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 2021 - 2022

University: Baghdad University
College: Al –Kindy Medical College
Number Of Departments In The College: 11
Date Of Form Completion: 2021-2022
Department Name: Biochemistry Department
Name of head of Department: Dr. Tahrir Etihad Kadium
Signature:

Dean ' s Name:

Mohamed Jalal Hussain

Date : / /

Dean ' s Assistant For Scientific Affairs:
Taghreed Al Haidari

Date : / /

The College Quality Assurance And University Performance Manager:
Aseel Sameer Mohamed
Date : / /

Quality Assurance And University Performance Manager
Date : / /
Signature

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW
Year I Principles of Biochemistry Module

PROGRAMME SPECIFICATION

Biochemistry forms the basis of all life sciences. Physiological functions are indeed the manifestation of the underlying biochemical reactions. The advance in the field of the medical science is overwhelming and biochemistry occupies the central place in this endeavor. Orientation of the medical students to understand the molecular basis of normal and/or abnormal functioning of an organ system and the enzyme catalyzed reactions is the basis in the biochemistry module.

1. Teaching Institution	Alkindy Medical College
2. University Department/Centre	Biochemistry department
3. Program Title	Principal of biochemistry – Year I
4. Title of Final Award	Bachelor in Medicine and General surgery
5. Modes of Attendance offered	Semesters – Second semester
6. Accreditation	
7. Other external influences	None
8. Date of production/revision of this specification	10 / 2 /2022
9. Aims of the Programme	
1. To produce a competent who is able to demonstrate comprehensive understanding of biochemistry as well applied disciplines	
2. To acquire skills effectively in interpreting the laboratory reports	
3. To perform relevant investigations which will help to diagnose important medical conditions.	

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Cognitive goals

A1. To understand the molecular basis of the normal and/or abnormal functioning of an organ system starting from the basic concept of biochemistry.

11.The skills goals special to the programme.

B1. To be oriented with new technologies and analytical techniques that have been introduced, with their impact on the practice of clinical chemistry and laboratory medicine.

B2. To have skills to be more effectively in interoperating and understanding laboratory reports.

Teaching and Learning Methods

1- Lectures and video teaching
2- Practical sessions
3- Case study

Assessment methods

1- Quizzes
2- Assignment
3- OSPE
4- Reports
5- End module exam
6- End semester exam

11. Affective and value goals

C1. To be more skilled with the increased emphasis on improving quality of patient care, individual patients' outcomes, financial responsibility, total quality management, to play important role in implementation of national health programs, effectively and responsibly.

Teaching and Learning Methods

Tutorial
Discussion

Assessment methods

Written Exams

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

D1. Analytical skills. The Ability to conduct scientific experiments and analysis with accuracy and precision.

Teaching and Learning Methods

Practical sessions

Assessment Methods

1. Lab Exam
2. OSPE

11. Programme Structure				12. Awards and Credits
Level/Year	Course or Module Code	Course or Module Title	Credit rating	
Year 1- Second semester	BCH 112	Principal of biochemistry	3	Bachelor Degree Requires (x) credits

13. Personal Development Planning

None

14. Admission criteria.

According to the regulation of ministry of higher education and scientific research

15. Key sources of information about the programme

Alkindy Medical College – University of Baghdad
Ministry of Higher Education and Scientific Research

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			
				A1	**A2**	**A3**	**A4**	**B1**	**B2**	**B3**	**B4**	**C1**	**C2**	**C3**	**C4**	**D1**	**D2**	**D3**	**D4**
Year I /Second semester	BCH 112	**Principles of biochemistry**	**biochemistry**	✓	✓	✓	✓	✓	✓			✓	✓			✓			

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW
Principal of biochemistry – Year I

COURSE SPECIFICATION

To provide a broad scope for the students to understand the building blocks of cells and tissue as the carbohydrates, protein, lipid of biological significance, nucleic acid. In addition to understanding the basics of enzymology and hormones and the concept of biomarkers.

1. Teaching Institution	Alkindy Medical college
2. University Department/Centre	Biochemistry department
3. Course title/code	Principal of biochemistry / BCH 112
4. Modes of Attendance offered	Semesters
5. Semester/Year	Second Semester / Year I
6. Number of hours tuition (total)	60 hours
7. Date of production/revision of this specification	10/2/2022
8. Aims of the Course	
To provide a broad scope for the students to understand the building blocks of cells and tissue as the carbohydrates, protein, lipid of biological significance, nucleic acid.in addition to understanding the basics of enzymology and hormones and the concept of biomarkers.	

9· Learning Outcomes, Teaching, Learning and Assessment Method

A- Cognitive goals.

A1. To understand the molecular basis of the normal and/or abnormal functioning of an organ system starting from the basic concept of biochemistry.
A2. State the composition and classification of amino acids, proteins , nucleic acid , purines , pyrimidines and Igs.
A3. Define CHO &list their classification and list the important monosaccharides and their derivatives and point out their importance
A4. Outline the definition, classification and functions of lipids
A5. Identify nomenclature of Enzymes and their Classification regulation and inhibition.
A6. Define classification , and functions of the Hormones

B. The skills goals special to the course.

B1. To be oriented with new technologies and analytical techniques that have been introduced, with their impact on the practice of clinical chemistry and laboratory medicine.

B2. To have skills to be more effectively in interoperating and understanding laboratory reports.

Teaching and Learning Methods

Lectures and video teaching
Practical sessions
Case study

Assessment methods

Quizzes
Assignment
OSPE
Reports
End module exam
End semester exam

12.Affective and value goals

C1. To be more skilled with the increased emphasis on improving quality of patient care, individual patients' outcomes, financial responsibility, total quality management, to play important role in implementation of national health programs, effectively and responsibly.

Teaching and Learning Methods

Tutorials
Discussions

Assessment methods

Written Exams

D. General and Transferable Skills (other skills relevant to employability and personal development) D1. Analytical skills. The Ability to conduct scientific experiments and analysis with accuracy and precision.
Teaching and Learning Methods
Practical sessions
Assessment Methods
1. Lab Exam 2. OSPE

10. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	4	biochemistry	Chemistry of carbohydrates	Methods / practical	Quiz
2	4	=	= of lipids	=	=
3	4	=	= of amino acids	=	=
4	4	=	= of proteins	=	=
5	4	=	= biological membrane	=	=
6 –14	36	=	Enzymology & others	=	=
15	4	=	Chemistry of hormones	=	=

11. Infrastructure	
1. Books Required reading:	1- Vasudevan DM, Seekumari S.Vaidyanathan K. Textbook of biochemistry for medical students. Jaypee brothers Medical Publishers Ltd , New Delhi, 7th ED. 2013. 2- Champe PC, Harvey RA Lippincott Illustrative review in biochemistry. Lippincott Williams &Wilkins, 4th ED, 2008.

2. Main references (sources)	3- Vasudevan DM, Seekumari S.Vaidyanathan K. Textbook of biochemistry for medical students. Jaypee brothers Medical Publishers Ltd , New Delhi, 7th ED. 2013. 4- Champe PC, Harvey RA Lippincott Illustrative review in biochemistry. Lippincott Williams &Wilkins, 4th ED, 2008.
A- Recommended books and references (scientific journals, reports…).	none
B-Electronic references, Internet sites…	none

12. The development of the curriculum plan
Alkindy college of Medicine – Medical Education Unit

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW
Metabolism and Nutrition Module – Year II

PROGRAMME SPECIFICATION

The Metabolism and nutrition Module outline the role of the biochemical process that takes place during metabolism & to provide an understanding of the biochemical process and the biochemical mechanisms of normal and diseases state; which will provide modern medicine with rationale basis for the diagnosis and therapy.

1. Teaching Institution	Alkindy college of M
2. University Department/Centre	Biochemistry Department
3. Programme Title	Year II Metabolism and Nutrition Module
4. Title of Final Award	Bachelor in Medicine and General Surgery
5. Modes of Attendance offered	Semester
6. Accreditation	
7. Other external influences	None
8. Date of production/revision of this specification	12/2/2022
9. Aims of the Programme	
a) Understand the metabolic process by which energy is produced in cells and how molecules are synthesized.	
b) Describe the roles of Enzymes and vitamins in metabolic process.	
c) Learn the consequences of deficiency and excess of hormones, minerals, vitamins and other analytes.	

d) Learn the metabolic pathways in the metabolism of proteins, Carbohydrates, and lipids.

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Cognitive goals

A1. Outline the digestion and Absorption of Proteins, Carbohydrates (CHO) and lipids.
A2. State Nitrogen metabolism. Describe Phenylketonuria, Maple Syrup Urine Disease, Albinism and Alkaptonuria.
A3. Understand the key regulatory steps in CHO, lipids metabolic pathways. Describe the Classification, natural form & metabolism of vitamins.
A4. Define minerals toxicity. Outline the difference between toxic mineral &mineral toxicity
A5. Describe free radicals. Explain oxidative stress and identify diseases associated with oxidative stress.
A6. Define ketoacidosis. List the types & biochemical changes

B. The skills goals special to the programme.

B1. Provide students with interpretative & investigate skills.

Teaching and Learning Methods

Lectures and video teaching
Case studies
Discussion

Assessment methods

Quizzes
Assignment
Reports
End module exam
End semester exam

C. Affective and value goals

C1. Student will be more skilled with the increased emphasis on improving quality of patient care, individual patients' outcomes, financial responsibility, total quality management, to play important role in implementation of national health programs, effectively and responsibly.

Teaching and Learning Methods

Discussions

Assessment methods

Written Exams

D. General and Transferable Skills (other skills relevant to employability and personal development). D1. Intellectual skills, such as research; examining reports
Teaching and Learning Methods
Discussion sessions
Assessment Methods
Assessed using a combination of standardized tests and oral examination.

11. Programme Structure				12. Awards and Credits
Level/Year	Course or Module Code	Course or Module Title	Credit rating	
Year II/ first semester	**MET 202**	**Metabolism and Nutrition module**	**2**	Bachelor Degree Requires (x) credits
Biochemistry	**-**	**Metabolism and Nutrition module**	**2**	

13. Personal Development Planning
none

14. Admission criteria.
According to the regulation of ministry of higher education and scientific research
15. Key sources of information about the programme
Alkindy Medical College – University of Baghdad Ministry of Higher Education and Scientific Research

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							
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4	D1	D2	D3	D4				
Year II/ first semester	**MET 202**	**metabolism and nutrition**	**Biochemistry**	✓	✓	✓	✓	✓	✓			✓				✓							

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW
Year II Metabolism and Nutrition Module

COURSE SPECIFICATION

The Metabolism and nutrition Module outline the role of the biochemical process that takes place during metabolism & to provide an understanding of the biochemical process and the biochemical mechanisms of normal and diseases state ; which will provide modern medicine with rationale basis for the diagnosis and therapy.

1. Teaching Institution	Alkindy Medical college
2. University Department/Centre	Biochemistry department
3. Course title/code	Metabolism and Nutrition Module/ **MET 202**
4. Modes of Attendance offered	Semesters
5. Semester/Year	First Semester / year II
6. Number of hours tuition (total)	30 hours
7. Date of production / revision of this specification	12/2/2022
8. Aims of the Course	
a) Understand the metabolic process by which energy is produced in cells and how molecules are synthesized.	
b) Describe the roles of Enzymes and vitamins in metabolic process.	
c) Learn the consequences of deficiency and excess of hormones, minerals, vitamins and other analytes.	
d) Learn the metabolic pathways in the metabolism of proteins ,	

Carbohydrates , and lipids.

9· Learning Outcomes, Teaching ,Learning and Assessment Method

A- Cognitive goals .

A1. Outline the digestion and Absorption of Proteins, Carbohydrates (CHO) and lipids.

A2. State Nitrogen metabolism. Describe Phenylketonuria, Maple Syrup Urine Disease, Albinism and Alkaptonuria.

A3. Understand the key regulatory steps in CHO, lipids metabolic pathways. Describe the Classification, natural form & metabolism of vitamins.

A4. Define minerals toxicity. Outline the difference between toxic mineral &mineral toxicity

A5. Describe free radicals. Explain oxidative stress and identify diseases associated with oxidative stress.

A6. Define ketoacidosis. List the types & biochemical changes

B. The skills goals special to the course.

B1. Provide students with interpretative & investigate skills.

Teaching and Learning Methods

Lectures and video teaching
Case studies
Discussion

Assessment methods

Quizzes
Assignment
OSPE
Reports
End module exam
End semester exam

C. Affective and value goals

C1. Student will be more skilled with the increased emphasis on improving quality of patient care, individual patients' outcomes, financial responsibility, total quality management, to play important role in implementation of national health programs, effectively and responsibly.

Teaching and Learning Methods

Discussion sessions
Assessment methods
Written Exams

D. General and rehabilitative transferred skills (other skills relevant to employability and personal development)
D1. Intellectual skills, such as research; examining reports

10. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	3 Lectures	biochemistry	Minerals - Iron metabolism - Minerals Toxicity	lectures	Quiz
2	4 Lectures + Discussion	biochemistry	Digestion and Absorption of protein – protein metabolism- urea cycle - Metabolic Defects in Amino – Discussion 1	Lectures + Discussion	Quiz
3	4 Lectures + Discussion	biochemistry	Digestion &absorption of CHO – Glycolysis - Citric acid cycle - Gluconeogenesis	Lectures	Quiz
4	3 Lectures	biochemistry	Glycogen metabolism- Digestion &absorption of lipid- Lipid's metabolism: Lipogenesis &lipolysis		
5	4	biochemistry	Lipids metabolism :(β - Oxidation) - Fatty acids synthesis - Ketogenesis - Cholesterol metabolism	lectures	Quiz
6	6	biochemistry	Lipoproteins metabolism - Introduction to vitamins - Lipid soluble vitamins Vitamin A and Vitamin K- : Lipid soluble vitamin : Vitamin E - Lipid soluble vitamin : Vitamin D - Water soluble vitamins Vitamin B		

			Complex &folate		
7	4	biochemistry	Water soluble vitamin : Vitamin C - Hexose Monophosphate Shunt- Ketoacidosis - Free radicals and Antioxidants	lectures	Quiz

11. Infrastructure	
3. Books Required reading:	1- Vasudevan DM, Seekumari S.Vaidyanathan K. Textbook of biochemistry for medical students. Jaypee brothers Medical Publishers Ltd , New Delhi, 7th ED. 2013. 2- Champe PC, Harvey RA Lippincott Illustrative review in biochemistry. Lippincott Williams &Wilkins, 4th ED, 2008.
4. Main references (sources)	3- Champe PC, Harvey RA Lippincott Illustrative review in biochemistry. Lippincott Williams &Wilkins, 4th ED, 2008.
A- Recommended books and references (scientific journals, reports…).	-
B-Electronic references, Internet sites…	https://www.edx.org/learn/biochemistry

12. The development of the curriculum plan
Alkindy college of Medicine – Medical Education Unit

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW
Year II Hemopoietic & Lymphatic Module

PROGRAMME SPECIFICATION

The module details include formation, function, and structure of the blood and normal cellular elements as well as the systems involved in coagulation and fibrinolysis. And also focuses on the normal anatomy and function of the lymphoid tissues and organs. In a way it allows an overall view of basic science knowledge which prepares students for the clinical applications for the better understanding of haemopoietic & lymphoid system disorders. The module provides learning opportunities about the mechanisms of operation of the human hemopoietic system. Emphasis is placed on the integration of relevant principles from anatomy, physiology, biochemistry, pathology, pharmacology and microbiology with respect to the behavior of the normal circulation and its responses to the stress of injury and disease. It also introduces the hematological diseases in terms of their basic pathophysiologic mechanisms to prepare the student for their clinical years.

1. Teaching Institution	Alkindy college of Medicine
2. University Department/Centre	biochemistry
3. Programme Title	Hemopoietic & Lymphatic Module – Year II
4. Title of Final Award	Bachelor in Medicine and General Surgery
5. Modes of Attendance offered	First Semester
6. Accreditation	
7. Other external influences	None
8. Date of production/revision of this specification	15/2/2022
9. Aims of the Programme	
a) To produce a competent who is able to demonstrate comprehensive understanding of biochemistry as well applied disciplines	

b) To acquire skills effectively in interpreting the laboratory reports

c) To perform relevant investigations which will help to diagnose important medical conditions.

d) Explain the normal structure and function of the hemopoietic system.

e) Explain the biochemical, molecular and cellular mechanisms that are essential for maintaining body homeostasis.

10. Learning Outcomes, Teaching, Learning and Assessment Methods

B. Cognitive goals

A1. Learn the role of iron and metabolism. State abnormal Iron metabolism. Interpret the biochemical tests of iron status (iron deficiency & iron overload).

A2. Describe hemoglobin structure, transport function & capacity of Hb. Outline the Hb variants. Describe the hemoglobin degradation pathway, main regulatory enzymes and hemoglobin degradation product.

A3. Outline steps in Hb synthesis, Heme and porphyrin synthesis. List the factors that affect hemoglobin synthesis. Describe the clinical consequences of changes in synthesis.

A4. Classify hemoglobinopathies and describe structural hemoglobinopathies; Thalassemia's

A5. State the acute phase protein outline their role in health and disease. list the positive &negative acute phase protein.

A6. Determine the application of TM in screening, diagnosing, follow up prognosis

B. The skills goals special to the programme.

B1. Provide students with interpretative & investigate skills.

B2. Problem solving skills is essential for any scientist the ability to look at a problem from many angles and find an optimal solution is highly valued.

Teaching and Learning Methods

4- Interactive Lectures and video teaching
5- Case study

Assessment methods

7- Quizzes
8- Assignment
9- End module exam
10- End semester exam

C. Affective and value goals

C1. To be more skilled with the increased emphasis on improving quality of patient care, individual patients' outcomes, financial responsibility, total quality management, to play important role in implementation of national health programs, effectively and responsibly.

Teaching and Learning Methods

Small Group Discussion

Assessment methods

Written Exams

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

D1. Intellectual skills, such as research skills and, interpreting lab data, examining reports.

Teaching and Learning Methods

Discussion

Assessment Methods

Written exams

11. Programme Structure				12. Awards and Credits
Level/Year	Course or Module Code	Course or Module Title	Credit rating	
Year II – First Semester	HLS 204	Hemopoietic & Lymphatic Module	5	Bachelor Degree Requires (x) credits
Biochemistry	-	Hemopoietic & Lymphatic Module	0.5	

13. Personal Development Planning
None
14. Admission criteria.
According to the regulation of ministry of higher education and scientific research
15. Key sources of information about the programme
Alkindy Medical College – University of Baghdad Ministry of Higher Education and Scientific Research

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			
				A1	**A2**	**A3**	**A4**	**B1**	**B2**	**B3**	**B4**	**C1**	**C2**	**C3**	**C4**	**D1**	**D2**	**D3**	**D4**
Year II – First Semester	HLS 204	Hemopoietic & Lymphatic Module	**biochemistry**	✓	✓	✓	✓	✓	✓			✓				✓			

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW
Year II Hemopoietic & Lymphatic Module

COURSE SPECIFICATION

The module details include formation, function, and structure of the blood and normal cellular elements as well as the systems involved in coagulation and fibrinolysis. And also focuses on the normal anatomy and function of the lymphoid tissues and organs. In a way it allows an overall view of basic science knowledge which prepares students for the clinical applications for the better understanding of haemopoietic & lymphoid system disorders. The module provides learning opportunities about the mechanisms of operation of the human hemopoietic system. Emphasis is placed on the integration of relevant principles from anatomy, physiology, biochemistry, pathology, pharmacology and microbiology with respect to the behavior of the normal circulation and its responses to the stress of injury and disease. It also introduces the hematological diseases in terms of their basic pathophysiologic mechanisms to prepare the student for their clinical years.

1. Teaching Institution	Alkindy College of Medicine
2. University Department/Centre	Biochemistry
3. Course title/code	Hemopoietic & Lymphatic System / HLS 204
4. Modes of Attendance offered	semesters
5. Semester/Year	First Semester – Year II
6. Number of hours tuition (total)	9 hours
7. Date of production/revision of this specification	15/2/2022
8. Aims of the Course	
a) To Outline Iron metabolism and serum-based indicator of iron status assessments b) To Describe hemoglobin structure, transport function , synthesis & capacity of Hb.	

c) To Outline Hb variants Classify hemoglobinopathies

d) To outline the enzymatic defect in porphyria

e) To List the types &biochemical changes in Gammopathy

9· Learning Outcomes, Teaching, Learning and Assessment Method

A. Cognitive goals

A1. Learn the role of iron and metabolism. State abnormal Iron metabolism. Interpret the biochemical tests of iron status (iron deficiency & iron overload).

A2. Describe hemoglobin structure, transport function & capacity of Hb. Outline the Hb variants. Describe the hemoglobin degradation pathway, main regulatory enzymes and hemoglobin degradation product.

A3. Outline steps in Hb synthesis, Heme and porphyrin synthesis. List the factors that affect hemoglobin synthesis. Describe the clinical consequences of changes in synthesis.

A4. Classify hemoglobinopathies and describe structural hemoglobinopathies; Thalassemia's

A5. State the acute phase protein outline their role in health and disease. list the positive &negative acute phase protein.

A6. Determine the application of TM in screening, diagnosing, follow up prognosis

B. The skills goals special to the course.

B1. Provide students with interpretative & investigate skills.

B2. Problem solving skills is essential for any scientist the ability to look at a problem from many angles and find an optimal solution is highly valued.

Teaching and Learning Methods

Lectures and video teaching
Case study
Tutorial

Assessment methods

Quizzes
Assignment
End module exam

End semester exam
D. General and rehabilitative transferred skills (other skills relevant to employability and personal development) D1. Intellectual skills, such as research skills and, interpreting lab data, examining reports.
management, to play important role in implementation of national health programs, effectively and responsibly.
Teaching and Learning Methods
Discussion
Assessment methods
Written Exams

10. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	2	b**iochemistry**	Biochemical assessment of iron status - Hemoglobin structure, function and abnormal derivatives of Hemoglobin	Lectures	Quiz
2	2	b**iochemistry**	Gammopathy	Discussion -	Quiz
3	3	b**iochemistry**	Hemoglobin synthesis - Hemoglobin catabolism - Hemoglobinopathy	Lectures	Quiz
4	2	b**iochemistry**	Biochemical basis of porphyria - Acute phase proteins	Lectures	Quiz

11. Infrastructure	
5. Books Required reading:	5- Vasudevan DM, Seekumari S.Vaidyanathan K. Textbook of biochemistry for medical students. Jaypee brothers Medical Publishers Ltd , New Delhi, 7th ED. 2013. 6- Champe PC, Harvey RA Lippincott Illustrative review in biochemistry. Lippincott Williams &Wilkins, 4th ED, 2008.
6. Main references (sources)	7- Vasudevan DM, Seekumari S.Vaidyanathan K. Textbook of biochemistry for medical students. Jaypee brothers Medical Publishers Ltd , New Delhi, 7th ED. 2013.

A- Recommended books and references (scientific journals, reports…).	
B-Electronic references, Internet sites…	

12. The development of the curriculum plan
Alkindy college of Medicine – Medical Education Unit

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW
Year II Musculoskeletal system

PROGRAMME SPECIFICATION

Musculoskeletal system Module is designed to provide guidance on introduction to the basics of human musculoskeletal system. Moreover, the module is aligned to the general outcomes required at the exit level, and includes introductory sessions on preventive medicine, communication skills, professionalism, self- management. The student will also learn the skills required for practical implications in the field of medicine.

1. Teaching Institution	Alkindy college of Medicine
2. University Department/Centre	biochemistry
3. Programme Title	Musculoskeletal System Module – Year II
4. Title of Final Award	Bachelor in Medicine and General Surgery
5. Modes of Attendance offered	First Semester
6. Accreditation	
7. Other external influences	None
8. Date of production/revision of this specification	15/2/2022
9. Aims of the Programme	
a) To Develop an understanding of the fundamental components of the musculoskeletal system.	
b) To Explain the structure & function of the musculoskeletal (MSK) components of limbs and back.	
c) To Explain the mechanism of excitation and contraction of skeletal and smooth muscles	
d) To Give an overview of pathology of bones, muscles and joints.	

10. Learning Outcomes, Teaching, Learning and Assessment Methods

C. Cognitive goals

A1. Describe the calcium &phosphorus metabolism. State the vit D source, synthesis, metabolism and role. Describe their clinical significance

A2. Describe the role of PTH, calcitonin as a regulatory of bone metabolism. Describe their clinical significance in relation to different diseases.

A3. Understand biomarkers of bone modeling & remodeling. Describe their significance in clinical practice.

A4. Describe the structure & functions of the organic compounds in bone and joints. State the clinical consequence of abnormal level of these compounds

A5. Describe the biochemical changes in osteoporosis. List the biochemical test in osteoporosis.

A6. measure the serum level of calcium. Interpret the result of serum calcium

B. The skills goals special to the programme .

B1. B1. Provide students with interpretative & investigate skills.

B2. Problem solving skills is essential for any scientist the ability to look at a problem from many angles and find an optimal solution is highly valued.

Teaching and Learning Methods

Interactive Lectures and video teaching
Case study
Small Group Discussion

Assessment methods

Quizzes
Assignment
End module exam
End semester exam

C. Affective and value goals

C1. To be more skilled with the increased emphasis on improving quality of patient care, individual patients' outcomes, financial responsibility, total quality management, to play important role in implementation of national health programs, effectively and responsibly.

Teaching and Learning Methods

Discussion
Assessment methods
Written Exams

D. General and Transferable Skills (other skills relevant to employability and personal development) D1. Intellectual skills, such as research skills and, interpreting lab data, examining reports.
Teaching and Learning Methods
Discussion
Assessment Methods
Written exams

11. Programme Structure				12. Awards and Credits
Level/Year	Course or Module Code	Course or Module Title	Credit rating	
Year II – First Semester	MSK 205	Musculoskeletal System Module	4	Bachelor Degree Requires (x) credits
Biochemistry	-	Musculoskeletal System Module	0.5	

13. Personal Development Planning

none
14. Admission criteria .
According to the regulation of ministry of higher education and scientific research
15. Key sources of information about the programme
Alkindy Medical College – University of Baghdad Ministry of Higher Education and Scientific Research

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			
				A1	**A2**	**A3**	**A4**	**B1**	**B2**	**B3**	**B4**	**C1**	**C2**	**C3**	**C4**	**D1**	**D2**	**D3**	**D4**
Year II – First Semester	MSK 205	Musculoskeletal System Module	**biochemistry**	✓	✓	✓	✓	✓	✓			✓				✓			

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW
Year II Musculoskeletal system

COURSE SPECIFICATION

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

1. Teaching Institution	Alkindy College of Medicine
2. University Department/Centre	Biochemistry
3. Course title/code	Musculoskeletal System Module/ MSK 205
4. Modes of Attendance offered	semesters
5. Semester/Year	First Semester – Year II
6. Number of hours tuition (total)	4 hours
7. Date of production/revision of this specification	15/2/2022
8. Aims of the Course	
a) To Describe the importance of calcium &phosphorus metabolism regarding the musculoskeletal system .	
b) To State the vit D source, synthesis, metabolism and role. their clinical significance	
c) To Understand biomarkers of bone modeling & remodeling	

9· Learning Outcomes, Teaching ,Learning and Assessment Methode

B- Cognitive goals .

A1. Describe the calcium &phosphorus metabolism. State the vit D source, synthesis, metabolism and role. Describe their clinical significance

A2. Describe the role of PTH, calcitonin as a regulatory of bone metabolism. Describe their clinical significance in relation to different diseases.

A3. Understand biomarkers of bone modeling & remodeling. Describe their significance in clinical practice.

A4. Describe the structure & functions of the organic compounds in bone and joints. State the clinical consequence of abnormal level of these compounds

A5. Describe the biochemical changes in osteoporosis. List the biochemical test in osteoporosis.

A6. measure the serum level of calcium. Interpret the result of serum calcium

B. The skills goals special to the course.

B1. Provide students with interpretative & investigate skills.

B2. Problem solving skills is essential for any scientist the ability to look at a problem from many angles and find an optimal solution is highly valued.

Teaching and Learning Methods

Interactive Lectures and video teaching
Case study
Small Group Discussion

Assessment methods

Quizzes
Assignment
End module exam
End semester exam

C. Affective and value goals

C1. To be more skilled with the increased emphasis on improving quality of patient care, individual patients' outcomes, financial responsibility, total quality management, to play important role in implementation of national health programs, effectively and responsibly.

Assessment methods

Written exams

D. General and rehabilitative transferred skills(other skills relevant to employability and personal development) D1. Intellectual skills, such as research skills and, interpreting lab data, examining reports.

10. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	2	**biochemistry**	Calcium phosphorus and vitamin D Metabolism - PTH, calcitonin	Lectures	Quiz
2	2	**biochemistry**	Biochemical markers of bone turnover- Organic compounds in the bone and joints (glucose amine & chondroitin)	Lectures	Quiz
3	2	**biochemistry**	Osteoporosis	Discussion	Quiz
4	2	**biochemistry**	Serum calcium	Discussion	Quiz

11. Infrastructure	
7. Books Required reading:	8-Vasudevan DM, Seekumari S.Vaidyanathan K. Textbook of biochemistry for medical students. Jaypee brothers Medical Publishers Ltd , New Delhi, 7th ED. 2013. 2- Champe PC, Harvey RA Lippincott Illustrative review in biochemistry. Lippincott Williams &Wilkins, 4th ED, 2008.
8. Main references (sources)	9-Vasudevan DM, Seekumari S.Vaidyanathan K. Textbook of biochemistry for medical students. Jaypee brothers Medical Publishers Ltd , New Delhi, 7th ED. 2013.

A- Recommended books and references (scientific journals, reports…).	-
B-Electronic references, Internet sites…	-

12. The development of the curriculum plan
Alkindy college of Medicine – Medical Education Unit

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW
Year II Cardiovascular System Module

PROGRAMME SPECIFICATION

The module focuses on integrating basic health sciences to clinical medicine. The module will explore the normal as well as the abnormal physiology and biochemistry of the cardiovascular system. Students will be introduced to a variety of pathologies to facilitate a better understanding of how the cardiovascular system is impacted by disease.

1. Teaching Institution	Alkindy College of Medicine
2. University Department/Centre	biochemistry
3. Programme Title	Cardiovascular System Module - Year II
4. Title of Final Award	Bachelor in Medicine and General Surgery
5. Modes of Attendance offered	semesters
6. Accreditation	
7. Other external influences	none
8. Date of production/revision of this specification	15/2/2022
9. Aims of the Programme	
α) To Explain the normal structure and function of the cardiovascular system by learning and applying the relevant basic sciences.	
b) To learn and understand of the origin and associated risk factors of common diseases of the cardiovascular system	
c) To learn the common real-life situations (Hypertension, Myocardial Infarction and Shock) to explain how the anatomy, physiology and biochemistry are altered in the given situation.	

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Cognitive goals

A1. List the cardiac biomarkers used in confirming the diagnosis of Myocardial Infarction

A2. Outline the use of biomarkers in differentiation between different types of cardiac injuries; unstable- angina and MI

A3. Choose the most sensitive and specific marker &state the false positive results

A4. Understand dyslipidemia and its clinically relevant.

A5. Define D-Dimer, Discuss its role in different thromboembolic diseases
Interpret its result, false positive &negative results

A6. Apply rapid One Step Troponin I device for the qualitative detection of Cardiac Troponin I in serum.

B. The skills goals special to the programme.

B1. Provide students with interpretative & investigate skills.

B2. Problem solving skills is essential for any scientist the ability to look at a problem from many angles and find an optimal solution is highly valued.

Teaching and Learning Methods

Interactive Lectures and video teaching
Case study
Small Group Discussion

Assessment methods

Quizzes
Assignment
End module exam
End semester exam

C. Affective and value goals

C1. To be more skilled with the increased emphasis on improving quality of patient care, individual patients' outcomes, financial responsibility, total quality management, to play important role in implementation of national health programs, effectively and responsibly.

Teaching and Learning Methods

Discussion

Assessment methods

Written Exams

D. General and Transferable Skills (other skills relevant to employability and personal development) D1. Intellectual skills, such as research skills and, interpreting lab data, examining reports.
Teaching and Learning Methods
Discussion
Assessment Methods
Written exams

11. Programme Structure				12. Awards and Credits
Level/Year	Course or Module Code	Course or Module Title	Credit rating	
Year II – Second Semester	CVS 210	Cardiovascular System Module	5	Bachelor Degree Requires (x) credits
Biochemistry	-	Cardiovascular System Module	0.5	

13. Personal Development Planning
none
14. Admission criteria .
According to the regulation of ministry of higher education and scientific research

15. Key sources of information about the programme
Alkindy Medical College – University of Baghdad Ministry of Higher Education and Scientific Research

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			
				A1	**A2**	**A3**	**A4**	**B1**	**B2**	**B3**	**B4**	**C1**	**C2**	**C3**	**C4**	**D1**	**D2**	**D3**	**D4**
Year II-second semester	**CVS 210**	**Cardiovascular System**	**biochemistry**	✓	✓	✓	✓	✓	✓			✓	✓			✓			

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW
Year II Cardiovascular System Module

COURSE SPECIFICATION

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

1. Teaching Institution	Alkindy College of Medicine
2. University Department/Centre	Biochemistry
3. Course title/code	CVS 210
4. Modes of Attendance offered	semesters
5. Semester/Year	Second Semester – Year II
6. Number of hours tuition (total)	10 hours
7. Date of production/revision of this specification	15/2/2022
8. Aims of the Course	
a) To List the cardiac biomarkers used in confirming the diagnosis of Myocardial Infarction	
b) To Understand dyslipidemia and its clinically relevant associated with cardiovascular diseases.	
c) To Define D-Dime and discuss its role in different thromboembolic	

diseases.

d) To apply rapid test to evaluate cardiac troponin.

9· Learning Outcomes, Teaching, Learning and Assessment Method

A. Cognitive goals

A1. List the cardiac biomarkers used in confirming the diagnosis of Myocardial Infarction
A2. Outline the use of biomarkers in differentiation between different types of cardiac injuries; unstable- angina and MI
A3. Choose the most sensitive and specific marker &state the false positive results
A4. Understand dyslipidemia and its clinically relevant.
A5. Define D-Dimer, Discuss its role in different thromboembolic diseases
Interpret its result, false positive &negative results.
A6. Apply rapid One Step Troponin I device for the qualitative detection of Cardiac Troponin I in serum.

B. The skills goals special to the course.

B1. Provide students with interpretative & investigate skills.

B2. Problem solving skills is essential for any scientist the ability to look at a problem from many angles and find an optimal solution is highly valued.

Teaching and Learning Methods

Interactive Lectures and video teaching
Case study
Small Group Discussion

Assessment methods

Quizzes
Assignment
End module exam
End semester exam

C. Affective and value goals

C1.To be more skilled with the increased emphasis on improving quality of patient care, individual patients' outcomes, financial responsibility, total quality management, to play important role in implementation of national health programs, effectively and responsibly.

D. General and rehabilitative transferred skills (other skills relevant to employability and personal development) D1. Intellectual skills, such as research skills and, interpreting lab data, examining reports.
Discussion
Assessment methods
Written exams

10. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	1	biochemistry	Biomarkers of Myocardial necrosis	Lectures	Quiz
2	1	biochemistry	Lipid profile	Lectures	Quiz
3	2	biochemistry	Dyslipidemia	Discussion	Quiz
4	2	biochemistry	D-Dimer assessment	Discussion	Quiz
2	2	biochemistry	Lipid profile	Practical	Quiz
3	2	biochemistry	Cardiac troponin I	Practical	Quiz

11. Infrastructure	
9. Books Required reading:	10- Vasudevan DM, Seekumari S.Vaidyanathan K. Textbook of biochemistry for medical students. Jaypee brothers Medical Publishers Ltd , New Delhi, 7th ED. 2013. 2- Champe PC, Harvey RA Lippincott Illustrative review in biochemistry. Lippincott Williams &Wilkins, 4th ED, 2008.

10.Main references (sources)	11- Vasudevan DM, Seekumari S.Vaidyanathan K. Textbook of biochemistry for medical students. Jaypee brothers Medical Publishers Ltd , New Delhi, 7th ED. 2013.
A- Recommended books and references (scientific journals, reports…).	-
B-Electronic references, Internet sites…	-

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TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW
Year II Respiratory System Module

PROGRAMME SPECIFICATION

The module focuses on integrating basic health sciences to clinical medicine. The module will explore the normal as well as the abnormal physiology of the respiratory system. Students will be introduced to a variety of pathologies to facilitate a better understanding of how the respiratory system is impacted by disease. It will give the broad overview of the system.

1. Teaching Institution	Alkindy College of Medicine
2. University Department/Centre	biochemistry
3. Programme Title	Respiratory System Module - Year II
4. Title of Final Award	Bachelor in Medicine and General Surgery
5. Modes of Attendance offered	semesters
6. Accreditation	
7. Other external influences	none
8. Date of production/revision of this specification	15/2/2022
9. Aims of the Programme	
a) To learn and understand of the structures and functions of the respiratory system and how it responds to changing metabolic needs of the body, organs and tissues, revealing the relevance of such knowledge to clinical practice	
b) To learn and understand of the origin and associated risk factors of common diseases of the respiratory system	
c) To learn and prevention of common infectious diseases associated with the respiratory diseases	

d) To Practice of basic skills used in testing the function of this system in a simulated clinical setting.

10. Learning Outcomes, Teaching, Learning and Assessment Methods

D. Cognitive goals

A1. Describe the acid-base state. State the buffer system in the body

A2. describe the bicarbonate buffer system &the Hb. List the biochemical change in respiratory acidosis &alkalosis.

A3. Describe the oxygen binding curve for Hb &myoglobin

A4. State the factors that shift the oxygen-Hb dissociation curve to the left or right.

A5. Understand the biochemical causes of mechanical ventilation.

B. The skills goals special to the programme.

B1. Provide students with interpretative & investigate skills.

B2. Problem solving skills is essential for any scientist the ability to look at a problem from many angles and find an optimal solution is highly valued.

Teaching and Learning Methods

Interactive Lectures and video teaching
Case study
Small Group Discussion

Assessment methods

Quizzes
Assignment
End module exam
End semester exam

C. Affective and value goals

C1. To be more skilled with the increased emphasis on improving quality of patient care, individual patients' outcomes, financial responsibility, total quality management, to play important role in implementation of national health programs, effectively and responsibly.

Teaching and Learning Methods

Discussion

Assessment methods

Written Exams

D. General and Transferable Skills (other skills relevant to employability and personal development) D1. Intellectual skills, such as research skills and, interpreting lab data, examining reports.
Teaching and Learning Methods
Discussion
Assessment Methods
Written exams

11. Programme Structure				12. Awards and Credits
Level/Year	Course or Module Code	Course or Module Title	Credit rating	
Year II – Second Semester	RSP 211	Respiratory System Module	5	Bachelor Degree Requires (x) credits
Biochemistry	-	Respiratory System Module	0.3	

13. Personal Development Planning
None
14. Admission criteria .
According to the regulation of ministry of higher education and scientific research

15. Key sources of information about the programme
Alkindy Medical College – University of Baghdad Ministry of Higher Education and Scientific Research

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			
				A1	**A2**	**A3**	**A4**	**B1**	**B2**	**B3**	**B4**	**C1**	**C2**	**C3**	**C4**	**D1**	**D2**	**D3**	**D4**
Year II-second semester	**RSP 211**	**Respiratory module**		✓	✓	✓	✓	✓	✓			✓				✓			

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW
Year II Respiratory System Module

COURSE SPECIFICATION

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

1. Teaching Institution	Alkindy College of Medicine
2. University Department/Centre	Biochemistry
3. Course title/code	Respiratory System Module / RSP 211
4. Modes of Attendance offered	Semesters
5. Semester/Year	Second Semester – Year II
6. Number of hours tuition (total)	4 hours
7. Date of production/revision of this specification	15/2/2022
8. Aims of the Course	
e) Explain the role of respiration in pH regulation	
f) Explain the mechanism of pH regulations in respiratory disturbances	
g) Discuss the clinical disorder of respiratory pH disturbances	
h) Describe respiratory acidosis and respiratory alkalosis	

9· Learning Outcomes, Teaching, Learning and Assessment Method

C- Cognitive goals.

A1. Describe the acid-base state. State the buffer system in the body

A2. describe the bicarbonate buffer system &the Hb. List the biochemical change in respiratory acidosis &alkalosis.

A3. Describe the oxygen binding curve for Hb &myoglobin

A4. State the factors that shift the oxygen-Hb dissociation curve to the left or right.

A5. Understand the biochemical causes of mechanical ventilation.

B. The skills goals special to the course.

B1. Provide students with interpretative & investigate skills.

B2. Problem solving skills is essential for any scientist the ability to look at a problem from many angles and find an optimal solution is highly valued.

Teaching and Learning Methods

Interactive Lectures and video teaching
Case study
Small Group Discussion

Assessment methods

Quizzes
Assignment
End module exam
End semester exam

C. Affective and value goals

C1.To be more skilled with the increased emphasis on improving quality of patient care, individual patients' outcomes, financial responsibility, total quality management, to play important role in implementation of national health programs, effectively and responsibly.

Teaching and Learning Methods

Discussion

Assessment methods

Written exams

D. General and rehabilitative transferred skills (other skills relevant to employability and personal development)
D1. Intellectual skills, such as research skills and, interpreting lab data, examining reports.

10. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	1	b**iochemistry**	Acid base system and buffer system	Lectures	Quiz
2	1	b**iochemistry**	The role of the respiratory system in acid base balance	Lectures	Quiz
3	2	b**iochemistry**	Oxygen-Hb dissociation curve shift	Discussion	Quiz
4	2	b**iochemistry**	Biochemical changes after mechanical ventilation	Discussion	Quiz

11. Infrastructure	
11.Books Required reading:	12- Vasudevan DM, Seekumari S.Vaidyanathan K. Textbook of biochemistry for medical students. Jaypee brothers Medical Publishers Ltd , New Delhi, 7th ED. 2013. 2- Champe PC, Harvey RA Lippincott Illustrative review in biochemistry. Lippincott Williams &Wilkins, 4th ED, 2008.

12.Main references (sources)	13- Vasudevan DM, Seekumari S.Vaidyanathan K. Textbook of biochemistry for medical students. Jaypee brothers Medical Publishers Ltd , New Delhi, 7th ED. 2013.
A- Recommended books and references (scientific journals, reports…).	-
B-Electronic references, Internet sites…	-

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TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW
Year II GIT, Liver, Biliary and Pancreas Module

PROGRAMME SPECIFICATION

The module focuses on integrating basic health sciences to clinical medicine. The module will explore the normal as well as the abnormal histology, physiology and biochemistry of the gastrointestinal tracts, liver and pancreas. Students will be introduced to a variety of pathologies to facilitate a better understanding of how the GIT system is impacted by disease.

1. Teaching Institution	Alkindy College of Medicine
2. University Department/Centre	Biochemistry
3. Programme Title	GIT, Liver, Biliary and Pancreas Module - Year II
4. Title of Final Award	Bachelor in Medicine and General Surgery
5. Modes of Attendance offered	Semesters
6. Accreditation	
7. Other external influences	None
8. Date of production/revision of this specification	15/2/2022
9. Aims of the Programme	
a) Understand the embryogenesis, gross anatomical and histological features of different parts of the gastrointestinal system in addition to their blood and nerve supply.	
b) Discuss the functions of the gastrointestinal system , food mixing , digestion and absorption.	
c) Understand the biochemical role of the liver, pancreas and intestine in the process of digestion and absorption the investigational strategy used in the diagnosis of different GIT disease.	
d) Preform and interpret biochemical laboratory investigations related to the gastrointestinal system	

e) Plan and interpret microbiological lab investigations related to gastrointestinal system

f) Describe the types , mechanisms of actions , dose and side effects of drugs acting on the gastrointestinal system

10. Learning Outcomes, Teaching, Learning and Assessment Methods

B. Cognitive goals

A1. List the main biochemical liver function tests
A2. Describe the bilirubin synthetic and degradation pathway
A3. Understand the role of GIT enzymes in the process of digestion
A4. Describe the tests that reflect the exocrine pancreatic functions
A5. Describe the bile acid synthetic pathway and understand the enterohepatic circulation
A6. Measure the serum level of bilirubin, transaminases levels and interpret the result

B. The skills goals special to the programme.

B1. Provide students with interpretative & investigate skills.

B2. Problem solving skills is essential for any scientist the ability to look at a problem from many angles and find an optimal solution is highly valued.

Teaching and Learning Methods

Interactive Lectures and video teaching
Practical
Case study
Small Group Discussion

Assessment methods

Quizzes
Assignment
OSPE
End module exam
End semester exam

C. Affective and value goals

C1. To be more skilled with the increased emphasis on improving quality of patient care, individual patients' outcomes, financial responsibility, total quality management, to play important role in implementation of national health programs, effectively and responsibly.

Teaching and Learning Methods

Small Group Discussion
Practical

Assessment methods
Written Exams

D. General and Transferable Skills (other skills relevant to employability and personal development) D1. Intellectual skills, such as research skills and, interpreting lab data, examining reports.
Teaching and Learning Methods
Discussion Practical
Assessment Methods
Written exams

11. Programme Structure				12. Awards and Credits
Level/Year	Course or Module Code	Course or Module Title	Credit rating	
Year II – Second Semester	GIT 212	GIT, Liver, Biliary and Pancreas Module	7	Bachelor Degree Requires (x) credits
Biochemistry	-	GIT, Liver, Biliary and Pancreas Module	0.7	

13. Personal Development Planning
None

14. Admission criteria .
According to the regulation of ministry of higher education and scientific research
15. Key sources of information about the programme
Alkindy Medical College – University of Baghdad Ministry of Higher Education and Scientific Research

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			
				A1	**A2**	**A3**	**A4**	**B1**	**B2**	**B3**	**B4**	**C1**	**C2**	**C3**	**C4**	**D1**	**D2**	**D3**	**D4**
Year II-second semester	**GIT 212**	**GIT, Liver, Biliary and Pancreas Module**	**bioche mistry**	✓	✓	✓	✓	✓	✓			✓	✓			✓			

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW
Year II **GIT, Liver, Biliary and Pancreas Module**

COURSE SPECIFICATION

The module focuses on integrating basic health sciences to clinical medicine. The module will explore the normal as well as the abnormal biochemistry of the gastrointestinal tracts, liver and pancreas. Students will be introduced to a variety of pathologies to facilitate a better understanding of how the GIT system is impacted by disease.

1. Teaching Institution	Alkindy College of Medicine
2. University Department/Centre	Biochemistry
3. Course title/code	GIT, Liver, Biliary and Pancreas Module / GIT 212
4. Modes of Attendance offered	Semesters
5. Semester/Year	Second Semester – Year II
6. Number of hours tuition (total)	9 hours
7. Date of production/revision of this specification	15/2/2022
8. Aims of the Course	
a) To list the main biochemical liver function tests. list the changes in tests in different liver disorders	
b) To describe the bilirubin synthetic and degradation pathway and state the changes bilirubin in different liver diseases	
c) To understand the role of GIT enzymes in the process of digestion. Discuss the clinical significance of theses enzymes including lactase deficiency	
d) To state the exocrine pancreatic functions. Describe the bile acid synthetic	

pathway ; understand the enterohepatic circulation and the disorders that result bile excess deficiency.

e) Discuss inherited disorders of bilirubin metabolism

9· Learning Outcomes, Teaching, Learning and Assessment Method

A. Cognitive goals

A1. List the main biochemical liver function tests
A2. Describe the bilirubin synthetic and degradation pathway
A3. Understand the role of GIT enzymes in the process of digestion
A4. Describe the tests that reflect the exocrine pancreatic functions
A5. Describe the bile acid synthetic pathway and understand the enterohepatic circulation
A6. measure the serum level of bilirubin, transaminases levels and interpret the result

B. The skills goals special to the course.

B1. Provide students with interpretative & investigate skills.

B2. Problem solving skills is essential for any scientist the ability to look at a problem from many angles and find an optimal solution is highly valued.

Teaching and Learning Methods

Interactive Lectures
Case study
Small Group Discussion

Assessment methods

Quizzes
Assignment
End module exam
End semester exam

C. Affective and value goals

C1.To be more skilled with the increased emphasis on improving quality of patient care, individual patients' outcomes, financial responsibility, total quality management, to play

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

D1. Intellectual skills, such as research skills and, interpreting lab data, examining reports.

Discussion

Assessment methods

Written exams

10. Course Structure

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	2	biochemistry	biochemical functions of the liver - Bilirubin metabolism	Lectures	Quiz
2	2	biochemistry	Enzymes of the GIT system - Exocrine pancreatic functions &tests	Lectures	Quiz
3	2	biochemistry	Bile acid synthesis & enterohepatic circulation - Metabolic liver diseases	Lectures	Quiz
5	2	biochemistry	Biochemical changes in Alcoholic liver diseases & nonalcoholic fatty liver	Discussion	Quiz
3	2	biochemistry	Measurement of serum bilirubin	Practical	Quiz
4	2	biochemistry	Measurement of serum Transaminase	Practical	Quiz

11. Infrastructure

13.Books Required reading:	14- Vasudevan DM, Seekumari S.Vaidyanathan K. Textbook of biochemistry for medical students. Jaypee brothers Medical Publishers Ltd , New Delhi, 7th ED. 2013. 2- Champe PC, Harvey RA Lippincott Illustrative review in biochemistry. Lippincott Williams &Wilkins, 4th ED, 2008.
14.Main references (sources)	15- Vasudevan DM, Seekumari S.Vaidyanathan K. Textbook of biochemistry for medical students. Jaypee brothers Medical Publishers Ltd , New Delhi, 7th ED. 2013.
A- Recommended books and references (scientific journals, reports…).	-
B-Electronic references, Internet sites…	-

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TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW
Year III Neurosciences Module

PROGRAMME SPECIFICATION

The module deals with basic neuroanatomy and molecular and cellular neurobiology, such as transmission of signals within the nervous system and sensory perception. It explores more complex functions of the nervous system, e.g. behavioral and cognitive functions. Throughout the module both the normal nervous system and disorders that arise as a consequence of abnormalities that will be covered.

1. Teaching Institution	Alkindy College of Medicine
2. University Department/Centre	biochemistry
3. Programme Title	Neurosciences Module - Year III
4. Title of Final Award	Bachelor in Medicine and General Surgery
5. Modes of Attendance offered	semesters
6. Accreditation	
7. Other external influences	none
8. Date of production/revision of this specification	15/2/2022
9. Aims of the Programme	
a) To Demonstrate a systematic understanding of the cellular and molecular functions of the nervous system gained through knowledge of how nerve cells communicate at synapses.	
b) To Explain the gross and microscopic structural and functional features of peripheral nerves, spinal cord and brain.	
c) To Describe the basic functions of synapses, neurotransmitters and mechanisms of	

electrical events during neuronal excitation

d) To Demonstrate a systematic understanding of sensory and cognitive processes.

e) To Demonstrate a systematic understanding of acquired and inherited neurological diseases.

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Cognitive goals

A1. Define& classify neurotransmitter catecholamine, acetylcholine
A2. Outline the biochemical roles of serotonin & receptors
A3. Outline the biochemical roles & receptors of Glutamate & GABA
A4. Outline the transport, distribution &receptors of endorphins
A5. Describe the changes in neurotransmitter indifferent diseases
A6. Outline the relation between liver dysfunction and encephalopathy

B. The skills goals special to the programme.

B1. Provide students with interpretative & investigate skills.

B2. Problem solving skills is essential for any scientist the ability to look at a problem from many angles and find an optimal solution is highly valued.

Teaching and Learning Methods

Interactive Lectures
Case study

Assessment methods

Quizzes
Assignment
End module exam
End semester exam

C. Affective and value goals

C1. To be more skilled with the increased emphasis on improving quality of patient care, individual patients' outcomes, financial responsibility, total quality management, to play important role in implementation of national health programs, effectively and responsibly.

Teaching and Learning Methods

Interactive Lectures

Assessment methods

Written Exams

D. General and Transferable Skills (other skills relevant to employability and personal development) D1. Intellectual skills, such as research skills and, interpreting lab data, examining reports.
Teaching and Learning Methods
Interactive lectures
Assessment Methods
Written exams

11. Programme Structure				12. Awards and Credits
Level/Year	Course or Module Code	Course or Module Title	Credit rating	
Year III – First Semester	NCS 301	Neurosciences System	9	Bachelor Degree Requires (x) credits
Biochemistry	-	Neurosciences System	0.5	

13. Personal Development Planning
None
14. Admission criteria .
According to the regulation of ministry of higher education and scientific research

15. Key sources of information about the programme
Alkindy Medical College – University of Baghdad Ministry of Higher Education and Scientific Research

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			
				A1	**A2**	**A3**	**A4**	**B1**	**B2**	**B3**	**B4**	**C1**	**C2**	**C3**	**C4**	**D1**	**D2**	**D3**	**D4**
Year III- First semester	NCS 301	**Neurosciences Module**	**biochemistry**	✓	✓	✓	✓	✓	✓			✓				✓			

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW
Year III Neurosciences Module

COURSE SPECIFICATION

The module deals with basic neuroanatomy and molecular and cellular neurobiology, such as transmission of signals within the nervous system and sensory perception. It explores more complex functions of the nervous system, e.g. behavioral and cognitive functions. Throughout the module both the normal nervous system and disorders that arise as a consequence of abnormalities that will be covered.

1. Teaching Institution	Alkindy College of Medicine
2. University Department/Centre	Biochemistry
3. Course title/code	Neurosciences Module / NCS 301
4. Modes of Attendance offered	Semesters
5. Semester/Year	First Semester – Year III
6. Number of hours tuition (total)	7 hours
7. Date of production/revision of this specification	15/2/2022
8. Aims of the Course	
a) Outline the classification, transport & release of neurotransmitters	
b) Understand serotonin storage ,synthesis &distribution	
c) Understand synthesis &mechanism of action Glutamate and GABA	
d) Describe the mode of action as endogenous morphine	
e) State the synthesis &mechanism of action melatonin	
f) Outline the relation between liver dysfunction and encephalopathy and Explain the role of ammonia in hepatic encephalopathy	

g) Correlate the biochemical changes in the CSF in different disorders

9· Learning Outcomes, Teaching, Learning and Assessment Method

A. Cognitive goals

A1. Define& classify neurotransmitter catecholamine, acetylcholine
A2. Outline the biochemical roles of serotonin & receptors
A3. Outline the biochemical roles & receptors of Glutamate & GABA
A4. Outline the transport, distribution &receptors of endorphins
A5. Describe the changes in neurotransmitter indifferent diseases
A6. Outline the relation between liver dysfunction and encephalopathy

B. The skills goals special to the course.

B1. Provide students with interpretative & investigate skills.

B2. Problem solving skills is essential for any scientist the ability to look at a problem from many angles and find an optimal solution is highly valued.

Teaching and Learning Methods

Interactive Lectures

Assessment methods

Quizzes
Assignment
End module exam
End semester exam

C. Affective and value goals

C1.To be more skilled with the increased emphasis on improving quality of patient care, individual patients' outcomes, financial responsibility, total quality management, to play

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

D1. Intellectual skills, such as research skills and, interpreting lab data, examining reports.

Discussion

Assessment methods

Written exams

10. Course Structure

Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	1	biochemistry	Neurotransmitters catecholamine, acetylcholine	Lecture	Quiz
2	1	biochemistry	Neurotransmitters Serotonin	Lecture	Quiz
3	1	biochemistry	Neurotransmitters Glutamate & GABA	Lecture	Quiz
4	1	biochemistry	Neurotransmitters Endorphin	Lecture	Quiz
5	1	biochemistry	Melatonin	Lecture	Quiz
6	1	biochemistry	- Disorder of neurotransmitters	Lecture	Quiz
7	1	biochemistry	Biochemical mechanism in hepatic encephalopathy - Cerebrospinal fluid	Lecture	Quiz

11. Infrastructure

15.Books Required reading:	16- Vasudevan DM, Seekumari S.Vaidyanathan K. Textbook of biochemistry for medical students. Jaypee brothers Medical Publishers Ltd , New Delhi, 7th ED. 2013. 2- Champe PC, Harvey RA Lippincott Illustrative review in biochemistry. Lippincott Williams &Wilkins, 4th ED, 2008.
16.Main references (sources)	17- Vasudevan DM, Seekumari S.Vaidyanathan K. Textbook of biochemistry for medical students. Jaypee brothers Medical Publishers Ltd , New Delhi, 7th ED. 2013.
A- Recommended books and references (scientific journals, reports…).	18- Martin A. crook. Clinical chemistry &metabolic Medicine, Arnold 2019
B-Electronic references, Internet sites…	-

12. The development of the curriculum plan
Alkindy college of Medicine – Medical Education Unit

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW
Year III Endocrine Module

PROGRAMME SPECIFICATION

The endocrine system is a messenger system comprising feedback loops of the hormones released by internal glands of an organism directly into the circulatory system, regulating distant target organs. The module focuses on integrating basic health sciences to clinical medicine. The module will explore the normal as well as the abnormal histology, physiology and biochemistry of the endocrine system. Students will be introduced to a variety of pathologies to facilitate a better understanding of how the endocrine system is impacted by disease. It will give the broad overview of the system.

1. Teaching Institution	Alkindy College of Medicine
2. University Department/Centre	biochemistry
3. Programme Title	Endocrine Module - Year III
4. Title of Final Award	Bachelor in Medicine and General Surgery
5. Modes of Attendance offered	semesters
6. Accreditation	
7. Other external influences	None
8. Date of production/revision of this specification	15/2/2022
9. Aims of the Programme	
a) Study the structure of endocrine system anatomically and histologically and outline the development of endocrine gland.	
b) To describe the basis of hormonal function and dysfunction	
c) To understand etiology and laboratory diagnosis of endocrine glands dysfunction	

d) Describe mechanism of action, absorption, distribution, excretion and side effects of drugs prescribes for endocrine diseases.

10. Learning Outcomes, Teaching, Learning and Assessment Methods

Cognitive goals

A1. Discuss the hormonal regulation of blood glucose level
A2. State the criteria for the diagnosis of DM
A3. Define hypoglycemia and glucopenia.
A4. State thyroid hormone transport, metabolism &action.
A5. Describe the biosynthetic pathways of adrenal steroidgenesis; and the hormone biosynthesized by the adrenal medulla.
A6. List the main categories of adipocytokines

B. The skills goals special to the programme.

B1. Provide students with interpretative & investigate skills.

B2. Problem solving skills is essential for any scientist the ability to look at a problem from many angles and find an optimal solution is highly valued.

Teaching and Learning Methods

Interactive Lectures
Case study
Small Group Discussion

Assessment methods

Quizzes
Assignment
End module exam
End semester exam

C. Affective and value goals

C1. To be more skilled with the increased emphasis on improving quality of patient care, individual patients' outcomes, financial responsibility, total quality management, to play important role in implementation of national health programs, effectively and responsibly.

Teaching and Learning Methods

Discussion

Assessment methods

Written Exams

D. General and Transferable Skills (other skills relevant to employability and personal development) D1. Intellectual skills, such as research skills and, interpreting lab data, examining reports.
Teaching and Learning Methods
Practical Discussion
Assessment Methods
Written exams

11. Programme Structure				12. Awards and Credits
Level/Year	Course or Module Code	Course or Module Title	Credit rating	
Year III – First Semester	ENS 302	Endocrine System	5	Bachelor Degree Requires (x) credits
Biochemistry	-	Endocrine System	0.9	

13. Personal Development Planning
None
14. Admission criteria .
According to the regulation of ministry of higher education and scientific research
15. Key sources of information about the programme

Alkindy Medical College – University of Baghdad
Ministry of Higher Education and Scientific Research

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			
				A1	**A2**	**A3**	**A4**	**B1**	**B2**	**B3**	**B4**	**C1**	**C2**	**C3**	**C4**	**D1**	**D2**	**D3**	**D4**
Year III-First semester	ENS 302	**Endocrine System**	**biochemistry**	✓	✓	✓	✓	✓	✓			✓				✓			

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW
Year III Endocrine Module

COURSE SPECIFICATION

The module focuses on integrating basic health sciences to clinical medicine. The module will explore the normal as well as the abnormal biochemistry of the endocrine system. Students will be introduced to a variety of pathologies to facilitate a better understanding of how the endocrine system is impacted by disease. It will give the broad overview of the system.

1. Teaching Institution	Alkindy College of Medicine
2. University Department/Centre	Biochemistry
3. Course title/code	ENS 302
4. Modes of Attendance offered	Semesters
5. Semester/Year	First Semester – Year III
6. Number of hours tuition (total)	16 hours
7. Date of production/revision of this specification	15/2/2022
8. Aims of the Course	
a) To Discuss the hormonal regulation of blood glucose level, insulin and glucagon and the counterguard hormones	
b) To Identify the categories of fasting plasma glucose. And state the criteria for the diagnosis of DM	
c) To Understand the mechanisms that control the hypothalamic -pituitary-thyroid axis	
d) To Define euthyroid, hypothyroid and hyperthyroid state	
e) To Define the metabolic effects of some adipocytokines	

9· Learning Outcomes, Teaching, Learning and Assessment Method

A. Cognitive goals

A1. Discuss the hormonal regulation of blood glucose level
A2. State the criteria for the diagnosis of DM
A3. Define hypoglycemia and glucopenia.
A4. State thyroid hormone transport, metabolism &action.
A5. Describe the biosynthetic pathways of adrenal steroidgenesis; and the hormone biosynthesized by the adrenal medulla.
A6. List the main categories of adipocytokines

B. The skills goals special to the course.

B1. Provide students with interpretative & investigate skills.

B2. Problem solving skills is essential for any scientist the ability to look at a problem from many angles and find an optimal solution is highly valued.

Teaching and Learning Methods

Interactive Lectures
Case study
Small Group Discussion

Assessment methods

Quizzes
Assignment
End module exam
End semester exam

C. Affective and value goals

C1.To be more skilled with the increased emphasis on improving quality of patient care, individual patients' outcomes, financial responsibility, total quality management, to play important role in implementation of national health programs, effectively and responsibly.

Teaching and Learning Methods
D. General and rehabilitative transferred skills (other skills relevant to employability and personal development) D1. Intellectual skills, such as research skills and, interpreting lab data, examining reports.

10. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	3	biochemistry	Thyroid hormones synthesis, metabolism and regulation - Thyroid function tests - Adrenocortical hormones	Lectures	Quiz
2	2	biochemistry	Adrenomedullary hormones - Adipocytokines; The adipose tissue– derived hormones	Lectures	Quiz
3	2	biochemistry	Regulation of blood glucose Level - Hyperglycemia	Lectures	Quiz
4	3	biochemistry	Diabetes Mellitus – Hypoglycemia - Glycemic and insulin Index	Lectures	Quiz
4	2	biochemistry	Intermediate hyperglycemia & Complications of DM	Discussion	Quiz
1	2	biochemistry	Estimation of TSH ,T3, T4	Practical	Quiz
3	2	biochemistry	Oral glucose tolerance test	Practical	Quiz

11. Infrastructure	
17.Books Required reading:	19- Vasudevan DM, Seekumari S.Vaidyanathan K. Textbook of biochemistry for medical students. Jaypee brothers Medical Publishers Ltd , New Delhi, 7th ED. 2013. 2- Champe PC, Harvey RA Lippincott Illustrative review in biochemistry. Lippincott Williams &Wilkins, 4th ED, 2008.
18.Main references (sources)	20- Vasudevan DM, Seekumari S.Vaidyanathan K. Textbook of biochemistry for medical students. Jaypee brothers Medical Publishers Ltd , New Delhi, 7th ED. 2013.
A- Recommended books and references (scientific journals, reports…).	-
B-Electronic references, Internet sites…	1- https://bio.libretexts.org/Courses/Lumen_Learning/Book%3A_Anatomy_and_Physiology_II_(Lumen)/03%3A_Module_1-_The_Endocrine_System 2- https://courses.lumenlearning.com/suny-ap2/chapter/an-overview-of-the-endocrine-system/#:~:text=The%20endocrine%20system%20consists%20of,a%20primary%20or%20secondary%20function.&text=The%20interstitial%20fluid%20and%20the,pineal%20glands%20(Figu.re%201)

12. The development of the curriculum plan
Alkindy college of Medicine – Medical Education Unit

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW
Year III Integumentary Module

PROGRAMME SPECIFICATION

The integumentary system refers to the Skin, Hair, and Nails and subcutaneous tissue. The skin is the largest organ in the body. No organ is exposed to the environment as the skin. It is the interface between individuals and their surroundings. The skin protects us against a variety of potentially harmful agents- ultraviolet irradiation, thermal damage, mechanical stress, pathogenic microbes, and a variety of small and large molecules including allergens.
This module provides learning opportunities to know the anatomical and histological structure of the skin and the physiological mechanisms done in the skin. Emphasis is placed on the integration of relevant principles from anatomy, physiology, biochemistry, pathology, pharmacology and microbiology. The careful study of skin development is not simply an academic exercise, but a method for enhancing patient care.

1. Teaching Institution	Alkindy college of Medicine
2. University Department/Centre	biochemistry
3. Programme Title	Integumentary Module – Year III
4. Title of Final Award	Bachelor in Medicine and General Surgery
5. Modes of Attendance offered	First Semester
6. Accreditation	
7. Other external influences	None
8. Date of production/revision of this specification	15/2/2022

9. Aims of the Programme
f) Explain the normal structure and function of the Integumentary system.
g) Explain the biochemical, molecular and cellular mechanisms that are essential for maintaining body homeostasis.
h) Explain the pathogenesis of various diseases such as genetic, developmental, ischemic, metabolic, toxic, infectious, autoimmune, neoplastic, degenerative, and traumatic factors, and the ways in which they affect the integumentary system.
i) Demonstrate a basic knowledge of the pharmacological principles of drugs relevant to clinical practice in regard to skin diseases.

10. Learning Outcomes, Teaching, Learning and Assessment Methods
Cognitive goals A1. Outline the synthesis &function of elastin, keratin & reticulin and describe the collagen metabolism A2. Describe the function of melanin A3. Outline the main source of energy production in the skin
B. The skills goals special to the programme. B1. Provide students with interpretative & investigate skills. B2. Problem solving skills is essential for any scientist the ability to look at a problem from many angles and find an optimal solution is highly valued.
Teaching and Learning Methods
6- Interactive Lectures 7- Case study
Assessment methods
Quizzes

Assignment End module exam End semester exam
C. Affective and value goals C1. To be more skilled with the increased emphasis on improving quality of patient care, individual patients' outcomes, financial responsibility, total quality management, to play important role in implementation of national health programs, effectively and responsibly.
Teaching and Learning Methods
Interactive Lectures
Assessment methods
Written Exams

D. General and Transferable Skills (other skills relevant to employability and personal development) D1. Intellectual skills, such as research skills and, interpreting lab data, examining reports.
Teaching and Learning Methods
Interactive lectures
Assessment Methods
Written exams

11. Programme Structure				12. Awards and Credits
Level/Year	Course or Module Code	Course or Module Title	Credit rating	
Year III – First Semester	INS 303	Integumentary system Module	2. 5	Bachelor Degree Requires (x) credits
Biochemistry	-	Integumentary system Module	0.1	

13. Personal Development Planning
None
14. Admission criteria.
According to the regulation of ministry of higher education and scientific research
15. Key sources of information about the programme
Alkindy Medical College – University of Baghdad Ministry of Higher Education and Scientific Research

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				
				A1	**A2**	**A3**	**A4**	**B1**	**B2**	**B3**	**B4**	**C1**	**C2**	**C3**	**C4**	**D1**	**D2**	**D3**	**D4**
Year III – First Semester	INS 303	**Integumentary System**	**biochemistry**	✓	✓	✓		✓	✓			✓				✓			

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW
Year III Integumentary System Module

COURSE SPECIFICATION

The integumentary system refers to the Skin, Hair, and Nails and subcutaneous tissue. The skin is the largest organ in the body. No organ is exposed to the environment as the skin. It is the interface between individuals and their surroundings. The skin protects us against a variety of potentially harmful agents-ultraviolet irradiation, thermal damage, mechanical stress, pathogenic microbes, and a variety of small and large molecules including allergens.

1. Teaching Institution	Alkindy College of Medicine
2. University Department/Centre	Biochemistry
3. Course title/code	Integumentary System / INS 303
4. Modes of Attendance offered	semesters
5. Semester/Year	First Semester – Year III
6. Number of hours tuition (total)	2 hours
7. Date of production/revision of this specification	15/2/2022
8. Aims of the Course	
a) To List the biochemical components in the skin appendages	
b) To Outline the synthesis &function of elastin, keratin &reticulin	
c) To Outline the melanin biosynthesis and correlate clinically with pigmentation disorders	
d) To Outline the main source of energy production in the skin and discuss the and discuss Glycogen & lipid metabolism	

9· Learning Outcomes, Teaching, Learning and Assessment Method
B. Cognitive goals A1. Outline the synthesis &function of elastin, keratin & reticulin and describe the collagen metabolism A2. Describe the function of melanin A3. Outline the main source of energy production in the skin
B. The skills goals special to the course. B1. Provide students with interpretative & investigate skills. B2. Problem solving skills is essential for any scientist the ability to look at a problem from many angles and find an optimal solution is highly valued.
Teaching and Learning Methods
Interactive Lectures Case study
Assessment methods
Quizzes Assignment End module exam End semester exam
C. Affective and value goals C1. To be more skilled with the increased emphasis on improving quality of patient care, individual patients' outcomes, financial responsibility, total quality management, to play important role in implementation of national health programs, effectively and responsibly.
Teaching and Learning Methods
Discussion
Assessment methods

Written Exams
D. General and rehabilitative transferred skills (other skills relevant to employability and personal development) D1. Intellectual skills, such as research skills and, interpreting lab data, examining reports.

10. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	1	biochemistry	The biochemical components in dermis and epidermis	Lecture	Quiz
2	1	biochemistry	Skin metabolism - Melanin &collagen metabolism	Lecture	Quiz

11. Infrastructure	
19.Books Required reading:	21- Vasudevan DM, Seekumari S.Vaidyanathan K. Textbook of biochemistry for medical students. Jaypee brothers Medical Publishers Ltd , New Delhi, 7th ED. 2013. 22- Champe PC, Harvey RA Lippincott Illustrative review in biochemistry. Lippincott Williams &Wilkins, 4th ED, 2008.
20.Main references (sources)	23- Vasudevan DM, Seekumari S.Vaidyanathan K. Textbook of biochemistry for medical students. Jaypee brothers Medical Publishers Ltd , New Delhi, 7th ED. 2013.
A- Recommended books and references (scientific journals, reports…).	

B-Electronic references, Internet sites…	

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TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW
Year III Reproductive Module

PROGRAMME SPECIFICATION

The reproductive system of an organism, also known as the genital system, is the biological system made up of all the anatomical organs involved in sexual reproduction. Many non-living substances such as fluids, hormones, and pheromones are also important accessories to the reproductive system.
The human reproductive system includes the male reproductive system which functions to produce and deposit sperm; and the female reproductive system which functions to produce egg cells, and to protect and nourish the fetus until birth. Humans have a high level of sexual differentiation.

1. Teaching Institution	Alkindy College of Medicine
2. University Department/Centre	biochemistry
3. Programme Title	Reproductive Module - Year III
4. Title of Final Award	Bachelor in Medicine and General Surgery
5. Modes of Attendance offered	semesters
6. Accreditation	
7. Other external influences	none
8. Date of production/revision of this specification	15/2/2022
9. Aims of the Programme	
a) To identify the male and female reproductive organs	
a) To list and label the parts of the male and female reproductive systems	

b) To summarize the reproductive processes for males and females

10. Learning Outcomes, Teaching, Learning and Assessment Methods

Cognitive goals

A1. Outline the female hormones biosynthesis, transport, action, regulations &metabolism.

A2. List the hormones synthesized by the male reproductive tracts, transport, action & metabolism

A3. List the placental hormones

A4. Outline the hormonal changes in menopause &the andropause periods

A5. Define &classify Hyperandrogenism & hirsutism

A6. Outline the biochemical &hormonal disturbances

B. The skills goals special to the programme.

B1. Provide students with interpretative & investigate skills.

B2. Problem solving skills is essential for any scientist the ability to look at a problem from many angles and find an optimal solution is highly valued.

Teaching and Learning Methods

Interactive Lectures
Case study
Small Group Discussion

Assessment methods

Quizzes
Assignment
End module exam
End semester exam

C. Affective and value goals

C1. To be more skilled with the increased emphasis on improving quality of patient care, individual patients' outcomes, financial responsibility, total quality management, to play important role in implementation of national health programs, effectively and responsibly.

Teaching and Learning Methods

Discussion

Assessment methods

Written Exams

D. General and Transferable Skills (other skills relevant to employability and personal development) D1. Intellectual skills, such as research skills and, interpreting lab data, examining reports.
Teaching and Learning Methods
Practical Discussion
Assessment Methods
Written exams

11. Programme Structure				12. Awards and Credits
Level/Year	Course or Module Code	Course or Module Title	Credit rating	
Year III – Second Semester	REP 308	Reproductive System	4	Bachelor Degree Requires (x) credits
Biochemistry	-	Reproductive System	0.5	

13. Personal Development Planning
none
14. Admission criteria .
According to the regulation of ministry of higher education and scientific research

15. Key sources of information about the programme
Alkindy Medical College – University of Baghdad Ministry of Higher Education and Scientific Research

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			
				A1	**A2**	**A3**	**A4**	**B1**	**B2**	**B3**	**B4**	**C1**	**C2**	**C3**	**C4**	**D1**	**D2**	**D3**	**D4**
Year III-second semester	**REP 308**	**Reproductive System**	**biochemistry**	✓	✓	✓	✓	✓	✓			✓				✓			

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW
Year III Reproductive Module

COURSE SPECIFICATION

The reproductive system of an organism, also known as the genital system, is the biological system made up of all the anatomical organs involved in sexual reproduction. Many non-living substances such as fluids, hormones, and pheromones are also important accessories to the reproductive system.
The human reproductive system includes the male reproductive system which functions to produce and deposit sperm; and the female reproductive system which functions to produce egg cells, and to protect and nourish the fetus until birth. Humans have a high level of sexual differentiation.

1. Teaching Institution	Alkindy College of Medicine
2. University Department/Centre	Biochemistry
3. Course title/code	REP 308
4. Modes of Attendance offered	semesters
5. Semester/Year	Second Semester – Year III
6. Number of hours tuition (total)	8 hours
7. Date of production/revision of this specification	15/2/2022
8. Aims of the Course	
a) To Outline male and female hormones biosynthesis, transport, action, regulations &metabolism.	
b) To List the hormonal changes in different diseases of reproductive function.	
c) To State the metabolic changes in pregnancy	
d) To Outline the biochemical &hormonal disturbances in hirsutism	
e) To Illustrate the principles of the pregnancy test and Interpret the test results	

9· Learning Outcomes, Teaching, Learning and Assessment Method

Cognitive goals

A1. Outline the female hormones biosynthesis, transport, action, regulations &metabolism.
A2. List the hormones synthesized by the male reproductive tracts, transport, action & metabolism
A3. List the placental hormones
A4. Outline the hormonal changes in menopause &the andropause periods
A5. Define &classify Hyperandrogenism & hirsutism
A6. Outline the biochemical &hormonal disturbances

B. The skills goals special to the course.

B1. Provide students with interpretative & investigate skills.

B2. Problem solving skills is essential for any scientist the ability to look at a problem from many angles and find an optimal solution is highly valued.

Teaching and Learning Methods

Interactive Lectures
Case study
Small Group Discussion

Assessment methods

Quizzes
Assignment
End module exam
End semester exam

C. Affective and value goals

C1.To be more skilled with the increased emphasis on improving quality of patient care, individual patients' outcomes, financial responsibility, total quality management, to play important role in implementation of national health programs, effectively and responsibly.

Teaching and Learning Methods

Discussion

Assessment methods

Written exams
D. General and rehabilitative transferred skills (other skills relevant to employability and personal development) D1. Intellectual skills, such as research skills and, interpreting lab data, examining reports.

10. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	1	biochemistry	male Reproductive hormones	Lecture	Quiz
2	1	biochemistry	Female Reproductive hormones	Lecture	Quiz
2	1	biochemistry	Biochemical changes of pregnancy	Lecture	Quiz
2	1	biochemistry	Biochemistry Biochemical changes of menopause &the andropause	Lecture	Quiz
3	2	biochemistry	Pregnancy Test	Discussion	Quiz
4	2	biochemistry	Hyperandrogenism and hirsutism	Discussion	Quiz

11. Infrastructure	
21.Books Required reading:	24- Vasudevan DM, Seekumari S.Vaidyanathan K. Textbook of biochemistry for medical students. Jaypee brothers Medical Publishers Ltd , New Delhi, 7th ED. 2013. 2- Champe PC, Harvey RA Lippincott Illustrative review in biochemistry. Lippincott Williams &Wilkins, 4th ED, 2008.
22.Main references (sources)	25- Vasudevan DM, Seekumari S.Vaidyanathan K. Textbook of biochemistry for medical students. Jaypee brothers Medical Publishers Ltd , New Delhi,

	7th ED. 2013.
A- Recommended books and references (scientific journals, reports…).	-
B-Electronic references, Internet sites…	-

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Alkindy college of Medicine – Medical Education Unit

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW
Year III Renal System Module

PROGRAMME SPECIFICATION

This module focuses on the normal structure and function of the renal system. After that the focus will shift to urine formation and concentration of the urine. Lastly, the theme ends with topics related to the renal failure. Second, an essential aspect to consider is that most renal disorder can be understood if consider how to different diseases affect the structure and function of the kidney. Therefore, the affects produced as a result of the disease as well as physical exam findings and both radiological and blood investigations can help diagnose renal diseases.

1. Teaching Institution	Alkindy College of Medicine
2. University Department/Centre	biochemistry
3. Programme Title	Renal Module - Year III
4. Title of Final Award	Bachelor in Medicine and General Surgery
5. Modes of Attendance offered	semesters
6. Accreditation	
7. Other external influences	none
8. Date of production/revision of this specification	15/2/2022
9. Aims of the Programme	
a) Consolidate the basic understanding of the structure, function and biochemical reaction at molecular level of the urinary system.	
b) Demonstrate their understanding about how different diseases disrupt the function ofthe urinary system and disrupting the structural change	

c) Link the structure and functional abnormalities to the clinical signs and symptoms

d) Recognize the effect of the urinary diseases on different organ-systems of the body

e) Interpret blood reports frequently prescribed in clinical diseases such as serum renal function tests, Urinalysis and arterial blood gas reports.

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Cognitive goals

A1. State the biochemical roles of the kidney and list explanations to test the renal function.

A2. List the tests that assess the proximal tubular function

A3. List the investigational steps in proteinuria

A4. Understand the mechanisms of K homeostasis and describe the renal handling of K

A5. Outline the renal acid-base homeostatic mechanism.

A6. Describe the types of kidney stone and outline their chemical composition &precipitating factors

B. The skills goals special to the programme.

B1. Provide students with interpretative & investigate skills.

B2. Problem solving skills is essential for any scientist the ability to look at a problem from many angles and find an optimal solution is highly valued.

Teaching and Learning Methods

Interactive Lectures
Case study
Small Group Discussion
practical

Assessment methods

Quizzes
Assignment
OSPE
End module exam
End semester exam

C. Affective and value goals

C1. To be more skilled with the increased emphasis on improving quality of patient care, individual patients' outcomes, financial responsibility, total quality management, to play important role in implementation of national health programs, effectively and responsibly.

Teaching and Learning Methods
Discussion practical
Assessment methods
Written Exams

D. General and Transferable Skills (other skills relevant to employability and personal development) D1. Intellectual skills, such as research skills and, interpreting lab data, examining reports.
Teaching and Learning Methods
Practical Discussion
Assessment Methods
Written exams

11. Programme Structure				12. Awards and Credits
Level/Year	Course or Module Code	Course or Module Title	Credit rating	
Year III – Second Semester	REN 307	Renal System	5	Bachelor Degree Requires (x) credits
Biochemistry	-	Renal System	0.8	

13. Personal Development Planning

none
14. Admission criteria .
According to the regulation of ministry of higher education and scientific research
15. Key sources of information about the programme
Alkindy Medical College – University of Baghdad Ministry of Higher Education and Scientific Research

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			
				A1	**A2**	**A3**	**A4**	**B1**	**B2**	**B3**	**B4**	**C1**	**C2**	**C3**	**C4**	**D1**	**D2**	**D3**	**D4**
Year III-second semester	**REN 307**	**Renal System**	**biochemistry**	✓	✓	✓	✓	✓	✓			✓				✓			

TEMPLATE FOR COURSE SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW
Year III Renal Module

COURSE SPECIFICATION

This module focuses on the normal structure and function of the renal system. After that the focus will shift to urine formation and concentration of the urine. Lastly, the theme ends with topics related to the renal failure. Second, an essential aspect to consider is that most renal disorder can be understood if consider how to different diseases affect the structure and function of the kidney. Therefore, the affects produced as a result of the disease as well as physical exam findings and both radiological and blood investigations can help diagnose renal diseases.

1. Teaching Institution	Alkindy College of Medicine
2. University Department/Centre	Biochemistry
3. Course title/code	Renal Module / REN 307
4. Modes of Attendance offered	Semesters
5. Semester/Year	Second Semester – Year III
6. Number of hours tuition (total)	14 hours
7. Date of production/revision of this specification	15/2/2022
8. Aims of the Course	
a) To State the biochemical roles of the kidney, List the explanations to test the renal function and the different tests to assess the glomerular function.	
b) To Outline the tests that assess the proximal and distal tubular function	
c) To List the investigational steps in proteinuria	
d) To Describe major roles of K and Na in the body.	
e) To Outline the chemical composition &precipitating factors of kidney stones.	
f) To practice the use of urine multi-dipstick test and interpret the test results.	
g) To illustrate the principle of serum creatinine measurement; interpret the test results and Correlate with disease state	

9· Learning Outcomes, Teaching, Learning and Assessment Method

A. Cognitive goals

A1. Outline the female hormones biosynthesis, transport, action, regulations &metabolism.
A2. List the hormones synthesized by the male reproductive tracts, transport, action & metabolism

Cognitive goals

A1. State the biochemical roles of the kidney and list explanations to test the renal function.
A2. List the tests that assess the proximal tubular function
A3. List the investigational steps in proteinuria
A4. Understand the mechanisms of K homeostasis and describe the renal handling of K
A5. Outline the renal acid-base homeostatic mechanism.
A6. Describe the types of kidney stone and outline their chemical composition & precipitating factors

B. The skills goals special to the course.

B1. Provide students with interpretative & investigate skills.

B2. Problem solving skills is essential for any scientist the ability to look at a problem from many angles and find an optimal solution is highly valued.

Teaching and Learning Methods

Interactive Lectures
Practical
Case study
Small Group Discussion

Assessment methods

Quizzes
Assignment
End module exam
End semester exam

C. Affective and value goals

C1.To be more skilled with the increased emphasis on improving quality of patient care, individual patients' outcomes, financial responsibility, total quality management, to play important role in implementation of national health programs, effectively and responsibly.

Teaching and Learning Methods

Discussion
D. General and rehabilitative transferred skills (other skills relevant to employability and personal development) D1. Intellectual skills, such as research skills and, interpreting lab data, examining reports.

10. Course Structure					
Week	Hours	ILOs	Unit/Module or Topic Title	Teaching Method	Assessment Method
1	2	biochemistry	Renal function tests: Assessment of Glomerular function - Renal Function test Tests of tubular function	Lectures	Quiz
2	2	biochemistry	Proteinuria - Potassium Homeostasis & handling by the kidney	Lectures	Quiz
3	2	biochemistry	The role of kidney in acid base balance -	Lectures	Quiz
4	2	biochemistry	Composition of renal stone	Lectures	Quiz
4	2	biochemistry	micro albuminuria	Discussion	Quiz
2	2	biochemistry	Serum creatinine measurement	Practical	Quiz
3	2	biochemistry	urinalysis	Practical	Quiz

11. Infrastructure	
23.Books Required reading:	26- Vasudevan DM, Seekumari S.Vaidyanathan K. Textbook of biochemistry for medical students. Jaypee brothers Medical Publishers Ltd , New Delhi, 7th ED. 2013. 2- Champe PC, Harvey RA Lippincott Illustrative review in biochemistry. Lippincott Williams &Wilkins, 4th ED, 2008.
24.Main references (sources)	27- Vasudevan DM, Seekumari S.Vaidyanathan K. Textbook of biochemistry for medical students. Jaypee brothers Medical Publishers Ltd , New Delhi,

	7th ED. 2013.
A- Recommended books and references (scientific journals, reports…).	-
B-Electronic references, Internet sites…	-

12. The development of the curriculum plan
Alkindy college of Medicine – Medical Education Unit