemistry	3	2
	50304504	Lab. training	2	-

12. Personal Development Planning
Continue the program carefully **World Skills** **Develop the student 's ability to influence and persuade others to discuss and reach an agreement** **Student's ability to speak several languages**
13- Acceptance criterion (regulations relating to enroll in college or institute mode)
14. Admission criteria.
central

Curriculum Skills Map																			
please tick in the relevant boxes where individual Programme Learning Outcomes are being assessed																			
				Programme Learning Outcomes															
Year / Level	Course Code	Course Title	Core (C) Title or Option (O)	Knowledge and understanding				Subject-specific skills				Thinking Skills				General and Transferable Skills (or) Other skills relevant to employability and personal development			
				A 1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4	D1	D2	D3	D4
	50304104	Biology	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	50304110	Histology	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	50304111	Anatomy	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	50304106	Mathematics and biostatistics	C	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√

2015/2016	**50304109**	**Medical**	**C**	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	50304112	**Human rhight**	**C**	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	50304105	**Computer sciences**	**C**	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	50304204	**Medical microbiolo**	**C**	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	50304209	**Medical**	**C**	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	50304205	**Democracy**	**C**	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	50304304	**Biochemist**	**C**	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	50304303	**Pathophysi**	**C**	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	50304309	**Biochemist**	**C**	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	50304404	**Public**	**C**	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	50304505	**Clinical**	**C**	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	50304504	**Lab.**	**C**	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

Gives students the ability to deal with the concept of computer science, emphasizes the knowledge and skill required to efficiently discharge the duties and responsibilities of the pharmacist. The course deals with the concept of basic computer and application of it in human life and medical field.

1. educational institution	**Pharmacy College / University of Mustansiriya**
2. Scientific Section / center	**Clinical laboratory sciences**
3. Name / Code Course	**Computer / 50304105 Science**
4. attendance forms available	**Formal Time**
5. semester year	**semester system**
6. Number of school hours (total)	**4 hours per week (15 weeks during the season)**
8. Date of production/revision of this specification	**15/5/2015**
9. Aims of the Programme	
Understand the computer terminology and abbreviations used in everyday life.	
Get familiar with the basic computer system components and how they are related to their medical field.	
10. Learning Outcomes, Teaching, Learning and Assessment Methods	
O1- Identify Computer Systems and Operating systems. **O2- Identify Basic computer hardware** **O3- Identify Binary Systems and Digital Data Representation** **O4- Classify Computer networks and their topology** **O5- Maintain Computer and Data Security**	

B 1 – Computer usage and application software in medical field. **B 2 – Learn Editing and Spreadsheet and Medical Instrumentation and Chemical Drawing**
Teaching and Learning Methods
- A discussion of collective action in the laboratory **- reading research papers and online reviews**
Assessment methods
- Collaborative reports on related topics **- Quizzes** **-Interactive assessment throughout lectures and labs**
C. Thinking Skills **J1 – Use the information given through the lectures to collect a computer system** **J2--**
Teaching and Learning Methods
• **Smartboard** • **Power Point Slides** • **Lecture/ questions and answer** • **Demonstration.** • **Small groups assignment**
Assessment methods
• **Quizzes** • **Oral exam , practical reports** • **Final exam**

11-Course Structure					
Theory computer					
Week	**Hours**	**Learning outcomes**	**Outcomes required unity / or topic.**	**teaching method**	**Teaching method evaluation method.**

1	**2**	**Computer and Digital Basics. Digital Revolution, Convergence. Digital Devices, Computer Basics, Personal Computers, Servers, Mainframes, and Supercomputers, Micro-controllers.**	**Computer Systems**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
2	**2**	**Digital Data Representation, Digital Processing, Programs and Instruction Sets, Processor Logic. Password Security, Password Hacks, Secure Passwords.**	**Digital Data**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
3	**2**	**Computer Hardware, Personal Computer Systems, Desktop and Portable Computers**	**Computer Hardware**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
4	**2**	**Microprocessor and Memory types.**	**Microproces sors and Memory**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
5	**2**	**Storage Devices, Storage Basics, Magnetic, CD, DVD and Blu-ray, Solid State Storage, Input and output Devices, Hardware Security, Anti-theft Devices, Surge Protection and Battery Backup. (**	**Storage Systems**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
6	**2**	**Computer Software, Software Categories, Application Software, Utility Software, Device Drivers, Popular Applications.**	**Computer Software**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
7	**2**	**Installing Software and Upgrades, Security Software.**	**Computer Software**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**

8	**2**	**Operating Systems and File Management, OS activities, User Interface, Boot process, Today's Operating Systems.**	**Operating Systems**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
9	**2**	**File Basics, File Names and Extensions, Directories and Folders, File Formats, File Management, Backup Security.**	**File Systems**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
10	**2**	**LANs and WLANs, Network building blocks, Standards, Devices.**	**Networking**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
11	**2**	**Communication Protocols, Wired Networks, Wireless Networks, Bluetooth, Wi-Fi.**	**Networking**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
12	**2**	**The Internet, Internet Infrastructure, Internet Protocols, Addresses and Domains. Web Technology, Search Engines. E-mail**	**Internet and Email**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
13	**2**	**Search Engines. E-mail**	**Internet and Email**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**

11-Course Structure					
Practical Computer systems					
Week	**Hours**	**Learning outcomes**	**Outcomes required unity / or topic.**	**teaching method**	**Teaching method evaluation method.**

1	**2**	**Detailed computer parts and Windows basics**	**Computer parts**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
2	**2**	**Running operating system and file operations and organization**	**Operating system**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
3	**2**	**Microsoft Word Application – Formatting, typing, page setup**	**Editing applications**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
4	**2**	**Microsoft Word Application – Insertion of objects, tables, header and footers**	**Editing applications**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
5	**2**	**Microsoft Word Application – Page layout, printing,**	**Editing applications**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
6	**2**	**Microsoft Word Application – Formatting, typing, page setup**	**Editing applications**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
7	**2**	**Microsoft Excel Application – Basic parts**	**Spreadsheet application**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
8	**2**	**Microsoft Excel Application – Basic parts**	**Spreadsheet application**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
9	**2**	**Microsoft Excel Application – Basic parts, Data types, data entry**	**Spreadsheet application**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
10	**2**	**Microsoft Excel Application – Formulas, filtering, sorting**	**Spreadsheet application**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**

11	**2**	**Microsoft Excel – Statistical applications**	**Spreadsheet application**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
12	**2**	**ChemSketch usage**	**Chemical Drawing and medical instrumentation**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**

12-Course Structure	
prescribed textbooks required	**New Perspectives on Computer Concepts, 2014, Comprehensive. June Jamrich Parsons, Dan Oja : ISBN-13: 978-1-285-09692-6**
Home References (Sources)	
A reference books recommended by (scientific journals , reports, ...)	
Electronic References , Internet sites	**http://www.cengage.com/cgi-wadsworth/course_products_wp.pl?fid=M20b&product_isbn_issn=9781111529079**

13. The development of the curriculum plan
Adapting and updating the course to be based on "New Perspectives on Computer Concepts 2016", 18th Edition. ISBN-10: 1305387759

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

provide student to general information on chemical and biological analysis and laboratory diagnosis on the principles of pointing out the extent of their application and clinical diagnostics results of laboratory tests

1. educational institution	**Pharmacy College / University of Mustansiriya**
2. Scientific Section / center	**Clinical laboratory sciences**
3. Name / Code Course	**Lab training**
4. attendance forms available	**Formal Time**
5. semester year	**semester system**
6. Number of school hours (total)	**2 hours per week (15 weeks during the season)**
8. Date of production/revision of this specification	**15/5/2015**
9. Aims of the Programme	
Helping to understand the principles of chemical and biological analysis	
Provide a solid foundation for the future of professional successful	
Provide students with some basic skills that are necessary to possible future studies such as the analysis results and documents and the use of the Internet .	
It enables you to prepare seminars on lab training	
10. Learning Outcomes, Teaching, Learning and Assessment Methods	

A **1- theoretical application on practical experiments** **2- knowledge of the basic principles of lab training**
B **1 - prepare students research projects** **2 - Operation reports** **3 – making of conferences , workshops and engaging in scientific debate**
Teaching and Learning Methods
- A discussion of collective action in the laboratory **-use Scientific references**
Assessment methods
- Sudden deductive questions during the discussion between the two sides
C. Thinking Skills **1 - display the data graphically and to solve chemical equations** **2-- use information from a variety of sources including scientific fields**
Teaching and Learning Methods
Outsourcing ask questions that are in the course of Thread
Assessment methods
-Routine visit from a fellow of the last **- Oral exam , practical report**
D. General and Transferable Skills (other skills related to the viability of employment and personal development)
1- Connecting ideas regarding hypertext lab training **2- offer lectures graphically** **3 - use external sources**

11-Course Structure
lab training

Week	Hours	Learning outcomes	Outcomes required unity / or topic.	teaching method	Teaching method evaluation method.
1	2	Students gained information in the field of lab training live up to the required level	Diagnostic test basics, collecting &transporting specimens, venipuncture, urine specimen, stool specimen.	The use of scientific references and use the board	Monthly written examinations and oral examinations
2	2	Students gained information in the field of lab training live up to the required level	Biochemical tests: Fasting blood glucose, Post-prandial glucose, Oral glucose tolerance test.	The use of scientific references and use the board	Monthly written examinations and oral examinations
3	2	Students gained information in the field of lab training live up to the required level	Blood urea, Blood creatinine, Creatinine clearance, Uric acid.	The use of scientific references and use the board	Monthly written examinations and oral examinations
4	2	Students gained information in the field of lab training live up to the required level	Cholesterol, Lipoproteins, triglycerides.	The use of scientific references and use the board	Monthly written examinations and oral examinations
5	2	Students gained information in the field of lab training live up to the required level	Blood proteins, Bilirubin.	The use of scientific references and use the board	Monthly written examinations and oral examinations
6	2	Students gained information in the field of lab training live up to the required level	Calcium, Inorganic phosphate, Serum chloride	The use of scientific references and use the board	Monthly written examinations and oral examinations
7	2	Students gained information in the field of lab training live up to the required level	Alkaline phosphatase, Acid phosphatase, Alanine amiotransferase, Aspartate aminotransferase, Lactate dehydrogenase, Creatine phosphokinase.	The use of scientific references and use the board	Monthly written examinations and oral examinations
8	2	Students gained information in the field of lab training live up to	Serological tests: VDRL, ASO- Titer, Hepatitis tests.	The use of scientific references and use the	Monthly written examinations and oral examinations

		the required level		**board**	
9	**2**	**Students gained information in the field of lab training live up to the required level**	**C-reactive protein test, Rheumatic factor test, Rosebengal test, Typhoid fever test(Widal test), Pregnancy Test.**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
10	**2**	**Students gained information in the field of lab training live up to the required level**	**General urine examination, urine specimen collection.**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
11	**2**	**Students gained information in the field of lab training live up to the required level**	**Hematological tests: RBC count, Hb, PCV, RBC indices, WBC count, Platelets count.**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
12	**2**	**Students gained information in the field of lab training live up to the required level**	**Blood typing, Coombs test, Bleeding time, ESR.**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
13	**2**	**Students gained information in the field of lab training live up to the required level**	**Microbiological tests: culture and sensitivity tests, Staining methods**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
14	**2**	**Students gained information in the field of lab training live up to the required level**	**Culture media, Enriched culture media for general use**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
15	**2**	**Students gained information in the field of lab training live up to the required level**	**Tests for identification of bacteria, Disk diffusion tests of sensitivity to antibiotics, Choice of drugs for disk test, bacterial disease and their laboratory diagnosis**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
16	**2**	**Students gained information in the field of lab**	**Catabolism of priteins**	**The use of scientific references**	**Monthly written examinations and oral examinations**

		training live up to the required level		**and use the board**	
17	**2**	**Students gained information in the field of lab training live up to the required level**	**Conversion of amino acids to specialized products**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**

12-Course Structure	
prescribed textbooks required	**Fischbach ; manual & laboratory &diagnostic tests ;6 th edition**
Home References (Sources)	
A reference books recommended by (scientific journals , reports, ...)	**Lehninger (principles of biochemistry)**
Electronic References , Internet sites	

13. The development of the curriculum plan
Continuous update of curriculum due to his request to serve the educational process Maintain the scientific equanimity through the use of valuable resources and books International

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

Helping students to understand the biochemistry and how to use the hardware laboratory , and so is emphasized on the need for learning and teaching experience and discuss teamwork and evaluate writing self-reports using scientific references

1. educational institution	**Pharmacy College / University of Mustansiriya**
2. Scientific Section / center	**Clinical laboratory sciences**
3. Name / Code Course	**biochemistry**
4. attendance forms available	**Formal Time**
5. semester year	**semester system**
6. Number of school hours (total)	**6 hours per week (15 weeks during the season)**
8. Date of production/revision of this specification	**15/5/2015**
9. Aims of the Programme	
Helping to understand the principles of biochemistry	
Provide a solid foundation for the future of professional chemical successful	
Provide students with some basic skills that are necessary to possible future studies such as the analysis results and documents and the use of the Internet.	
It enables you to prepare seminars on current topics of advanced chemistry	
10. Learning Outcomes, Teaching, Learning and Assessment Methods	
A **1- display concepts selected topics in biochemistry research** **2- theoretical application on practical experiments and measurements bases in biochemistry** **3- knowledge of the basic principles of biochemistry statement**	
B **1 - prepare students research projects** **2 - Operation reports** **3 -making conferences , workshops and engaging in scientific debate**	

Teaching and Learning Methods
- A discussion of collective action in the laboratory **-use Scientific references**
Assessment methods
- Sudden deductive questions during the discussion between the two sides **-written exam-**
C. Thinking Skills **1 - display the data graphically and to solve chemical equations** **2-- use information from a variety of sources including scientific fields**
Teaching and Learning Methods
Outsourcing ask questions that are in the course of Thread
Assessment methods
-Routine visit from a fellow of the last **- Oral exam , practical report**
D. General and Transferable Skills (other skills related to the viability of employment and personal development)
1- Connecting ideas regarding hypertext biochemistry **2- offer lectures graphically** **3 - use external sources**

11-Course Structure

Theory Biochemistry

Week	Hours	Learning outcomes	Outcomes required unity / or topic.	teaching method	Teaching method evaluation method.
1	1	Students gained information in the field of biochemistry live up to the required level	bioenergetics	The use of scientific references and use the board	Monthly written examinations and oral examinations
2	1	Students gained information in the field of biochemistry live up to the required level	Biological oxidation	The use of scientific references and use the board	Monthly written examinations and oral examinations

3	**1**	**Students gained information in the field of biochemistry live up to the required level**	**Respiratory chian**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
4	**1**	**Students gained information in the field of biochemistry live up to the required level**	**Over view of metabolism**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
5	**1**	**Students gained information in the field of biochemistry live up to the required level**	**Citric acid cycle**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
6	**1**	**Students gained information in the field of biochemistry live up to the required level**	**glycolysis**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
7	**1**	**Students gained information in the field of biochemistry live up to the required level**	**Metabolism of glycogen**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
8	**1**	**Students gained information in the field of biochemistry live up to the required level**	**Gluconeogenesi**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
9	**1**	**Students gained information in the field of biochemistry live up to the required level**	**Pentose phosphate path way**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
10	**1**	**Students gained information in the field of biochemistry live up to the required level**	**Biosynthesis of fatty acids**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
11	**1**	**Students gained information in the field of biochemistry live up to the required level**	**Oxidation of fatty acids**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
12	**1**	**Students gained information in the field of biochemistry live up to the required level**	**Metabolism of acyl glycerol**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**

13	**1**	**Students gained information in the field of biochemistry live up to the required level**	**Lipid transport and storage**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
14	**1**	**Students gained information in the field of biochemistry live up to the required level**	**Cholesterol synthesis**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
15	**1**	**Students gained information in the field of biochemistry live up to the required level**	**Biosynthesis of amino acids**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
16	**1**	**Students gained information in the field of biochemistry live up to the required level**	**Catabolism of priteins**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
17	**1**	**Students gained information in the field of biochemistry live up to the required level**	**Conversion of amino acids to specialized products**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**

11-Course Structure					
Practical Biochemistry					
Week	**Hours**	**Learning outcomes**	**Outcomes required unity / or topic.**	**teaching method**	**Teaching method evaluation method.**
1	**2**	**Examination of urine**	**General urine examination**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
2	**1**	**Checking liquid components of the spinal cord (Glucose and chloride and protein)**	**Cerebrospinal fluid analysis (CSF) (measurement of chloride and**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**

			glucose and protein)		
3	**1**	**Calcium in the blood estimate**	**Serum calcium measurement**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
4	**1**	**phosphorus estimate in the blood**	**Blood phosphorus measurement**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
5	**1**	**Estimate the total protein in the blood**	**Serum total protein**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
6	**1**	**Estimation of urea in the blood**	**Estimation of urea level in the blood**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
7	**1**	**Uric estimate in the blood**	**Estimation of uric level in the blood**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
8	**1**	**Ascorbic estimate in the blood**	**Estimation of serum ascorbic acid in the blood**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
9	**1**	**Estimate hydrochloric acid found in the sap of infectious**	**Gastric juice analysis (detection of free HCl concentration)**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**

12-Course Structure	
prescribed textbooks required	**Harper' s illustrated biochemistry**
Home References (Sources)	

A reference books recommended by (scientific journals , reports, ...)	**Lehninger (principles of biochemistry)** **Stryer(biochemistry)** **Voet (biochemistry)**
Electronic References , Internet sites	

13. The development of the curriculum plan
Continuous update of curriculum due to his request to serve the educational process Maintain the scientific equanimity through the use of valuable resources and books International

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

This Programme Specification provides a concise summary of the main features of the programme 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 is supported by a specification for each course that contributes to the programme.

1. educational institution	**Pharmacy College / University of Mustansiriya**
2. Scientific Section / center	**Clinical laboratory sciences**
3. Name / Code Course	**Parasitology& virology**

4. attendance forms available	**Formal Time**
5. semester year	**semester system**
6. Number of school hours (total)	**5 hours per week (15 weeks during the season)**
8. Date of production/revision of this specification	**15/5/2015**

9. Aims of the Program

1-make the graduated students able be familiar with reading and processing the medical knowleges for infectious disease

2- make the graduated students able to communicate with the patients

3- make the graduated students able to educate the patients how to prevent infection by pathogenic viruses

4- make the graduated students able to Diagnosis pathogenic viruses by laboratory methods and using update technology in hospitals and community laboratories by application bio safety techniques

5-Be able to explain how can prevent and controlling viral diseases
6-Be able to contrast between different types of viral disease and differentiated from bacterial infection
7-Be able to describe the structure of virus and the type of genome and choice the antiviral chemotherapy to treating viral diseases
8-Have obtained hands-on experience in diagnosis either direct examination or indirect exame by using new update technique like Elisa or PCR techniques to identification of virus or antibody production after viral infection

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Knowledge and Understanding

- **Understand the basics of viral disease**
- **Understand the generation and types of viruses**
- **Understand the general and specific viral structure**
- **Understand the antiviral drugs uses to destroyed harmful viruses**
- **Understand the types of viral disease and how can control and preventive these disease**
- **Understand the route of transmission of these viral to human and causes viral disease**
- **Understand how can the public health authority controlling these diseases in both**

endemic and pandemic conditions

- **Understand the object to health education to person to prevent and transmitted these disese in both seasonly on during the year**
- **Understand the virus causes tumor cells**
- **Undestand how the persons prevented to infect by Aids, Ebola,Lassa and to educate the public commity for epidemiology of these harmful diseses**

B. Subject-specific skills

B1.Communication skills with patients

B2.Education skills to patients

Teaching and Learning Methods

1-Seminars
2-Teaching lab
3-Hospital training
4-lectures
5-case presentations
6-PowerPoints.. White board ،
7-Simulators
8-Guidelines
9-Seminars
10-Skill lab.
11-Lecture/ questions and answer
12-Demonstration،
13-Small groups assignment
14-Procedures
15- power point slide

Assessment methods

1-Queses
2-Oral exam
3- mid term exam
4- Final exam
5-Theory exam.

- **Practical exam.**
- **Class activities**
- **Lab. Exam**
- **Practical evaluation**
- **Oral exam**

6-mid term exam
7-Final Exam

C. Thinking Skills **C1 C1. Interpretation** **C2. Analysis** **C3. Evaluation** **C4. Explanation**
Teaching and Learning Methods
Use of white board ,Data show ,Seminars and direct patient education in hospitals
Assessment methods
1-Queses **2-Oral exam** **2- mid term exam** **3- Final exam**

D. General and Transferable Skills (other skills relevant to employability and personal development) **D1. Able to work in community Clinical laboratories** **D2. Able to work in hospital Pathological laboratories** **D3. Able to work in Drug manufacturing quality control laboroteries** **D4. Able to work in Clinical laboroteris in Universities** **D5 . Able to work in vaccine and sera manufacturing laborotories**
Teaching and Learning Methods
Use of white board ,Data show ,Seminars and direct patient education in hospitals
Assessment Methods
2-Oral exam **2- mid term exam** **3- Final exam**

11-Course Structure					
virology					
Week	**Hours**	**Learning outcomes**	**Outcomes required unity / or topic.**	**teaching method**	**Teaching method evaluation method.**
1	2	Introduction	Students gained information in the field of virology live up to the required level	The use of scientific references and use the board	Monthly written examinations and oral examinations
2	2	Comparison between viruses and bacteria and other microbes;	Students gained information in the field of virology live up to the required level	The use of scientific references and use the board	Monthly written examinations and oral examinations
3	2	Classification of viruses	Students gained information in the field of virology live up to the required level	The use of scientific references and use the board	Monthly written examinations and oral examinations
4	2	Replication	Students gained information in the field of virology live up to the required level	The use of scientific references and use the board	Monthly written examinations and oral examinations
5	2	Chemotherapy	Students gained information in the field of virology live up to the required level	The use of scientific references and use the board	Monthly written examinations and oral examinations
6	2	*Herpes viridae*, Orthomyxo viruses, Paramyxo viruses	Students gained information in the field of virology live up to the required level	The use of scientific references and use the board	Monthly written examinations and oral examinations

7	**2**	**Retro viruses;**	**Students gained information in the field of virology live up to the required level**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
8	**2**	**Hepato viruses**	**Students gained information in the field of virology live up to the required level**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
9	**2**	**AIDS,SARS,Ebola ,Lassa viruses**	**Students gained information in the field of virology live up to the required level**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
10	**2**	**Oncogenic viruses**	**Students gained information in the field of virology live up to the required level**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**

11-Course Structure					
parasitology					
Week	**Hours**	**Learning outcomes**	**Outcomes required unity / or topic.**	**teaching method**	**Teaching method evaluation method.**
1	**1**	**Introduction to medical parasitology**	**Students gained information in the field of virology live up to the required level**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
2	**1**	**Introductionl protozoa Entamobia histolytica and E.co li Entamobia Hartman blantidium**	**Students gained information in the field of virology live up to the required level**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**

3	**1**	**Haemoflagellates: Leshmania spp.; Trypanosome spp.**	**Students gained information in the field of virology live up to the required level**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
4	**1**	**Malarial parasites of human; Toxoplasma**	**Students gained information in the field of virology live up to the required level**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
5	**1**	**Helminthes: Introduction Classification Trematoda Flukes: Hepatic fluke**	**Students gained information in the field of virology live up to the required level**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
6	**1**	**Blood flukes (Schistosoma spp**	**Students gained information in the field of virology live up to the required level**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
7	**1**	**Cestoda-top worms**	**Students gained information in the field of virology live up to the required level**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
8	**1**	**Diphyllobothrium latum**	**Students gained information in the field of virology live up to the required level**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
9	**1**	**Taenia spp**	**Students gained information in the field of virology live up to the required level**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
10	**1**	**Review before final exam**	**Students gained information in the field of virology live up to the required level**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
11	**1**	**Echinococcus (hydatid cyst)**	**Students gained information in the field of virology live up to the required level**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**

12	**1**	**Hymenolepis nana(H.NANA) (H.demunatus)**	**Students gained information in the field of virology live up to the required level**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
13	**1**	**Nematodes: Ascaris lumbrecudus**	**Students gained information in the field of virology live up to the required level**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
14	**1**	**Entrobius vermicularis trichenella**	**Students gained information in the field of virology live up to the required level**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
15	**1**	**Nematodes: aneylostoma**	**Students gained information in the field of virology live up to the required level**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
16	**1**	**nector american's strogloides**	**Students gained information in the field of virology live up to the required level**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**

13. Personal Development Planning
Not found
14. Admission criteria.
15. Key sources of information about the program

TEMPLATE FOR PROGRAMME SPECIFICATION (2)

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAMME SPECIFICATION

This Programme Specification provides a concise summary of the main features of the programme 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 is supported by a specification for each course that contributes to the programme.

1. educational institution	**Pharmacy College / University of Mustansiriya**
2. Scientific Section / center	**Clinical laboratory sciences**
3. Name / Code Course	**microbiology**
4. attendance forms available	**Formal Time**
5. semester year	**semester system**
6. Number of school hours (total)	**4 hours per week (15 weeks during the season)**
8. Date of production/revision of this specification	**15/5/2015**
9. Aims of the Program	
1-make the graduated students able be familiar with reading and processing the medical knowleges	
2- make the graduated students able to communicate with the patients	
3- make the graduated students able to educate the patients how to prevent infection by pathogenic miroorganisms	
4- make the graduated students able to Diagnosis pathogenic microorganisms by laboratory methods and using update technology in hospitals and communitylaboratories by application bio safety techniques	

10. Learning Outcomes, Teaching, Learning and Assessment Methods

- **Understand the basics of bacterial disease**
- **Understand the generation and types of bacteria according to its families**
- **Understand the general and specific bacterial structure**
- **Understand the antiviral drugs uses to destroyed harmful pathogenic microorganisms**
- **Understand the types of systematic bacterial disease and how can control and preventive these disease**

B. Subject-specific skills
B1.Communication skills with patients
B2.Education skills to patients

Teaching and Learning Methods

1-Seminars
2-Teaching lab
3-Hospital training
4-lectures
5-case presentations

Assessment methods

1-Queses
2-Oral exam
3- mid term exam
4- Final exam

C. Thinking Skills
C1. Not found
C2.
C3.
C4.

Teaching and Learning Methods

Use of white board ,Data show ,Seminars and direct patient education in hospitals

Assessment methods

1-Queses
2-Oral exam
2- mid term exam
3- Final exam

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

- **Understand the route of transmission of these pathogenic microorganisms to human and causes infectious diseases**
- **Understand how can the public health authority controlling these diseases in both endemic and pandemic conditions**
- **Understand the object to health education to person to prevent and transmitted these disese in both seasonly on during the year**
- **Undestand how the persons prevented to infect by infectious disease caused by pathogenic bacteria and to educate the public commity for epidemiology of these harmful diseses**

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Teaching and Learning Methods

Use of white board ,Data show ,Seminars and direct patient education in hospitals

Assessment Methods

2-Oral exam
2- mid term exam
3- Final exam

11-Course Structure

Theory Microbiology

Week	Hours	Learning outcomes	Outcomes required unity / or topic.	teaching method	Teaching method evaluation method.
1	3	Orientation to the laboratory. Rules of conduct and general safety. Microscopic techniques. Bright – field light microscope.	Introduction to macromolecule microbiology	The use of scientific references and use the board	Monthly written examinations and oral examinations

2	**3**	**Examination of stained microorganisms, Smear preparation and simple staining, Gram staining.**	**Introduction to macromolecule microbiology**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
3	**3**	**The hanging drop slide and bacterial motility, acid- fast staining procedure.**	**Introduction to macromolecule microbiology**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
4	**3**	**Bacterial spores and endospores staining; microbiological culture media and sterilization; methods of inoculation and isolation of pure culture.**	**Introduction to macromolecule microbiology**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
5	**3**	**Action of dyes and antibiotics; Enzymes assays for some specific microbial enzymes**	**Introduction to macromolecule microbiology**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
6	**3**	**Assays for specific metabolic activities ; Acid and gas production from ; Carbohydrate fermentation ; Triple sugar iron agar test , IMVIC test.**	**Introduction to macromolecule microbiology**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
7	**3**	**Systemic bacteriology : Staphylococci spp.**	**Introduction to macromolecule microbiology**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
8	**3**	**streptococci species .**	**Introduction to macromolecule microbiology**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
9	**3**	**Salmonella species .**	**Introduction to macromolecule microbiology**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
10	**3**	**Shigella species**	**Introduction to macromolecule microbiology**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
11	**3**	**Pseudomonas species**	**Introduction to macromolecule microbiology**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**

12	**3**	**Proteus species**	**Introduction to macromolecule microbiology**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
13	**3**	**Escherichia coli**	**Introduction to macromolecule microbiology**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
14	**3**	**Klebsiella species.**	**Introduction to macromolecule microbiology**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
15	**3**	**Orientation to the laboratory. Rules of conduct and general safety. Microscopic techniques. Bright – field light microscope.**	**Introduction to macromolecule microbiology**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
16	**3**	**Examination of stained microorganisms, Smear preparation and simple staining, Gram staining.**	**Introduction to macromolecule microbiology**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**

13. Personal Development Planning
Not found
14. Admission criteria.
15. Key sources of information about the program
1- Medical Virology Thrirteen edition By Phillip Rose 2012 2 Medical Microbiology, sixteenedition E .Jawetz, J.L. Melnick, E.A. Adel 2008

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

Helping students to understand the biochemistry and how to use the hardware laboratory , and so is emphasized on the need for learning and teaching experience and discuss teamwork and evaluate writing self-reports using scientific references

1. educational institution	**Pharmacy College / University of Mustansiriya**
2. Scientific Section / center	**Clinical laboratory sciences**
3. Name / Code Course	**public health**
4. attendance forms available	**Formal Time**
5. semester year	**semester system**
6. Number of school hours (total)	**2 hours per week (15 weeks during the season)**
8. Date of production/revision of this specification	**15/5/2015**
9. Aims of the Program	
At the end of course the student should be familiar with the gross anatomical description of the human body.	
Studying the general anatomical directions of the human body, and the structure of body systems and organs.	
Understanding the body organs structure and the relation between them.	

10. Learning Outcomes, Teaching, Learning and Assessment Methods

O1- Studying the gross anatomical and the histological description of the human body.
O2- Studying the body organs, and their relation to each other.

B 1 - prepare students research projects
B 2 - Operation reports

Teaching and Learning Methods

- Reading different correlated books
-Use Scientific references
- Participate in workshops

Assessment methods

- Sudden deductive questions during the discussion between the two sides
- quiz
- reports

C. Thinking Skills
J1 - display the description of human body structure
J2-- use information from a variety of sources including scientific fields

Teaching and Learning Methods

- **PowerPoints.. Whit board**
- **Seminars**
- **Lecture/ questions and answer**
- **Demonstration ،**
- **Power point slide**
- **Case study**

Assessment methods

-Home work
- Oral exam and Report

11-Course Structure					
Theory public health					
Week	**Hours**	**Learning outcomes**	**Outcomes required unity / or topic.**	**teaching method**	**Teaching method evaluation method.**
1	**1**	**Intoduction**	**General information about the human body structure**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
2	**1**	**Circulatory system: Location of vascular system (heart, arteries,viens)**	**General information about the blood circulation and blood vessels**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
3	**1**	**Lymphatic system: Location of the (thymus gland, spleen and lymph nodes)**	**Understand the location of lymphatic system**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
4	**1**	**Lymphoid nodule (MALT) and Tonsils**	**Understand the MALT and tonsils**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
5	**1**	**Nervous system: Central & Peripheral nervous system by location**	**Studying the parts of nervous system**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
6	**1**	**Respiratory system: Conducting portion (Nose, Nasopharynx, Trachea Bronchus and Bronchioles) Respiratory portion (Lung)**	**Understand the structure of the respiratory system**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
7	**1**	**Digestive system: Location of different parts of digestive tract (GIT) (Oral cavity, Mouth, Esophagus and Stomach) Smaal intestine, Large**	**Studying the structure of the digestive system**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**

		intestine, Rectum and Anus.			
8	**1**	**Digestive system: Glands associated with the digestive tract by location (Salivary glands, Pancreas, Liver and Gall bladder)**	**Studying the structure and location of accessory glands of the digestive system**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
9	**1**	**Endocrine system: Location of the pituitary gland Location of the Adrenal, Thyroid**	**Studying the endocrine system**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
10	**1**	**Endocrine system: Parathyroid, islet of Langerhans and Pineal glands.**	**Studying the endocrine system**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
11	**1**	**Urinary system: Location of the (kidney and nephrone Location of the (Ureter, Bladder and Urethra)**	**Understandin g the structure of the urinary system**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
12	**1**	**Male reproductive system: Location of the testes Excretory genital ducts Excretory genital glands (Seminal vesicles, Prostate and Cowpers glands)**	**Studying the structure and the location of the male reproductive system**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
13	**1**	**Female reproductive system: Location of ovary, Oviduct, Uterus and Vagina**	**Studying the structure and the location of the female reproductive system**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
14	**1**	**Muscular system.**	**Understandin g the location of body's muscles**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
15	**1**	**Final exam**	**Final exam**	**The use of scientific references and use the**	**Monthly written examinations and oral examinations**

				board	

12-Course Structure	
prescribed textbooks required	Seely's Anatomy and Physiology
Home References (Sources)	Atlas of Human anatomy
A reference books recommended by (scientific journals , reports, ...)	According to the title subject
Electronic References , Internet sites	According to the title subject

13. The development of the curriculum plan
Reading and changing the syllabus according to the updated information

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

Helping students to understand the biochemistry and how to use the hardware laboratory , and so is emphasized on the need for learning and teaching experience and discuss teamwork and evaluate writing self-reports using scientific references

1. educational institution	Pharmacy College / University of Mustansiriya
2. Scientific Section / center	Clinical laboratory sciences
3. Name / Code Course	public health

4. attendance forms available	**Formal Time**
5. semester year	**semester system**
6. Number of school hours (total)	**2 hours per week (15 weeks during the season)**
8. Date of production/revision of this specification	**15/5/2015**
1. educational institution	**Pharmacy College / University of Mustansiriya**
9. Aims of the Program	
The impact and abnormal functions upon the organs associated with the disease process of targeted body systems.	
Clinical manifestations associated with the diseased organs.	
10. Learning Outcomes, Teaching, Learning and Assessment Methods	
O1- Studying the physiology and the pathological changes of the diseases. **O2- Studying the clinical symptoms of the disease.**	
B 1 - prepare students research projects. **B 2 - Operation reports.**	
Teaching and Learning Methods	
- Reading different correlated books. **-Use Scientific references.** **- Participate in workshops.**	
Assessment methods	
- Sudden deductive questions during the discussion between the two sides. **- quiz.** **- reports.**	

C. Thinking Skills
J1 – Understanding the pathophysiology of the diseases.
J2-- use information from a variety of sources including scientific fields.

Teaching and Learning Methods

- **PowerPoints.. Whit board .**
- **Seminars .**
- **Lecture/ questions and answer.**
- **Demonstration.**
- **Power point slide.**
- **Case study.**

Assessment methods

-Home work
- Oral exam and Report

11-Course Structure

Theory public health

Week	Hours	Learning outcomes	Outcomes required unity / or topic.	teaching method	Teaching method evaluation method.
1	3	Introduction	General information about the disease	The use of scientific references and use the board	Monthly written examinations and oral examinations
2	3	Cell injury and tissue response; Degeneration; Necrosis.	Understanding the	The use of scientific references and use the board	Monthly written examinations and oral examinations
3	3	Inflammation (acute and chronic inflammation)	Understanding the inflammatory process	The use of scientific references and use the board	Monthly written examinations and oral examinations
4	3	Syndrome of inappropriate secretion of ADH; Diabetes insipidus; Metabolic acidosis and alkalosis; Respiratory	Syndrome of inappropriate secretion of ADH; Diabetes	The use of scientific references and use the board	Monthly written examinations and oral examinations

		acidosis and alkalosis.	**insipidus; Metabolic acidosis and alkalosis; Respiratory acidosis and alkalosis.**		
5	**3**	**MI; Rheumatic heart disease; Heart failure.**	**MI; Rheumatic heart disease; Heart failure.**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
6	**3**	**Emphysema and bronchiectasis; Cystic fibrosis; Pulmonary embolism; Pulmonary hypertension.**	**Emphysema and bronchiectasis ; Cystic fibrosis; Pulmonary embolism; Pulmonary hypertension.**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
7	**3**	**Hypertensive glomerular disease; Pyelonephritis; Drug related nephropathies; Acute renal failure; Chronic renal failure.**	**Hypertensive glomerular disease; Pyelonephritis ; Drug related nephropathies ; Acute renal failure; Chronic renal failure.**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
8	**3**	**Irritable bowel syndrome. Crohn's disease; Diarrhea; Celiac disease.**	**Studying the Irritable bowel syndrome. Crohn's disease; Diarrhea; Celiac disease.**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
9	**3**	**Graves’s disease.**	**Graves’s disease.**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
10	**3**	**Thyrotoxicosis.**	**Studying the Thyrotoxicosis**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**

11	**3**	**Diabetes mellitus and metabolic syndrome.**	**Studying the DM and metabolic syndrome**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
12	**3**	**Metabolic and rheumatic disorders of skeletal system: Osteoporosis; Osteomalacia and rickets.**	**Studying the Metabolic and rheumatic disorders of skeletal system: Osteoporosis; Osteomalacia and rickets**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
13	**3**	**Ankylosing spodylitis; Gout; Osteoarthritis syndrome.**	**Studying the Ankylosing spodylitis; Gout; Osteoarthritis syndrome.**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
14	**3**	**Alteration in immune response: Hypersensitivity disorders.**	**Studying the Alteration in immune response: Hypersensitivity disorders.**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
15	**3**	**Immunodeficiency disorders.**	**Studying the Immunodeficiency disorders.**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**

12-Course Structure	
prescribed textbooks required	**- Essential in Pathophysiology by: Carol Mattson Porth 2nd Ed. Volume 1and Volume 2**
Home References (Sources)	**- Pathophysiology Conale.**
A reference books recommended by (scientific journals , reports, ...)	**According to the title subject**

Electronic References , Internet sites	**According to the title subject**

13. The development of the curriculum plan
Reading and changing the syllabus according to the updated information

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

provide student to general information on chemical and biological analysis and laboratory diagnosis on the principles of pointing out the extent of their application and clinical diagnostics results of laboratory tests

1. educational institution	**Pharmacy College / University of Mustansiriya**
2. Scientific Section / center	**Clinical laboratory sciences**
3. subject Title	**Histology**
4. attendance forms available	**Formal Time**
5. course /year	**course**
6. total hour study	**4 hour in weak/ 15 weeks**
7. Other external influences	**Laboratory lectures + Theoretical study**
8. Date of production/revision of this specification	**15/5/2016**
9. Aims of the Programme	
1- Be able to diagnosing the normal tissues	

2- Be able to contrast between different types of tissue.
3- Be able to describe the cells and their function .
4- Have obtained hands-on using microscope in to diagnosing the normal tissues .
10. Learning Outcomes, Teaching, Learning and Assessment Methods
A **1- Be able to diagnosing the normal tissues** **2- knowledge of the basic principles of Human histology**
B **1 - prepare students research projects** **2 - Operation reports** **3 – making of conferences , workshops and engaging in scientific debate**
Teaching and Learning Methods
- A discussion of collective action in the laboratory **-use Scientific references**
Assessment methods
- Sudden deductive questions during the discussion between the two sides
C. Thinking Skills **1 - display the data graphically and to solve chemical equations** **2-- use information from a variety of sources including scientific fields**
Teaching and Learning Methods
Outsourcing ask questions that are in the course of Thread
Assessment methods
-preparing reports **- Oral exam , practical report**
D. General and Transferable Skills (other skills related to the viability of employment and personal development)
1- Connecting ideas regarding hypertext lab training **2- offer lectures graphically**

3 - use external sources

11-Course Structure					
lab training					
Week	Hours	Learning outcomes	Outcomes required unity / or topic.	teaching method	Teaching method evaluation method.
1	4	Epithelial Tissues	Epithelial Tissues	The use of scientific references and use the board	Monthly written examinations and oral examinations
2	4	Connective Tissues	Connective Tissues	The use of scientific references and use the board	Monthly written examinations and oral examinations
3	4	Muscular Tissues	Muscular Tissues	The use of scientific references and use the board	Monthly written examinations and oral examinations
4	4	Nervous Tissues	Nervous Tissues	The use of scientific references and use the board	Monthly written examinations and oral examinations
5	4	Integumantery System	Integumantery System	The use of scientific references and use the board	Monthly written examinations and oral examinations
6	4	Circulatory System	Circulatory System	The use of scientific references and use the board	Monthly written examinations and oral examinations
7	4	Lymphatic System	Lymphatic System	The use of scientific references and use the board	Monthly written examinations and oral examinations

8	**4**	**Respiratory System**	**Respiratory System**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
9	**4**	**Digestive System (Oral cavity)**	**Digestive System (Oral cavity)**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
10	**4**	**Digestive System (digestive tract)**	**Digestive System (digestive tract)**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
11	**4**	**Digestive System (digestive glands ,Liver ,Pancreas ,Gall bladder)**	**Digestive System (digestive glands ,Liver ,Pancreas ,Gall bladder)**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
12	**4**	**Urinary System**	**Urinary System**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
13	**4**	**Reproductive System(female reproductive system) Reproductive System(male reproductive system)**	**Reproductive System(female reproductive system) Reproductive System(male reproductive system)**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
14	**4**	**Accessory glands**	**Accessory glands**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
15	**4**	**Final exam**	**Final exam**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**

12-Course Structure	
prescribed textbooks required	**1-Atlas of-Histology with function correlation (VictorP.Eroschenko) 2-Text Book of Histology (Tenanbum)**

Home References (Sources)	**Atlas of-Histology with function and clinical correlations (Dongmei Cui),2011**
A reference books recommended by (scientific journals , reports, ...)	**Lehninger (principles of biochemistry)**
Electronic References , Internet sites	

13. The development of the curriculum plan
Continuous update of curriculum due to his request to serve the educational process Maintain the scientific equanimity through the use of valuable resources and books International

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

provide student to general information on chemical and biological analysis and laboratory diagnosis on the principles of pointing out the extent of their application and clinical diagnostics results of laboratory tests

1. educational institution	**Pharmacy College / University of Mustansiriya**
2. Scientific Section / center	**Clinical laboratory sciences**
3. subject Title	**Human Biology**
4. attendance forms available	**Formal Time**
5. course /year	**course**

6. total hour study	**4 hour in weak/ 15 weeks**
7. Other external influences	**Practical lectures + Theoretical study**
8. Date of production/revision of this specification	**15/5/2016**

9. Aims of the Programme

Study the Human body composition

Studying the types of cell structure, types of tissues, bone, skeleton, joints and muscle as well as the nutrition

Human bilogy also explains in details the different body systems and human genetics .

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A
1- theoretical application on practical experiments
2- knowledge of the basic principles of lab training

B
1 – preparation of reports
2 – Making oral discussion
3 –

Teaching and Learning Methods

- A discussion of collective action in the laboratory
-use Scientific references

Assessment methods

- Sudden deductive questions during the discussion between the two sides

C. Thinking Skills

1 – Knoweldge about all types of body cells and tissues

Teaching and Learning Methods

Outsourcing ask questions that are in the course of Thread

Assessment methods
-Routine visit from a fellow of the last **- Oral exam , practical report**
D. General and Transferable Skills (other skills related to the viability of employment and personal development)
1- Connecting ideas with showing the microscopical slides associatwed with human cells and tissues **2- offer lectures graphically** **3 - use external sources**

11-Course Structure

lab training

Week	Hours	Learning outcomes	Outcomes required unity / or topic.	teaching method	Teaching method evaluation method.
1	4	General biology terms.	General biology terms.	The use of scientific references and use the board	Monthly written examinations and oral examinations
2	4	Cell biology .	Studying the Cell biology .	The use of scientific references and use the board	Monthly written examinations and oral examinations
3	4	Tissues	Tissues	The use of scientific references and use the board	Monthly written examinations and oral examinations
4	4	bone and cartilages	bone and cartilages	The use of scientific references and use the board	Monthly written examinations and oral examinations
5	4	Digestive system (mouth , esophagus , stomach) slides	Digestive system (mouth , esophagus , stomach) slides	The use of scientific references and use the board	Monthly written examinations and oral examinations

6	**4**	**Digestive system (intestine)**	**Digestive system (intestine)**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
7	**4**	**Digestive system (intestine)**	**Digestive system (intestine)**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
8	**4**	**Excertory system and respiration**	**Excertory system and respiration**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
9	**4**	**Circulatory system .**	**Circulatory system .**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
10	**4**	**Skin .**	**Skin .**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
11	**4**	**Male reproductive system .**	**Male reproductive system .**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
12	**4**	**Female reproductive system .**	**Female reproductive system .**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
13	**4**	**Immunity (inflammation and the blood immunity)**	**Immunity (inflammation and the blood immunity)**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
14	**4**	**Acessory glands**	**Acessory glands**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
15	**4**	**Final exam**	**Final exam**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**

12-Course Structure	
prescribed textbooks required	**A text book of Human Biology by J.K.Inglis**
Home References (Sources)	**1.Human Biology by Sylvia S.Madera 2. Art Biology by Sylvia S.Madera**
A reference books recommended by (scientific journals , reports, ...)	**Lehninger (principles of biochemistry)**
Electronic References , Internet sites	

13. The development of the curriculum plan
Continuous update of curriculum due to his request to serve the educational process Maintain the scientific equanimity through the use of valuable resources and books International

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

Helping students to understand the biochemistry and how to use the hardware laboratory , and so is emphasized on the need for learning and teaching experience and discuss teamwork and evaluate writing self-reports using scientific references

1. educational institution	**Pharmacy College / University of Mustansiriya**
2. Scientific Section / center	**Clinical laboratory sciences**
3. subject Title	**Medical physics**

4. attendance forms available	**Formal Time**
5. course /year	**course**
6. total hour study	**4 hour in weak/ 15 weeks**
7. Other external influences	**Laboratory lectures + Theoretical study**
8. Date of production/revision of this specification	**15/5/2016**

9. Aims of the Programme

Gives the students the ability to deal with the concepts of physics

Deal with the concept of basic physics and application of physics in the medical field

10. Learning Outcomes, Teaching, Learning and Assessment Methods

O1- display concepts selected topics in medical physics research
O2- theoretical application on practical experiments and measurements bases in medical physics

B 1 - prepare students research projects
B 2 - Operation reports
B 3 -

Teaching and Learning Methods

- A discussion of collective action in the laboratory
-use Scientific references

Assessment methods

- Sudden deductive questions during the discussion between the two sides
-

C. Thinking Skills
J1 - display the data to discharge the duties and responsibilities of the pharmacist.
J2-- use information from a variety of sources including scientific fields

Teaching and Learning Methods

- **Power Points.. Whit board ،**
- **Simulators**
- **Guidelines**
- **Seminars**
- **Skill lab.**
- **Lecture/ questions and answer**
- **Demonstration،**
- **Small groups assignment**
- **Power point slide**
- **Case study**

Assessment methods

-Routine visit from a fellow of the last
- Oral exam , practical report

11-Course Structure

Medical physics

Week	Hours	Learning outcomes	Outcomes required unity / or topic.	teaching method	Teaching method evaluation method.
1	2	Students gained information in the field of physics and the application in medical field	General concepts of physics	The use of scientific references and use the board	Quizzes ,homework and oral examination
2	2	Students gained information in the field of physics and the application in medical field	Pressure and temperature	The use of scientific references and use the board	Quizzes ,homework and oral examination
3	2	Students gained information in the field of physics and the application in medical field	Heat and energy	The use of scientific references and use the board	Quizzes ,homework and oral examination

4	**2**	**Students gained information in the field of physics and the application in medical field**	**The 2nd law of thermodynamics**	**The use of scientific references and use the board**	**Quizzes ,homework and oral examination**
5	**2**	**Students gained information in the field of physics and the application in medical field**	**Kinetic theory of gas**	**The use of scientific references and use the board**	**Quizzes ,homework and oral examination**
6	**2**	**Students gained information in the field of physics and the application in medical field**	**radiation**	**The use of scientific references and use the board**	**Quizzes ,homework and oral examination**
7	**2**	**Students gained information in the field of physics and the application in medical field**	**Production of x-ray**	**The use of scientific references and use the board**	**Quizzes ,homework and oral examination**
8	**2**	**Students gained information in the field of physics and the application in medical field**	**The Ostwald's viscometer**	**The use of scientific references and use the board**	**Quizzes ,homework and oral examination**
9	**2**	**Students gained information in the field of physics and the application in medical field**	**Surface tension**	**The use of scientific references and use the board**	**Quizzes ,homework and oral examination**
10	**2**	**Students gained information in the field of physics and the application in medical field**	**Speed of sound**	**The use of scientific references and use the board**	**Quizzes ,homework and oral examination**
11	**2**	**Students gained information in the field of physics and the application in medical field**	**Laser application in medicine**	**The use of scientific references and use the board**	**Quizzes ,homework and oral examination**

11-Course Structure
Practical medical physics

Week	Hours	Learning outcomes	Outcomes required unity / or topic.	teaching method	Teaching method evaluation method.
1	2	Cathode ray oscilloscope	Study the work of CRO	The use of scientific references and use the board	Quizzes ,homework and oral examination
2	2	Electro motive force of a cell and its internal resistance	Estimate the resistance of body	The use of scientific references and use the board	Quizzes ,homework and oral examination
3	2	Laser application	Estimate the laser application	The use of scientific references and use the board	Quizzes ,homework and oral examination
4	2	Viscosity of water through capillary tube	Study the viscosity of water	The use of scientific references and use the board	Quizzes ,homework and oral examination
5	2	Convex lenses	Study the properties of convex lenses	The use of scientific references and use the board	Quizzes ,homework and oral examination

12-Course Structure	
prescribed textbooks required	Medical physics
Home References (Sources)	
A reference books recommended by (scientific journals , reports, ...)	
Electronic References , Internet sites	

13. The development of the curriculum plan
Continuous -althadit curriculum due to his request to serve the educational process Maintain the scientific equanimity through the use of valuable resources and books Internatioanl

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

Helping students to understand the biochemistry and how to use the hardware laboratory , and so is emphasized on the need for learning and teaching experience and discuss teamwork and evaluate writing self-reports using scientific references

1. educational institution	Pharmacy College / University of Mustansiriya
2. Scientific Section / center	Clinical laboratory sciences
3. subject Title	Clinical chemistry
4. attendance forms available	Formal Time
5. course /year	course
6. total hour study	6 hour in weak/ 15 weeks
7. Other external influences	Practical lectures + Theoretical study
8. Date of production/revision of this specification	15/5/2016
9. Aims of the Programme	
Helping to understand the biochemical markers	
Connect between diseases and biochemical markers	
Understanding metabolic disorders associated with diseases state	

Know the under lying biochemical bases for hereditarydiseases

10. Learning Outcomes, Teaching, Learning and Assessment Methods

O1- display concepts selected topics in clinical chemistry research
O2- theoretical application on practical experiments and measurements bases in biochemistry
O3- knowledge of the relation ship between biochemical markers and disease

B 1 - prepare students research projects
B 2 - Operation reports
B 3 -oqamh conferences , workshops and engaging in scientific debate

Teaching and Learning Methods

- A discussion of collective action in the laboratory
-use Scientific references

Assessment methods

- Sudden deductive questions during the discussion between the two sides
-amthanat Editorial

C. Thinking Skills
J1 - display the data to solve adisease case
J2-- use information from a variety of sources including scientific fields

Teaching and Learning Methods

- **PowerPoints.. Whit board ،**
- **Simulators**
- **Guidelines**
- **Seminars**
- **Skill lab.**
- **Lecture/ questions and answer**
- **Demonstration،**
- **Small groups assignment**
- **Power point slide**
- **Case study**

Assessment methods

-Routine visit from a fellow of the last
- Oral exam , practical report

11-Course Structure					
Theory Biochemistry					
Week	**Hours**	**Learning outcomes**	**Outcomes required unity / or topic.**	**teaching method**	**Teaching method evaluation method.**
1	**3**	**Students gained information in the field of clinical chemistry live up to the required level**	**Carbohydrate metabolism disorders**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
2	**3**	**Students gained information in the field of clinical chemistry live up to the required level**	**Liver function**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
3	**3**	**Students gained information in the field of clinical chemistry live up to the required level**	**Plasma lipid and lipoprotein metabolism disorders**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
4	**3**	**Students gained information in the field of clinical chemistry live up to the required level**	**Diagnostic enzymology**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
5	**3**	**Students gained information in the field of clinical chemistry live up to the required level**	**Endocrinology disorders**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
6	**3**	**Students gained information in the field of clinical chemistry live up to the required level**	**Reproductive system**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
7	**3**	**Students gained information in the field of clinical chemistry live up to the required level**	**Tumor markers**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
8	**3**	**Students gained information in the field of clinical chemistry live up to the required level**	**Drug interaction with laboratory tests**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**

9-10	**3**	**Students gained information in the field ofclinical live up to the required level**	**Disorders of calcium metabolism**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
11	**3**	**Students gained information in the field of clinical chemistry live up to the required level**	**Acid base disorders**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
12-13	**3**	**Students gained information in the field of clinical chemistry live up to the required level**	**Pituitary ,adrenal glands**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
14	**3**	**Students gained information in the field of clinical chemistry live up to the required level**	**Male and female disorders**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
15	**3**	**Students gained information in the field of clinical chemistry live up to the required level**	**Thyroid function**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**

11-Course Structure					
Practical clinical chemistry					
Week	**Hours**	**Learning outcomes**	**Outcomes required unity / or topic.**	**teaching method**	**Teaching method evaluation method.**
1	**2**	**Blood glucose**	**Estimate serum blood glucose**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
2	**1**	**Creatine kinase**	**Estimate serumcreatine kinase**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**

3	**1**	**Calcium in the blood estimate**	**Serum calcium measurement**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
4	**1**	**phosphorus estimate in the blood**	**Blood phosphorus measurement**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
5	**1**	**Estimate LIPID PROFILE**	**Serum lipid profile**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
6	**1**	**Estimation of urea in the blood**	**Estimation of urea level in the blood**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
7	**1**	**Uric estimate in the blood**	**Estimation of uric level in the blood**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
8	**1**	**AST,ALT**	**Estimation of serum AST,ALT**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
9	**1**	**Estimate hydrochloric acid found in the sap of infectious**	**Gastric juice analysis (detection of free HCl concentration)**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**

12-Course Structure	
prescribed textbooks required	**Crook clinical chemistry 2012**
Home References (Sources)	
A reference books recommended by (scientific journals , reports, ...)	**Kaplan clinical chemistry**

Electronic References , Internet sites	

13. The development of the curriculum plan
Continuous -althadit curriculum due to his request to serve the educational process Maintain the scientific equanimity through the use of valuable resources and books Internatioanl

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

At the end of the course, students are expected to learn: Give students the ability to deal with the concept of mathematics and statistics, the knowledge and skill required to efficiently discharge the duties and responsibilities of the pharmacist. The course deals with the concept of basic mathematics and application of biostatistics in the medical field. Upon completion of the course students will able to understand the applications of statistics in medical field.

1. educational institution	**Pharmacy College / University of Mustansiriya**
2. Scientific Section / center	**Clinical laboratory sciences**
3. subject Title	**Mathematics & Biostatistics**
4. attendance forms available	**Formal Time**
5. course /year	**course**
6. total hour study	**3 hour in weak/ 15 weeks**
7. Other external influences	**Practical lectures + Theoretical study**

8. Date of production/revision of this specification	**15/5/2016**

9. Aims of the Programme

Give students the ability to deal with the concept of mathematics and statistics

The course deals with the concept of basic mathematics and application of biostatistics in the medical field

Upon completion of the course students will able to understand the applications of statistics in medical field.

10. Learning Outcomes, Teaching, Learning and Assessment Methods

O1- ***Give students the ability to deal with the concept of mathematics and statistics***
O2- ***The course deals with the concept of basic mathematics and application of biostatistics in the medical field***

B 1 - Prepare students research projects
B 2 - Operation reports
B 3 -

Teaching and Learning Methods

- A discussion of collective action in the class
-use Scientific references

Assessment methods

- Sudden deductive questions during the discussion between the two sides
-

C. Thinking Skills
J1 - display the data to discharge the duties and responsibilities of the pharmacist.
J2-- use information from a variety of sources including scientific fields

Teaching and Learning Methods

- **Power Points.. Whit board ،**
- **Simulators**
- **Guidelines**
- **Seminars**

- **Skill lab.**
- **Lecture/ questions and answer**
- **Demonstration،**
- **Small groups assignment**
- **Power point slide**
- **Case study**

Assessment methods

-Routine visit from a fellow of the last
- Oral exam , practical report

11-Course Structure

Mathematics & Biostatistics

Week	Hours	Learning outcomes	Outcomes required unity / or topic.	teaching method	Teaching method evaluation method.
1	3	Students gained information in the field of Mathematics Biostatistics and the application in medical field	Mathematics: General concepts, Coordinate and graph in plane	The use of scientific references and use the board	Quizzes ,homework and oral examination
2	3	Students gained information in the field of Mathematics Biostatistics and the application in medical field	Inequality, absolute value or magnitude	The use of scientific references and use the board	Quizzes ,homework and oral examination
3	3	Students gained information in the field of Mathematics Biostatistics and the application in medical field	Function and their graphs ,Displacement function	The use of scientific references and use the board	Quizzes ,homework and oral examination
4	3	Students gained information in the field of Mathematics Biostatistics and the application in medical field	Slope and equation for lines	The use of scientific references and use the board	Quizzes ,homework and oral examination

5	**3**	**Students gained information in the field of Mathematics Biostatistics and the application in medical field**	**Practice exercises**	**The use of scientific references and use the board**	**Quizzes ,homework and oral examination**
6	**3**	**Students gained information in the field of Mathematics Biostatistics and the application in medical field**	**Biostatics: General concepts of statistics**	**The use of scientific references and use the board**	**Quizzes ,homework and oral examination**
7	**3**	**Students gained information in the field of Mathematics Biostatistics and the application in medical field**	**Limits, theorem of limits**	**The use of scientific references and use the board**	**Quizzes ,homework and oral examination**
8	**3**	**Students gained information in the field of Mathematics Biostatistics and the application in medical field**	**Statistical methods and theory**	**The use of scientific references and use the board**	**Quizzes ,homework and oral examination**
9	**3**	**Students gained information in the field of Mathematics Biostatistics and the application in medical field**	**Continuity , continuity conditions**	**The use of scientific references and use the board**	**Quizzes ,homework and oral examination**
10	**3**	**Students gained information in the field of Mathematics Biostatistics and the application in medical field**	**Practice exercises**	**The use of scientific references and use the board**	**Quizzes ,homework and oral examination**
11	**3**	**Students gained information in the field of Mathematics Biostatistics and the application in medical field**	**Probability concepts**	**The use of scientific references and use the board**	**Quizzes ,homework and oral examination**
12	**3**	**Students gained information in the field of Mathematics Biostatistics and the application in medical field**	**The concepts of central tendency**	**The use of scientific references and use the board**	**Quizzes ,homework and oral examination**

13	**3**	**Students gained information in the field of Mathematics Biostatistics and the application in medical field**	**Practice exercises**	**The use of scientific references and use the board**	**Quizzes ,homework and oral examination**
14	**3**	**Students gained information in the field of Mathematics Biostatistics and the application in medical field**	**Deviations and variation, application of static in medical field**	**The use of scientific references and use the board**	**Quizzes ,homework and oral examination**
15	**3**	**Students gained information in the field of Mathematics Biostatistics and the application in medical field**	**Review question and exercises**	**The use of scientific references and use the board**	**Quizzes ,homework and oral examination**

12-Course Structure	
prescribed textbooks required	**<u>Textbooks</u>:-** **1-Calculas(Thomas)(Eleventh edition).** **2-Introductory Biostatistics for the helath sciences(Robert C. Duncan,…)(Second edition)**
Home References (Sources)	**<u>Textbooks</u>:-** **1-Calculas(Thomas)(Eleventh edition).** **2-Introductory Biostatistics for the helath sciences(Robert C. Duncan,…)(Second edition)**
A reference books recommended by (scientific journals , reports, ...)	**Any References in Mathematics & Biostatistics**
Electronic References, Internet sites	**Any References in Mathematics & Biostatistics**

13. The development of the curriculum plan

Continuous curriculum due to his request to serve the educational process Maintain the scientific equanimity through the use of valuable resources and books International

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

Helping students to understand the biochemistry and how to use the hardware laboratory , and so is emphasized on the need for learning and teaching experience and discuss teamwork and evaluate writing self-reports using scientific references

1. educational institution	**Pharmacy College / University of Mustansiriya**
2. Scientific Section / center	**Clinical laboratory sciences**
3. Name / Code Course	**Clinical chemistry**
4. attendance forms available	**Formal Time**
5. semester year	**semester system**
6. Number of school hours (total)	**6 hours per week (15 weeks during the season)**
8. Date of production/revision of this specification	**15/5/2015**
1. educational institution	**Pharmacy College / University of Mustansiriya**

9. Aims of the Programme

Helping to understand the biochemical markers

Connect between diseases and biochemical markers

Understanding metabolic disorders associated with diseases state

Know the under lying biochemical bases for hereditarydiseases

10. Learning Outcomes, Teaching, Learning and Assessment Methods

O1- display concepts selected topics in clinical chemistry research
O2- theoretical application on practical experiments and measurements bases in biochemistry
O3- knowledge of the relation ship between biochemical markers and disease

B 1 - prepare students research projects
B 2 - Operation reports
B 3 -oqamh conferences , workshops and engaging in scientific debate

Teaching and Learning Methods

- A discussion of collective action in the laboratory
-use Scientific references

Assessment methods

- Sudden deductive questions during the discussion between the two sides
-amthanat Editorial

C. Thinking Skills
J1 - display the data to solve adisease case
J2-- use information from a variety of sources including scientific fields

Teaching and Learning Methods

- **PowerPoints.. Whit board ،**
- **Simulators**
- **Guidelines**
- **Seminars**
- **Skill lab.**
- **Lecture/ questions and answer**
- **Demonstration،**
- **Small groups assignment**
- **Power point slide**

• **Case study**
Assessment methods
-Routine visit from a fellow of the last **- Oral exam , practical report**

11-Course Structure					
Theory Biochemistry					
Week	**Hours**	**Learning outcomes**	**Outcomes required unity / or topic.**	**teaching method**	**Teaching method evaluation method.**
1	**3**	**Students gained information in the field of clinical chemistry live up to the required level**	Carbohydrate metabolism disorders	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
2	**3**	**Students gained information in the field of clinical chemistry live up to the required level**	Liver function	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
3	**3**	**Students gained information in the field of clinical chemistry live up to the required level**	Plasma lipid and lipoprotein metabolism disorders	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
4	**3**	**Students gained information in the field of clinical chemistry live up to the required level**	Diagnostic enzymology	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
5	**3**	**Students gained information in the field of clinical chemistry live up to the required level**	**Endocrinology disorders**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
6	**3**	**Students gained information in the field of clinical chemistry live up to the required level**	**Reproductive system**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**

7	**3**	**Students gained information in the field of clinical chemistry live up to the required level**	**Tumor markers**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
8	**3**	**Students gained information in the field of clinical chemistry live up to the required level**	**Drug interaction with laboratory tests**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
9-10	**3**	**Students gained information in the field ofclinical live up to the required level**	**Disorders of calcium metabolism**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
11	**3**	**Students gained information in the field of clinical chemistry live up to the required level**	**Acid base disorders**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
12-13	**3**	**Students gained information in the field of clinical chemistry live up to the required level**	**Pituitary ,adrenal glands**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
14	**3**	**Students gained information in the field of clinical chemistry live up to the required level**	**Male and female disorders**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
15	**3**	**Students gained information in the field of clinical chemistry live up to the required level**	Thyroid function	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**

11-Course Structure					
Practical clinical chemistry					
Week	**Hours**	**Learning outcomes**	**Outcomes required unity / or topic.**	**teaching method**	**Teaching method evaluation method.**

1	**2**	**Blood glucose**	**Estimate serum blood glucose**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
2	**1**	**Creatine kinase**	**Estimate serumcreatine kinase**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
3	**1**	**Calcium in the blood estimate**	**Serum calcium measurement**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
4	**1**	**phosphorus estimate in the blood**	**Blood phosphorus measurement**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
5	**1**	**Estimate LIPID PROFILE**	**Serum lipid profile**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
6	**1**	**Estimation of urea in the blood**	**Estimation of urea level in the blood**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
7	**1**	**Uric estimate in the blood**	**Estimation of uric level in the blood**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
8	**1**	**AST,ALT**	**Estimation of serum AST,ALT**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
9	**1**	**Estimate hydrochloric acid found in the sap of infectious**	**Gastric juice analysis (detection of free HCl concentration)**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**

12-Course Structure

prescribed textbooks required	**Crook clinical chemistry 2012**
Home References (Sources)	
A reference books recommended by (scientific journals , reports, ...)	**Kaplan clinical chemistry**
Electronic References , Internet sites	

13. The development of the curriculum plan
Continuous -althadit curriculum due to his request to serve the educational process Maintain the scientific equanimity through the use of valuable resources and books Internatioanl

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

Helping students to understand the biochemistry and how to use the hardware laboratory , and so is emphasized on the need for learning and teaching experience and discuss teamwork and evaluate writing self-reports using scientific references

1. educational institution	**Pharmacy College / University of Mustansiriyah**
2. Scientific Section / center	**Clinical laboratory sciences**
3. Name / Code Course	**Human anatomy**

4. attendance forms available	**Formal Time**
5. semester year	**semester system**
6. Number of school hours (total)	**3 hours per week (15 weeks during the season)**
8. Date of production/revision of this specification	**15/5/2015**
1. educational institution	**Pharmacy College / University of Mustansiriya**
9. Aims of the Program	
At the end of course the student should be familiar with the gross anatomical description of the human body.	
Studying the general anatomical directions of the human body, and the structure of body systems and organs.	
Understanding the body organs structure and the relation between them.	
10. Learning Outcomes, Teaching, Learning and Assessment Methods	
O1- Studying the gross anatomical and the histological description of the human body. **O2- Studying the body organs, and their relation to each other.**	
B 1 - prepare students research projects **B 2 - Operation reports**	
Teaching and Learning Methods	
- Reading different correlated books **-Use Scientific references** **- Participate in workshops**	
Assessment methods	
- Sudden deductive questions during the discussion between the two sides **- quiz** **- reports**	

C. Thinking Skills **J1 - display the description of human body structure** **J2-- use information from a variety of sources including scientific fields**
Teaching and Learning Methods
• **PowerPoints.. Whit board** • **Seminars** • **Lecture/ questions and answer** • **Demonstration ،** • **Power point slide** • **Case study**
Assessment methods
-Home work **- Oral exam and Report**

11-Course Structure					
Theory publichealth					
Week	**Hours**	**Learning outcomes**	**Outcomes required unity / or topic.**	**teaching method**	**Teaching method evaluation method.**
1	**1**	**Intoduction**	**General information about the human body structure**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
2	**1**	**Circulatory system: Location of vascular system (heart, arteries,viens)**	**General information about the blood circulation and blood vessels**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
3	**1**	**Lymphatic system: Location of the (thymus gland, spleen and lymph nodes)**	**Understand the location of lymphatic system**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**

4	**1**	**Lymphoid nodule (MALT) and Tonsils**	**Understand the MALT and tonsils**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
5	**1**	**Nervous system: Central & Peripheral nervous system by location**	**Studying the parts of nervous system**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
6	**1**	**Respiratory system: Conducting portion (Nose, Nasopharynx, Trachea Bronchus and Bronchioles) Respiratory portion (Lung)**	**Understand the structure of the respiratory system**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
7	**1**	**Digestive system: Location of different parts of digestive tract (GIT) (Oral cavity, Mouth, Esophagus and Stomach) Smaal intestine, Large intestine, Rectum and Anus.**	**Studying the structure of the digestive system**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
8	**1**	**Digestive system: Glands associated with the digestive tract by location (Salivary glands, Pancreas, Liver and Gall bladder)**	**Studying the structure and location of accessory glands of the digestive system**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
9	**1**	**Endocrine system: Location of the pituitary gland Location of the Adrenal, Thyroid**	**Studying the endocrine system**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
10	**1**	**Endocrine system: Parathyroid, islet of Langerhans and Pineal glands.**	**Studying the endocrine system**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**

11	**1**	**Urinary system: Location of the (kidney and nephrone Location of the (Ureter, Bladder and Urethra)**	**Understanding the structure of the urinary system**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
12	**1**	**Male reproductive system: Location of the testes Excretory genital ducts Excretory genital glands (Seminal vesicles, Prostate and Cowpers glands)**	**Studying the structure and the location of the male reproductive system**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
13	**1**	**Female reproductive system: Location of ovary, Oviduct, Uterus and Vagina**	**Studying the structure and the location of the female reproductive system**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
14	**1**	**Muscular system.**	**Understanding the location of body's muscles**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
15	**1**	**Final exam**	**Final exam**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**

12-Course Structure	
prescribed textbooks required	**Seely's Anatomy and Physiology**
Home References (Sources)	**Atlas of Human anatomy**
A reference books recommended by (scientific journals , reports, ...)	**According to the title subject**

Electronic References , Internet sites	**According to the title subject**

13. The development of the curriculum plan
Reading and changing the syllabus according to the updated information

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

COURSE SPECIFICATION

Helping students to understand the biochemistry and how to use the hardware laboratory , and so is emphasized on the need for learning and teaching experience and discuss teamwork and evaluate writing self-reports using scientific references

1. educational institution	**Pharmacy College / University of Mustansiriyah**
2. Scientific Section / center	**Clinical laboratory sciences**
3. Name / Code Course	**pathophysiology**
4. attendance forms available	**Formal Time**
5. semester year	**semester system**
6. Number of school hours (total)	**3 hours per week (15 weeks during the season)**
8. Date of production/revision of this specification	**15/5/2015**
1. educational institution	**Pharmacy College / University of Mustansiriyah**

9. Aims of the Program

The impact and abnormal functions upon the organs associated with the disease process of targeted body systems.

Clinical manifestations associated with the diseased organs.

10. Learning Outcomes, Teaching, Learning and Assessment Methods

O1- Studying the physiology and the pathological changes of the diseases.
O2- Studying the clinical symptoms of the disease.

B 1 - prepare students research projects.
B 2 - Operation reports.

Teaching and Learning Methods

- Reading different correlated books.
-Use Scientific references.
- Participate in workshops.

Assessment methods

- Sudden deductive questions during the discussion between the two sides.
- quiz.
- reports.

C. Thinking Skills
J1 – Understanding the pathophysiology of the diseases.
J2-- use information from a variety of sources including scientific fields.

Teaching and Learning Methods

- **PowerPoints.. Whit board .**
- **Seminars .**
- **Lecture/ questions and answer.**
- **Demonstration.**
- **Power point slide.**
- **Case study.**

Assessment methods
-Home work **- Oral exam and Report**

11-Course Structure					
Theory publichealth					
Week	**Hours**	**Learning outcomes**	**Outcomes required unity / or topic.**	**teaching method**	**Teaching method evaluation method.**
1	**3**	**Introduction**	**General information about the disease**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
2	**3**	**Cell injury and tissue response; Degeneration; Necrosis.**	**Understandin g the**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
3	**3**	**Inflammation (acute and chronic inflammation)**	**Understandin g the inflammatory process**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
4	**3**	**Syndrome of inappropriate secretion of ADH; Diabetes insipidus; Metabolic acidosis and alkalosis; Respiratory acidosis and alkalosis.**	**Syndrome of inappropriate secretion of ADH; Diabetes insipidus; Metabolic acidosis and alkalosis; Respiratory acidosis and alkalosis.**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
5	**3**	**MI; Rheumatic heart disease; Heart failure.**	**MI; Rheumatic heart disease; Heart failure.**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**

6	**3**	**Emphysema and bronchiectasis; Cystic fibrosis; Pulmonary embolism; Pulmonary hypertension.**	**Emphysema and bronchiectasis; Cystic fibrosis; Pulmonary embolism; Pulmonary hypertension.**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
7	**3**	**Hypertensive glomerular disease; Pyelonephritis; Drug related nephropathies; Acute renal failure; Chronic renal failure.**	**Hypertensive glomerular disease; Pyelonephritis; Drug related nephropathies; Acute renal failure; Chronic renal failure.**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
8	**3**	**Irritable bowel syndrome. Crohn's disease; Diarrhea; Celiac disease.**	**Studying the Irritable bowel syndrome. Crohn's disease; Diarrhea; Celiac disease.**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
9	**3**	**Graves's disease.**	**Graves's disease.**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
10	**3**	**Thyrotoxicosis.**	**Studying the Thyrotoxicosis**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
11	**3**	**Diabetes mellitus and metabolic syndrome.**	**Studying the DM and metabolic syndrome**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
12	**3**	**Metabolic and rheumatic disorders of skeletal system: Osteoporosis; Osteomalacia and rickets.**	**Studying the Metabolic and rheumatic disorders of skeletal system: Osteoporosis; Osteomalacia**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**

			and rickets		
13	**3**	**Ankylosing spodylitis; Gout; Osteoarthritis syndrome.**	**Studying the Ankylosing spodylitis; Gout; Osteoarthritis syndrome.**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
14	**3**	**Alteration in immune response: Hypersensitivity disorders.**	**Studying the Alteration in immune response: Hypersensitivity disorders.**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**
15	**3**	**Immunodeficiency disorders.**	**Studying the Immunodeficiency disorders.**	**The use of scientific references and use the board**	**Monthly written examinations and oral examinations**

12-Course Structure	
prescribed textbooks required	**- Essential in Pathophysiology by: Carol Mattson Porth 2nd Ed. Volume 1and Volume 2**
Home References (Sources)	**- Pathophysiology Conale.**
A reference books recommended by (scientific journals , reports, ...)	**According to the title subject**
Electronic References , Internet sites	**According to the title subject**

13. The development of the curriculum plan
Reading and changing the syllabus according to the updated information