# Academic Program Description Form

**University Name: Al-Nahrain**

**Faculty/Institute: College of Pharmacy**

**Scientific Department: Clinical Laboratory Science**

**Academic or Professional Program Name: Clinical Laboratory Science**

**Final Certificate Name: Bachelor's Degree**

**Academic System: Courses**

**Description Preparation Date: 4/2/2026**

**File Completion Date: 5/2/2026**

**Signature:** Rafal

**Head of Department Name:**

**Prof. Dr. Rafal Shakib**

**Date:** 3.3.2026

**Signature:** Shaimaa

**Scientific Associate Name:**

**Assistant Professor**

**Dr. Shaimaa Hussein Hammoudi**

**Date:** 3-3-2026

**The file is checked by:**

**Department of Quality Assurance and University Performance**

**Director of the Quality Assurance and University Performance Department:**

**Dr. Noor Adil Abood**

**Date:** 8/31/2026

**Signature:**

**Approval of the Dean**

**Professor Dr. Hayder Bahaa Sahib**

كلية الصيدلة
مكتب العميد
COLLEGE OF PHARMACY

**Ministry of Higher Education and Scientific Research**
**Scientific Supervision and Scientific Evaluation Apparatus**
**Directorate of Quality Assurance and Academic Accreditation**
**Accreditation Department**


# Academic Program and Course Description Guide

**2026**

# Introduction:

The educational program is a well-planned set of courses that include procedures and experiences arranged in the form of an academic syllabus. Its main goal is to improve and build graduates' skills so they are ready for the job market. The program is reviewed and evaluated every year through internal or external audit procedures and programs like the External Examiner Program.

The academic program description is a short summary of the main features of the program and its courses. It shows what skills students are working to develop based on the program's goals. This description is very important because it is the main part of getting the program accredited, and it is written by the teaching staff together under the supervision of scientific committees in the scientific departments.

This guide, in its second version, includes a description of the academic program after updating the subjects and paragraphs of the previous guide in light of the updates and developments of the educational system in Iraq, which included the description of the academic program in its traditional form (annual, quarterly), as well as the adoption of the academic program description circulated according to the letter of the Department of Studies T 3/2906 on 3/5/2023 regarding the programs that adopt the Bologna Process as the basis for their work.

In this regard, we can only emphasize the importance of writing an academic programs and course description to ensure the proper functioning of the educational process.

## Concepts and terminology:

**Academic Program Description:** The academic program description provides a brief summary of its vision, mission and objectives, including an accurate description of the targeted learning outcomes according to specific learning strategies.

**Course Description:** Provides a brief summary of the most important characteristics of the course and the learning outcomes expected of the students to achieve, proving whether they have made the most of the available learning opportunities. It is derived from the program description.

**Program Vision:** An ambitious picture for the future of the academic program to be sophisticated, inspiring, stimulating, realistic and applicable.

**Program Mission:** Briefly outlines the objectives and activities necessary to achieve them and defines the program's development paths and directions.

**Program Objectives:** They are statements that describe what the academic program intends to achieve within a specific period of time and are measurable and observable.

**Curriculum Structure:** All courses / subjects included in the academic program according to the approved learning system (quarterly, annual, Bologna Process) whether it is a requirement (ministry, university, college and scientific department) with the number of credit hours.

**Learning Outcomes:** A compatible set of knowledge, skills and values acquired by students after the successful completion of the academic program and must determine the learning outcomes of each course in a way that achieves the objectives of the program.

**Teaching and learning strategies:** They are the strategies used by the faculty members to develop students' teaching and learning, and they are plans that are followed to reach the learning goals. They describe all classroom and extra-curricular activities to achieve the learning outcomes of the program.

## 1. Program Vision

Enhancing the quality of education, scientific research, and practical training to equip graduating pharmacists with the best standards of knowledge and skills, enabling them to excel in providing pharmaceutical services and make effective contributions to society.

## 2. Program Mission

The College of Pharmacy is one of the pillars of the medical triangle concerned with human health. Therefore, it is imperative for the college to provide high-quality education and training using the latest technology in all major and minor specialties of the college to prepare pharmacists with high scientific and professional skills and capabilities. This enables them to directly and effectively disseminate pharmaceutical culture, provide pharmaceutical care to the community, and develop the aspect of scientific research, which is essential for the localization of Iraqi medicine.

## 3. Program Objectives

1- Preparing competent pharmacists qualified both practically and scientifically to work in healthcare institutions including hospitals, health centers, pharmaceutical laboratories, quality control, forensic medicine, and in all administrative aspects related to the technical affairs department in the Ministry of Health in all its branches, as well as in the private sector, particularly in pharmaceutical promotion.

2- Training pharmacists holding advanced degrees capable of being significant contributors to Iraqi universities, research institutions, and healthcare facilities.

3- Directing scientific research to be foundational in the fields of pharmaceutical industry and solving health problems. Scientific research should focus on modifying or suggesting drug dosages or therapeutic protocols.

| 4. **Program Accreditation** |
|---|
| Does the program have program accreditation? And from which agency? |

| 5. **Other external influences** |
|---|
| Is there a sponsor for the program? |

| 6. **Program Structure** | | | | |
|---|---|---|---|---|
| **Program Structure** | **Number of Courses** | **Credit hours** | **Percentage** | **Reviews*** |
| **Institution Requirements** | **21** | **54** | | **Basic** |
| **College Requirements** | **Arabic Language** | **2** | | **Minor 2 hr. theoretical** |
| | **Arabic Language** | **2** | | **Minor 2 hr. theoretical** |
| | **Human Anatomy and Histology** | **4** | | **Basic 3hrs. theoretical 2 hrs. practical** |
| | | | | |
| **Department Requirements** | | | | |
| **Summer Training** | **NO** | | | |
| **Other** | | | | |

* This can include notes whether the course is basic or optional.

## 7. Program Description

| Year/Level | Course Code | Course Name | Credit Hours | |
|---|---|---|---|---|
| | | | Theory | Lab. |
| First stage/ First semester | | Human Anatomy and Histology | 3 | 2 |
| First stage/ First semester | | Biostatistics | 2 | |
| First stage/ First semester | | Democracy & Human Right | 2 | |
| First stage/ First semester | | Medical physics | 1 | 2 |
| First stage/ Second semester | | Computer Sciences | 1 | 2 |
| First stage/ Second semester | | Arabic Language | 2 | |
| Second stage / First semester | | Medical Microbiology I | 3 | 2 |
| Second stage/ First semester | | Computer Science | 1 | 2 |
| Second stage/ First semester | | Baath Regime crimes in Iraq | 2 | |
| Second stage/ First semester | | Arabic Language | 2 | |
| second stage / Second semester | | Medical Microbiology II | 3 | 2 |
| Second stage/ Second semester | | Arabic Language | 2 | |
| Third stage/ First semester | | Biochemistry I | 3 | 2 |
| Third stage/ First semester | | Pathophysiology | 3 | 2 |
| Third stage/ Second semester | | Biochemistry II | 3 | 2 |
| Fourth stage/ First semester | | Public Health | 2 | |
| Fifth stage/ First semester | | Clinical chemistry | 3 | 2 |
| Fifth stage/ Second semester | | Clinical Laboratory Training | | 4 |
| MSC / First semester | | Advanced clinical biochemistry | 2 | |
| MSC / First semester | | Biostatics | 2 | |
| MSC / First semester | | New Headway Plus | 2 | |

## 8. Expected learning outcomes of the program

**Knowledge**

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|---|---|
| Learning Outcomes 1 **(A 1 - A 2)**<br>- **Human anatomy and Histology:** The study of the digestive system, circulatory system, lymphatic system, respiratory system, urinary system, reproductive system, endocrine system, nervous system, skin. And It is concerned with the study of the tissue structure of the human body and aims primarily to give the student a basis for advanced study in the field of health care, physiology.<br>-**English Language:** Providing students with comprehensive knowledge of the English language, literature, linguistics and translation.<br>- **Democracy and Human Rights:** Increasing the student's knowledge of the theoretical aspect and historical development of the subject Human Rights | Learning Outcomes Statement 1 **(A 3 - A 4)**<br>- **Human Anatomy and Histology:** Understanding and clarifying the study of the various organs in the chest and abdominal cavities. And The student is familiar with the histological description of the human body<br>-**English language:** Developing students' linguistic and communication skills through the latest technical means.<br>- **Democracy and Human Rights:** Enabling students to understand the importance of education and its role in spreading the culture of human rights and democracy in building a civilized society.<br>-**Computer Science:** It gives students the ability to deal with the concept of computer science, and emphasizes the knowledge, skills, and ability to apply software work professionally in the medical field. |

| | |
|---|---|
| and Democracy<br>-**Computer Science:** Introduction to the basic concept of computer science and information technology.<br>- **Statistics:** Knowledge about the basic concept of mathematics and applications of biostatistics in the medical field.<br>-**Medical Physics:** Introducing the basic concept of medical physics and its applications in the medical and pharmaceutical field.<br>-**Medical Microbiology:** Medical bacteriology is concerned with knowing the different types of bacteria, the shape and name of all microorganisms, parts of the microscope and how it can be used to diagnose different types of bacteria, and classifying bacteria according to their livelihood, for example, into aerobic and non-aerobic and according to their bacillary shape. And spherical, as well as according to its interaction with the dye, such as gram-negative and gram-positive, how to grow bacteria in the media, and how to sterilize and laboratory diagnosis.<br>- **Baath Regime Crimes in Iraq:** Defining the nature of the political system that the Baath Party worked to form and analyzing documents related to Baath crimes<br>-**Arabic language:** developing the student's linguistic vocabulary by providing him with new vocabulary and expressions and providing the student with many words, complex sentences, and methods.<br>-**Biochemistry:** Explains the specificity of enzymes, the chemistry involved in enzyme work, and how the process of glucose metabolism occurs, which ultimately leads to the generation of large amounts of energy. It is interested in studying bioenergy, the role of ATP, the importance of carbohydrates and their metabolism, and the importance of Fats and their metabolism, amino acids, proteins and their metabolism, and plasma proteins. And the diversity of the work of the endocrine system and hormones, nucleotide metabolism, DNA structure, and the process of transcription and translation.<br>- **Pathophysiology**: Describes the basic concepts of diseases at the cellular level related to infection, the body's defense mechanism from diseases, mutations, and cellular reproduction. It presents an outline of the basic pathological factors that affect the disease process. It describes the effect of abnormal functions on the organs associated with the disease process of the target body systems. It describes the clinical manifestations associated with diseased organs.<br><br>- **Public Health:** This program allows students to understand the principles of public health and the art of preventing disease, promoting health, and prolonging life, through an organized community effort. | - **Statistics:** Emphasizes the knowledge and skills required to efficiently perform the duties and responsibilities of a pharmacist in the field of biostatistics.<br>-**Medical Physics:** Introducing the basic concept of medical physics and its applications in the medical and pharmaceutical field.<br>- **Medical Microbiology:** understanding the topics of bacterial, viral, and parasitic diseases, as well as introducing the most important immunological concepts, such as understanding the mechanism of action of the immune system and the most important diseases resulting from excessive or decreased immune response.<br>- **Baath Regime Crimes in Iraq:** Study of the social and psychological effects that resulted from genocides and human rights violations<br>-**Arabic language:** It gives the student the ability to love reading and reading books<br>It develops their linguistic wealth and increases their culture<br>-**Biochemistry:** Following developments in techniques used in clinical chemistry as well as in molecular diagnosis, understanding the basis of biochemistry, detecting many biomolecules using different biochemical methods, knowledge of the fields of laboratory analysis provides students with the knowledge, skills and efforts required to work in diagnosing diseases through... Laboratory tests.<br>-**Pathophysiology:** Understanding the principle of living cell therapy that has the ability to repair damaged pathways, renew the immune system, and restore health to many living with chronic disease and damaged tissues by diagnosing diseases by detecting causative factors.<br>-**Public Health:** This program allows students to understand the principles of public health and the art of preventing disease, promoting health, and prolonging life, through an organized community effort.<br>- **Clinical Chemistry:** Following developments in techniques used in clinical chemistry as well as in molecular diagnosis and detection of many biomolecules using different biochemical methods and then applying them to clinical cases in the interest of improving outcomes and experiences for patients.<br>- **Clinical laboratory training:** knowledge in the fields of laboratory analysis<br>It provides students with the knowledge, skills, and efforts required to work in diagnosing diseases through laboratory tests in the hospital. |

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| - **Clinical chemistry:** studies the required laboratory tests and interprets the results, disorders of cellular carbohydrate metabolism, disorders of plasma fats and lipoproteins, liver function tests, disorders of kidney function, and plasma enzymes in diagnosis. Hypothalamus and pituitary gland. Adrenal . Reproductive system. Pregnancy and infertility. Thyroid function tests. Plasma proteins.<br>- **Clinical laboratory training:** aims to learn how to conduct different types of analyses, discuss the results, and write clinical reports according to data obtained from the evaluation. Training includes hematology, parasitology, bacteriology, biochemistry, quality control, immunology, serology, virology, general urine examination, sterilization, and blood sampling. | |
| **Skills** | |
| Learning Outcomes 2 **(B 1)**<br>-The concept of studying and describing the composition of the human body cellular, histologically and anatomically.<br>-Basic mathematics concept and application of biostatistics in the medical field.<br>-The concept of basic medical physics and its applications in the field of pharmacy.<br>-The concept of programming and computers and its applications in the field of information technology.<br><br>-The concept of the English language and internal and external linguistic communication.<br>-The concept of democracy, freedoms and expression of opinion.<br>-The concept of medical microbiology and drug treatments to treat bacterial, viral and parasitic diseases, as well as introducing the most important immunological concepts, such as understanding the mechanism of action of the immune system and the most important diseases resulting from excessive or decreased immune response.<br>-The concept of developing the student's linguistic vocabulary in the Arabic language.<br>-Knowledge of the nature of biochemistry within the body including basic substances such as carbohydrates, fats, amino acids and protein. Study and detect these substances in terms of their increase and decrease in sick people.<br>-The concept of pathology and the principle of treating a living cell that has the ability to repair damaged pathways, rejuvenate the immune system, and restore health to many living with chronic disease and damaged tissue.<br>-The concept of public health and the efforts required to work in diagnosing diseases through awareness, | Learning Outcomes Statement 2 **(B 2)**<br>-Skill in conducting biostatistics applications in the medical field.<br>-Skill in applications of medical physics in the field of pharmacy.<br>-Skill in computer applications in the medical field.<br>-The skill of acquiring English for communication.<br>-The skill of correct use in gaining freedom to express one's opinion.<br>-The skill of using appropriate antibiotics to treat bacteria, viruses, or parasites according to the laboratory result report.<br>-The skill of the student acquiring a culture of love for reading and accompanying books.<br>-Skill in detecting many biomolecules using different biochemical methods.<br>-The skill of living cell therapy has the ability to repair damaged pathways, rejuvenate the immune system, and restore health to many living with chronic disease and damaged tissue.<br>-Awareness, laboratory and hospital testing skills to conduct special care for patients.<br>-The skill of acquiring knowledge in the fields of clinical techniques and laboratory analyzes to diagnose diseases. |

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| laboratory tests, and the hospital to conduct special care.<br>-The concept of developments in the techniques used in clinical chemistry and knowledge in the fields of laboratory analysis and diagnosis of diseases by detecting the factors that cause them. | |
| Learning Outcomes 3 **(B 3)**<br>Listening skill - practical skill - research skill | Learning Outcomes Statement 3 **(B 4)**<br>The skill of working in a private pharmacy - the skill of working in a hospital - the skill of decision-making - the skill of leadership |
| **Ethics** | |
| Learning Outcomes 4 **(C 1)**<br>Enabling students with management, organization, and communication skills for the purpose of accessing advanced technology in all areas of clinical science. | Learning Outcomes Statement 4 **(C 2)**<br>Make students able to use critical thinking, translation, explanation and evaluation in problem-solving methods. |
| Learning Outcomes 5 **(C 3)**<br>Students have the opportunity and encouragement to undertake professionally relevant qualifications. | Learning Outcomes Statement 5 **(C 4)**<br>Students are able to reflect on their own professional development. |

## 9. Teaching and Learning Strategies

1- Lectures ( questions and discussion )
2- Laboratory skills
3- White board
4- Interactive electronic board
5- Seminars
6- Homework
7- Unknown experiments
8- Case study

## 10. Evaluation methods

- Theoretical exam
- Practical exam
- Classroom activities
- Homework
- Oral discussions
- Reports
- Auditing skills
- Personality reflection

## 11. Faculty

## Faculty Members

| Academic Rank | Specialization | | Special Requirements/Skills (if applicable) Scientific activities of the branch 2025-2026 | Number of the teaching staff | |
|---|---|---|---|---|---|
| | General | Special | | Staff 32 | Lecturer 4 |
| 1. أ.م.د. شيماء حسين حمودي | Biotechnology | Biotechnology | | Staff | |
| 2. أ.د. رفل شكيب عبد الوهاب | Biotechnology | Biotechnology | | Staff | |
| 3. أ.د. نادرة سلمان محمد | Biology | Microbiology | Workshop (Preparing a Model Training Kit for Workshops and Scientific Courses)<br>Workshop (Requirements and Conditions for Preparing a Model Lecture in Blended Learning) | Staff | |
| 4. أ.د. فريال هاشم رضا | Pharmacy | Clinical Biochemistry | | Staff | |
| 5. أ.م.د. امال اسماعيل ابراهيم | Chemistry | Clinical Biochemistry | Seminar (The Impact of Irregular Migration on Youth)<br>**Seminar (Human Trafficking: Between Reality and Concept)**<br>**Workshop (Iraqi Women's Day)**<br>**Seminar (Between Technology and Health: What Does Mobile Radiation Do to Our** | Staff | |

| | | | | | |
|---|---|---|---|---|---|
| | | | Children's Bodies?) | | |
| 6. أ.م.د سحر محمد سلمان | | | Seminar (Digital Drugs and Stimulants and Their Impact on University Students)<br><br>Seminar (Importance of the Strategic Plan)<br><br>Seminar (Self-Defense in Cooperation with the Ministry of Youth)<br><br>Seminar (First Aid)<br><br>Discussion Session (Orientation for First-Year Students)<br><br>Seminar (The Spaïker Massacre)<br><br>Seminar (Examples of Success of Iraqi Women)<br><br>Seminar (The Impact of Irregular Migration on Youth)<br><br>Seminar (Human Trafficking: Between Reality and Concept)<br><br>Workshop (Iraqi Women's Day) | | |
| 7. أ. م.د. رسل عدنان حيدر | Physics | Physics | Principles and diagnostic of Magnetic resonance imaging (MRI)<br><br>What is the difference in diagnosis between X-ray and CT-Scan?<br><br>Workshop (The Role of an | Staff | |

| | | | | | |
|---|---|---|---|---|---|
| | | | **Audit Committee Member in Examination Committees)**<br><br>**Workshop (Characteristics and Modern Applications of Nanostructures)** | | |
| 8. **م.د. حوراء هاشم اسماعيل** | **Physics** | **Physics** | Seminar (Between Technology and Health: What Does Mobile Radiation Do to Our Children's Bodies?) | **Staff** | |
| 9. **م.د. نور عادل عبود** | **Biotechnology** | **Microbiology** | | **Staff** | |
| 10. **م.د. زهراء عبد الحسين خزعل** | **Arabic Language** | **Language** | **Seminar (The Impact of Irregular Migration on Youth)** | **Staff** | |
| 11. **م.د. حوراء حسين كاظم** | **Physics** | **Physics** | **Workshop (The Role of an Audit Committee Member in Examination Committees)**<br><br>**Workshop (Characteristics and Modern Applications of Nanostructures)** | **Staff** | |
| 12. **م.د غفران محمد مجيد** | **Chemistry** | **Medical Chemistry** | | **Staff** | |
| **13**. **م.د سمر ثامر حميد** | **Chemistry** | **Medical Chemistry** | | **Staff** | |
| 14. **أ. علا عبد الغفور محمد صالح** | **English Language** | **English Language and literature** | | **Staff** | |
| 15. **أ.م. زينه سيف الدين محمد** | **Biotechnology** | **Biotechnology** | | **Staff** | |
| **16. م.م رفل نزار طه** | Microbiology | **Microbiology** | | Staff | |

| | | | | | |
|---|---|---|---|---|---|
| 17. م.م زينب قاسم محمد علي | **Information technology** | **Computer networks** | Workshop (About the Remark Program and the Mechanism of Electronic Grading) | **Staff** | |
| 18. م.م بسمة سعد عبدالامير | **Political science** | **International relations** | | **Staff** | |
| 19. م.م روان حازم عبد الحسين | **Histology and Embryos** | **Histology and Embryos** | Seminar (Security Education and Its Impact on Society) | **Staff** | |
| 20. م.م فرح انور سعيد | **Applied Mathematics** | **Applied Mathematics** | | **Staff** | |
| 21. م.م وئام فاضل حسين | **Chemistry** | **Chemistry** | | **Staff** | |
| 22. م.م حيدر عامر عبدالله | **Public Law** | **Public Law** | **Workshop (Managing Thinking in the Age of Distraction)**<br><br>**Seminar (Explanation of Student Discipline Instructions No. 160 of 2007 in Ministry of Higher Education Institutions)**<br><br>**Seminar (Ba'ath Party Crimes in Iraq: The Story of Iraqi People's Resilience Against Tyranny)** | **Staff** | |
| **23.** م.م نور جميل عياس | **Chemistry** | **Clinical biochemistry** | **Seminar** (Pediatric Fatty Liver Disease: A Growing Silent Epidemic)<br><br>**Workshop** (The Impact of Smart Devices on Children's Cognitive and Intellectual Development)<br><br>**Workshop** (Vaping and Health: Hidden Dangers of E-Cigarette Use") | **Staff** | |

| | | | | | |
|---|---|---|---|---|---|
| 24. م.م حنين أحمد محمد | Chemistry | Biochemistry | **Seminar** (Pediatric Fatty Liver Disease: A Growing Silent Epidemic)<br><br>**Workshop** (The Impact of Smart Devices on Children's Cognitive and Intellectual Development)<br><br>**Workshop** (Vaping and Health: Hidden Dangers of E-Cigarette Use") | Staff | |
| 25. م.م أيلاف عباس حسين | Chemistry | Medical chemistry | | Staff | |
| 26. م.م لمى وعد عبداللطيف | Biotechnology | Biotechnology | **Workshop** (Rational Use of Dietary Supplements) | Staff | |
| 27. م.م هدى حسين عبود | Law | Criminal law | **Workshop (Legal Rights of Employees in the Workplace)**<br><br>**Seminar (The Public Employee Between Legal Compliance and Corruption Pressures)**<br><br>**Workshop (Adherence to Job Confidentiality and Data Protection)** | Staff | |
| 28. م.م الحارث فالح أحمد | Engineering | Electron engineering | Workshop (About the Remark Program and the Mechanism of Electronic Grading)<br><br>Workshop (Regarding the Publication Mechanism on the Journal Website – College of Pharmacy Journal) | Staff | |
| 29. م.م نور أمجد فرحان | Political science | International relations | | Staff | |

| | | | | | |
|---|---|---|---|---|---|
| 30. زهراء عبدالجليل مسيب | Political science | strategy | | Staff | |
| 31. م. تقنيات أحيائية غفران أبراهيم جليل | Biotechnology | - | | Staff | |
| 32. م. بايولوجي شهد سلمان أسد | Biology | - | | Staff | |
| 33. م.د. قيس عامر عبد الامير | Pathology | Hematology | | | Lecturer |
| 34. ا.د. حيدر عبد الرسول | Anatomy | Anatomy | | | Lecturer |
| 35. أ.م.د قاسم شرهان | Veterinary medicine | Microbiology | | | Lecturer |
| 36. ا.م.د داليا أحمد الطائي | Veterinary medicine | Parasites / immunity | | | Lecturer |

## Professional Development

### Mentoring new faculty members

1- The branch head follows up on new teachers by entering the classroom during the lecture
2- Guidance in developing teaching skills
3- Encouraging the development of research skills
4- Encouraging the development of leadership skills
5- Guidance in developing practical skills
6- Encouraging decision-making skill

### Professional development of faculty members

- Developing the performance and skills of teaching staff in accordance with the latest developments in teaching in the clinical laboratory fields to ensure that the branch continues on the correct scientific path.
- Raising the scientific level of scientific research and participating in scientific conferences and seminars.
- Encouraging the scientific and cultural activity of the teaching staff in the branch.

## 12. Acceptance Criterion

(Central admission to the Ministry of Higher Education and Scientific Research / Iraq / according to the student's grades)

| 13. **The most important sources of information about the program** |
| --- |
| |

| 14. Program Development Plan |
| --- |
| Syllabus development plan by adding or updating a Syllabus |

| Program Skills Outline | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Required program Learning outcomes | | | | | | | | | | | |
| Year/Level | Course Code | Course Name | Basic or optional | Knowledge | | | | Skills | | | | Ethics | | | |
| | | | | A1 | A2 | A3 | A4 | B1 | B2 | B3 | B4 | C1 | C2 | C3 | C4 |
| First year/ First semester | | Human Anatomy and Histology | Basic | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | X | X |
| | | biostatistics | Basic | √ | √ | √ | √ | √ | √ | √ | X | √ | √ | X | X |
| | | Medical physics | Basic | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | X | X |
| | | Democracy and Human Rights | Basic | √ | √ | √ | √ | √ | √ | √ | X | X | √ | X | X |
| First year / Second semester | | Computer science | Basic | √ | √ | √ | √ | √ | √ | √ | X | √ | X | X | X |
| | | Arabic Language | Basic | √ | √ | √ | √ | √ | √ | √ | X | X | √ | X | X |
| Second year/ First semester | | Medical Microbiology I | Basic | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | X | X |
| | | Computer sciences | Basic | √ | √ | √ | √ | √ | √ | √ | X | √ | X | X | X |
| | | Baath Regime crimes in Iraq | Basic | √ | √ | √ | √ | √ | √ | √ | X | X | √ | X | X |
| | | Arabic Language | Basic | √ | √ | √ | √ | √ | √ | √ | X | X | √ | X | X |
| Second year/ Second semester | | Medical Microbiology II | Basic | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | X | X |
| | | Arabic Language | Basic | √ | √ | √ | √ | √ | √ | √ | X | X | √ | X | X |
| Third year/ First | | Biochemistry I | Basic | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | X | X |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| semester | | **Pathophysiology** | **Basic** | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | X | X |
| Third year/ Second semester | | **Biochemistry II** | **Basic** | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | X | X |
| Fourth year/ First semester | | **Public Health** | **Basic** | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | X | X |
| Fifth year/ First semester | | **Clinical Chemistry** | **Basic** | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | X | X |
| Fifth year/ Second semester | | **Clinical Laboratory training** | **Basic** | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | X | X |
| MSC/ First semester | | **Advance clinical biochemistry** | **Basic** | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | X | X |
| MSC/ First semester | | **Biostatics** | **Basic** | √ | √ | √ | √ | √ | √ | √ | X | √ | √ | X | X |
| MSC/ First semester | | **New Headway Plus** | **Minor** | √ | √ | √ | √ | √ | √ | √ | X | X | √ | X | X |

- **Please tick the boxes corresponding to the individual program learning outcomes under evaluatio**

# Course Description Form

1. Course Name: Biostatistics

2. Course Code:

3. Semester / Year: First Semester/First Year

4. Description Preparation Date: 2026

5. Available Attendance Forms: First Year

6. Number of Credit Hours (2 theory) / Number of Units (2)

7. Course administrator's name (mention all, if more than one name)


**Name:** م.د. حوراء حسين كاظم **Email :** hawra.husain@nahrainuniv.edu.iq

**Name:** م.م فرح انور سعيد **Email:** farah.anwar@nahrainuniv.edu.iq


8. Course Objectives

- To provide students with the ability to deal with the concepts of Mathematics and Statistics, emphasize the knowledge and skills required to efficiently discharge the duties and responsibilities of the pharmacist.
- The course deals with the concepts of basic Mathematics and the application of Biostatistics in medical field.
- Upon the completion of the course, students will be able to understand the applications of statistics in medical field.

9. Teaching and Learning Strategies

| | |
|---|---|
| **Strategy** | 1- Theoretical lectures<br>2- Whiteboard<br>3- Interactive electronic whiteboard<br>4- Seminars (questions and discussion)<br>5- Homework |

| 10. Course Structure **(Hours : theory 2)** | | | | | |
|---|---|---|---|---|---|
| Week | Hours | Unit or subject name | **Required Learning Outcomes** | **Learning method** | **Evaluation method** |
| 1 | 3 | Mathematics | Mathematics: General concepts; coordinate and graph in plane; inequality; absolute value or magnitude; function and their graphs | 1- Lectures ( questions and discussion )<br>2- Interactive electronic board | Theory Exam<br>Quiz<br>Class effectiveness |
| 2 | 3 | slope and equation for lines | Displacement function; slope and equation for lines | = | = |
| 3 | 3 | Limits and continuity | Limits and continuity: Limits; theorem of limits; limit involving infinity; continuity; continuity conditions | = | = |
| 4 | 3 | Derivatives | Derivatives: Line tangent and derivatives; differentiation rules; Derivative of trigonometric function; practice exercises | = | = |
| 5 | 3 | Integration | Integration: Indefinite integrals; rules for indefinite integrals; integration formulas for basic trigonometric function | = | = |
| 6 | 3 | Integration | Definite integrals; properties of definite integrals; practice exercises | = | = |
| 7 | 3 | Biostatistics | Biostatistics: General concepts of statistics; statistical methods; statistical theory ; applied statistics; statistical operations | = | = |
| 8 | | | Mid-Term Exam | | |
| 9 | 3 | Probability concepts | Probability concepts: Properties of probability; Set theory and set notation (basic notation); counting techniques permutations and combinations; | | |
| 10 | 3 | Probability concepts | calculating the probability of an events; probability distribution of discrete variable; binomial distribution, Poisson distribution; continues probability | = | = |
| 11 | 3 | Central tendency | The concept of central tendency: the sample mean and the population mean. SMA | = | = |

| | | | | | |
|---|---|---|---|---|---|
| | | | | | |
| 12 | 3 | Deviation and variation | Deviation and variation: Deviation; dispersion and variability; standard deviation and variance; coefficient of variations; standard error; correlation analysis; (regression model and sample regression equation); application of statistic in medical field; review questions and exercises | = | = |
| 13 | 3 | Statistics tests | T-test, Z-test, Chi-test and Anova | = | = |
| 14 | 3 | Application of statistics | Application of statistics in the medical field. Review questions and exercises | = | = |
| | | | Final Exam | | |

| 11. Course Evaluation | |
|---|---|
| Annual pursuit degree 30%, theoretical exam<br>*(30% mid-course exam + daily exams)<br>The final exam degree is 70% theoretical<br>Final degree 100% | |
| **12. Learning and Teaching Resources** | |
| Required textbooks (curricular books any) | 1. Finny RI, Thomas GB (Eds.); Calculus and Analytical Geometry.<br>2. Daniel WW (ED.), Foundation for Analysis in the Health Science, 4th ed. |
| Main references (sources) | 1. Finny RI, Thomas GB (Eds.); Calculus and Analytical Geometry.<br>2. Daniel WW (ED.), Foundation for Analysis in the Health Science, 4th ed. |
| Recommended books and references (scientific journals, reports…) | 1. Finny RI, Thomas GB (Eds.); Calculus and Analytical Geometry.<br>2. Daniel WW (ED.), Foundation for Analysis in the Health Science, 4th ed. |
| Electronic References, Websites | Scientific movies |

# Course Description Form

| |
|---|
| 1. Course Name: Human Anatomy and Histology |
| |
| 2. Course Code: |
| |
| 3. Semester / Year: First Semester/First Year |
| |
| 4. Description Preparation Date: 2026 |
| |
| 5. Available Attendance Forms: First Year |
| |
| 6. Number of Credit Hours (3 theory 2 Lab.) / Number of Units (4) |
| |
| 7. Course administrator's name (mention all, if more than one name) |
| **Name:** ا.د. نادرة سلمان محمد (الجانب النظري والجانب العملي) **Email:** nadira@nahrainuniv.edu.iq<br>**Name:** ا.د. رفل شكيب عبد الوهاب(الجانب النظري والجانب العملي) **Email:** dr.rafal.shakeeb@nahrainuniv.edu.iq<br>**Name:** ا.د. حيدر عبد الرسول (الجانب النظري والجانب العملي) **Email:** haiderabid@nahrainuniv.edu.iq<br>**Name:** م.د. قيس عامر عبد الامير (الجانب النظري و الجانب العملي) **Email:** qaisaloqaily@nahrainuniv.edu.iq<br>**Name:** ا.م. زينه سيف الدين محمد (الجانب النظري و الجانب العملي) **Email:** zeina.saif@nahrainuniv.edu.iq<br>**Name:** م.تقنيات أحيائية غفران أبراهيم جليل (الجانب العملي) **Email:** ghofran.e.jaleel@nahrainuniv.edu.iq |
| 8. Course Objectives |
| ▸ Learning the names and functions of anatomical structures.<br>▸ Provide comprehensive understanding of how abnormal anatomy can lead to disease.<br>▸ To acquire a basic background in histology and to understand the properties of cells and their interactions with one another as components of tissues and organs<br>▸ To be able to describe the normal structure and function of various cell types, tissues, and organs, and to differentiate their histological structures from each other through microscopic examination. |
| 9. Teaching and Learning Strategies |

| | |
|---|---|
| **Strategy** | 1- Theoretical lectures<br>2- Practical laboratory skills<br>3- Whiteboard |

| | |
|---|---|
| | 4- Interactive electronic whiteboard<br>5- Seminars (questions and discussion)<br>6- Homework |

10. Course Structure **(Hours : theory 3 + lab. 2)**

| Week | Hours | Unit or subject name | Required Learning Outcomes | Learning method | Evaluation method |
|---|---|---|---|---|---|
| 1 | 3 | General anatomy Introduction to Histology | Anatomical Positions ,Body regions ,Body cavities. Definition , basic concepts of cell, tissue , organ , system . | 1- Lectures ( questions and discussion ) 2- Interactive electronic board | Theory Exam Lab. Exam Quiz Class effectiveness |
| 2 | 3 | Overview of the Four Primary tissue types | -Epithelial Tissues , Connective Tissues, Muscular Tissues, Nervous Tissue | = | = |
| 3 | 3 | Musculoskeletal System | Musculoskeletal System (Bones & Joints) | = | = |
| 4 | 3 | Circulatory System (Cardiovascular System) | Circulatory System (Cardiovascular System):Anatomy & Histology | = | = |
| 5 | 3 | Circulatory System (Lymphatic System) & Blood. | Circulatory System (Lymphatic System) & Blood. | = | = |
| 6 | 3 | Digestive System (Part 1 - Upper GIT) | Oral cavity, pharynx, esophagus, stomach | 1- Lectures ( questions and discussion ) 2- Interactive electronic board | Theory Exam Lab. Exam Quiz Class effectiveness |
| 7 | 3 | Digestive System (Part 2 - Lower GIT & Accessory Organs) | Small intestine, large intestine, rectum, anus. Salivary glands, pancreas, liver, gallbladder. | = | = |
| 8 | | | Mid-Term Exam | | |
| 9 | 3 | Nervous | Central Nervous System (brain, | = | = |

| | | | | | |
|---|---|---|---|---|---|
| | | System: Anatomy & Histology | spinal cord) and Peripheral Nervous System (nerves, ganglia), basic organization | | |
| 10 | 3 | Respiratory System | Anatomy & Histology | = | = |
| 11 | 3 | Urinary System | Anatomy & Histology | = | = |
| 12 | 3 | Integumentary System (The Skin) | - Anatomy: Layers of the skin (epidermis, dermis, hypodermis). Histology: Detailed histology of thick and thin skin, epidermal layers, , accessory structures (hair follicles, sebaceous glands, sweat glands). | = | = |
| 13 | 3 | Endocrine System | Anatomy pituitary, thyroid, parathyroid, adrenal, pancreas-islets of Langerhans, pineal, gonads | = | = |
| 14 | 3 | Endocrine System | Histology pituitary, thyroid, parathyroid, adrenal glands, islets of Langerhans, and pineal gland | = | = |
| 15 | 3 | Male Reproductive System | Reproductive Glands Reproductive Ducts & Testes Location | = | = |
| 16 | 3 | Female Reproductive System | Ovary, Fallopian Tube, Uterus, and Vagina | = | = |
| | | | Final Exam | | |

## 11.Course Evaluation

Annual pursuit degree 40%, theoretical exam 20% + practical exam 20%
*(20% mid-course exam + daily exams)
The final exam degree is 60% theoretical only
Final degree 100%

## 12.Learning and Teaching Resources

| | |
|---|---|
| Required textbooks (curricular boo if any) | 1. Anatomy and Physiology for Healthcare by Paul Marshall; Beverly Gallacher; Jim Jolly; Shupikai Rinomhota<br>2. Atlas of Human Anatomy by Frank H. Netter<br>3. Basic Histology: text and Atlas, 11th ed. BY Luiz Carlos, Uchoa Junqueria<br>4. Wheaters functional histology: a text and colour atlas 6th ed. BY Yung , Barbara |
| Main references (sources) | 1. Anatomy and Physiology for Healthcare by Paul Marshall; Beverly Gallacher; Jim Jolly; Shupikai Rinomhota |

| | |
|---|---|
| | 2. Atlas of Human Anatomy by Frank H. Netter<br>3. Basic Histology: text and Atlas, 11th ed. BY Luiz Carlos, Uchoa Junqueria<br>4. Wheaters functional histology: a text and colour atlas 6th ed. BY Yung , Barbara |
| Recommended books and references (scientific journals, reports…) | 1. Anatomy and Physiology for Healthcare by Paul Marshall; Beverly Gallacher; Jim Jolly; Shupikai Rinomhota<br>2. Atlas of Human Anatomy by Frank H. Netter<br>3. Basic Histology: text and Atlas, 11th ed. BY Luiz Carlos, Uchoa Junqueria<br>4. Wheaters functional histology: a text and colour atlas 6th ed. BY Yung , Barbara |
| Electronic References, Websites | Scientific movies |

# Course Description Form

| |
|---|
| 1. Course Name: Medical Physics |
| |
| 2. Course Code: |
| |
| 3. Semester / Year: First Semester/First Year |
| |
| 4. Description Preparation Date: 2026 |
| |
| 5. Available Attendance Forms: First Year |
| |
| 6. Number of Credit Hours (1 theory 2 Lab.) / Number of Units (2) |
| |
| 7. Course administrator's name (mention all, if more than one name) |
| **Name: أ.م.د. رسل عدنان حيدر (الجانب النظري والجانب العملي) Email: dr.rusul.adnan@nahrainuniv.edu.iq**<br>**Name: م.د. حوراء حسين كاظم (الجانب النظري والجانب العملي) Email: hawra.husain@nahrainuniv.edu.iq**<br>**Name: م.د. حوراء هاشم (الجانب النظري والجانب العملي) Email:dr.hawraa.hashim@nahrainuniv.edu.iq** |
| 8. Course Objectives |
| ▶ To provide students with the ability to deal with the concepts of physics, emphasize the knowledge and skills required to efficiently discharge the duties and responsibilities of the pharmacist. The course deals with the concept of basic physics and its application to medical field.<br>▶ Upon the completion of the course, the students will be able to understand the physical terminology and abbreviations used to describe the lecture, and their application to medical field. |
| 9. Teaching and Learning Strategies |

| | |
|---|---|
| **Strategy** | 1- Theoretical lectures<br>2- Practical laboratory skills<br>3- Whiteboard<br>4- Interactive electronic whiteboard<br>5- Seminars (questions and discussion)<br>6- Homework |

| 10. Course Structure **(Hours : theory 1 + lab. 2)** | | | | | |
|---|---|---|---|---|---|
| Week | Hours | Unit or subject name | **Required Learning Outcomes** | **Learning method** | **Evaluation method** |
| 1 | 4 | General concepts | physics method and standards | 1- Lectures ( questions and discussion )<br>2- Interactive electronic board<br>3- Class effectiveness | Theory Exam<br>Lab. Exam<br>Quiz<br>Experiments<br>Lab |
| 2 | 4 | Pressure | Pressure: pressure scales, types of pressure in the human body, blood pressure | 1- Lectures ( questions and discussion )<br>2- Interactive electronic board<br>3- Class effectiveness | Theory Exam<br>Lab. Exam<br>Quiz<br>Experiments<br>Lab |
| 3 | 4 | Equation of state | Ideal gas and real gas; General law of gases. Balance and types of balance. Compressibility factor, volume expansion coefficient | = | = |
| 4 | 4 | Heat | Heat capacity and specific heat, the relation between internal energy with heat capacity, definitions of thermo dynamical process. | = | = |
| 5 | 4 | Thermodynamic | Thermodynamic: common terms of thermodynamics, the laws of thermodynamics | = | = |
| 6 | 4 | Temperature and heat | Temperature and heat: scales of temperature, types of thermometers, methods of heat transfer, heat gain and loss in human body, heat therapy | = | = |
| 7 | 4 | Energy | Energy, work and power of the body, conservation of energy, energy change in the body | = | = |
| 8 | | | Mid-Term Exam | | |
| 9 | 4 | Blood flow | Blood flow: poiseuille's law, ohm's law applied to blood flow, the continuity equation and Bernoulli's principles, Types of blood flow, pascal's law | = | = |

| | | | | | |
|---|---|---|---|---|---|
| 10 | 4 | Surface tension | Surface tension: measurement of surface tension, factors effecting surface tension, Ostwald's viscometer. | = | = |
| 11 | 4 | Waves | Waves: sound in medicine, general properties of sound, and the stethoscope, Ultrasound in medicine: generation of ultrasound waves, application of ultrasound | = | = |
| 12 | 4 | Electromagnetic waves | Electromagnetic waves: radio wave, microwave, infra-red, visible light (application in medicine), ultraviolet, x-ray, gamma ray | = | = |
| 13 | 4 | Radiation | Radiation therapy, CT scan, MRI scan, PET scan, SPECT scan | = | = |
| 14 | 4 | Laser: laser types in medical field | laser interaction with tissue, medical applications and understanding of physical security and safety | = | = |
| 15 | 4 | Physical optics | Physical optics, the optical fiber, image formation | = | = |
| | | | Final Exam | | |

## 11.Course Evaluation

Annual pursuit degree 40%, theoretical exam 20% + practical exam 20%
*(20% mid-course exam + daily exams+ reports)
The final exam degree is 60% theoretical only
Final degree 100%

## 12.Learning and Teaching Resources

| | |
|---|---|
| Required textbooks (curricular books any) | Physics for Biology and Medical Students, 2nd ed. |
| Main references (sources) | Introduction to medical physics "for pharmacy students & Medical group by Dr. Abdulhadi Abdullah 2020. |
| Recommended books and references (scientific journals, reports…) | Medical physics, J. cameron 1978.<br>-Manual for Practical Lab. Adopted by the Department |
| Electronic References, Websites | Scientific movies |

# Course Description Form

| |
|---|
| 1. Course Name: Medical Microbiology I |
| |
| 2. Course Code: |
| |
| 3. Semester / Year: First Semester/Second Year |
| |
| 4. Description Preparation Date: 2026 |
| |
| 5. Available Attendance Forms: Second Year |
| |
| 6. Number of Credit Hours (3 theory 2 Lab.) / Number of Units (4) |
| |
| 7. Course administrator's name (mention all, if more than one name) |
| **Name:** أ.م.د. شيماء حسين حمودي (الجانب النظري) **Email:** shaymaah.alrajhi@nahrainuniv.edu.iq<br>**Name:** م.د. قيس مجيد عيسى (الجانب النظري) **Email:** dr.qais.majeed@nahrainuniv.edu.iq<br>**Name:** م.د. نور عادل عبود (الجانب النظري) **Email:** noor.adil@nahrainuniv.edu.iq<br>**Name:** ا.د نادرة سلمان محمد (الجانب العملي) **Email:** nadira@nahrainuniv.edu.iq<br>**Name:** م.م لمى وعد عبداللطيف (الجانب العملي) **Email:** Luma.waad@nahrainuniv.edu.iq<br>**Name:** م. تقنيات أحيائية غفران أبراهيم جليل (الجانب العملي) **Email:** ghofran.e.jaleel@nahrainuniv.edu.iq<br>**Name:** م. بايولوجي شهد سلمان (الجانب العملي) **Email:** SHAHAD.SALMAN@nahrainuniv.edu.iq |
| 8. Course Objectives |
| ▶ To provide students with basic understanding of morphology, anatomy physiology and genetics of bacteria<br>▶ The methods of handling, visualizing<br>▶ Characterizing and identifying of bacterial diseases |
| 9. Teaching and Learning Strategies |

| | |
|---|---|
| **Strategy** | 1- Theoretical lectures<br>2- Practical laboratory skills<br>3- Whiteboard<br>4- Interactive electronic whiteboard<br>5- Seminars (questions and discussion)<br>6- Homework |

| 10. Course Structure **(Hours : theory 3 + lab. 2)** | | | | | |
|---|---|---|---|---|---|
| Week | Hours | Unit or subject name | **Required Learning Outcomes** | **Learning method** | **Evaluation method** |
| 1 | 5 | Introduction Microbiology | Importance of microbiology, History of microbiology | 1- Lectures ( questions and discussion )<br>2- Interactive electronic board<br>3- Class effectiveness | Theory Exam<br>Lab. Exam<br>Quiz<br>Class effectiveness |
| 2 | 5 | Anatomy of bacteria | Anatomy of bacteria: Surface appendage, Capsule, Cell wall of G + ve & G – ve bacteria Cytoplasmic membrane | = | = |
| 3 | 5 | Bacterial physiology | -Bacterial physiology: Physical and chemical growth determinate<br>- Sporulation and germination | = | = |
| 4 | 5 | Genetics | Genetics: Definition, genetic, element, mutation (spontaneous, gene transfer, transformation, conjugation, and gene transduction) | = | = |
| 5 | 5 | Genetics | Recombinant DNA biotechnology | = | = |
| 6 | 5 | Sterilization | -Sterilization (chemical + physical Methods). | = | = |
| 7 | 5 | Chemotherapy | Types of Chemotherapy | = | = |
| 8 | | | Mid-Term Exam | | |
| 9 | 5 | Properties of Bacteria | Morphology of Bacteria, Staining and Classification | = | = |
| 10 | 5 | Staphylococci species | -Staphylococci species | = | = |
| 11 | | Aerobic Spore-forming | bacteria Bacillus species | = | = |
| 12 | 5 | Selective Bacteria | - *Clostridium perfringens*<br>- *Corynebacterium diphtheria* | = | = |
| 13 | 5 | Selective Bacteria | - *Propionibacterium acnes, Listeria*<br>- *Mycobacterium tuberculosis; M. leprae* | = | = |
| 14 | 5 | | *Chlamyadiae; Actinomycetes* Identification & | = | = |

| | | | | | |
|---|---|---|---|---|---|
| | | | classification of G -ve bacteria | | |
| 15 | 5 | Enterobacteriaceae | *Shigella spp; Salmonella spp; Proteus spp , Pseudomonas spp* | = | = |
| 16 | 5 | Enterobacteriaceae | -Vibrio *Cholerae*; *Brucella spp; Haemophilus spp;* | = | = |
| | | | Final Exam | | |

## 11.Course Evaluation

Annual pursuit degree 40%, theoretical exam 20% + practical exam 20%
*(20% mid-course exam + daily exams)
The final exam degree is 60% theoretical only
Final degree 100%

## 12.Learning and Teaching Resources

| | |
|---|---|
| Required textbooks (curricular books any) | Medical Microbiology, seventeenth edition E. Jawetz, L. Melnick, E.A. Adel 1987 & 2. Principles of Microbiology by Roland M |
| Main references (sources) | Medical Microbiology, seventeenth edition E. Jawetz, J L. Melnick, E.A. Adel 1987 & 2. Principles of Microbiology by Roland M |
| Recommended books and references (scientific journals, reports…) | Medical Microbiology, seventeenth edition E. Jawetz, J L. Melnick, E.A. Adel 1987 & 2. Principles of Microbiology by Roland M<br>-Manual for Practical Lab. Adopted by the Department |
| Electronic References, Websites | Scientific Movies |

# Course Description Form

1. Course Name: Medical Microbiology II

2. Course Code:

3. Semester / Year: Second Semester/Second Year

4. Description Preparation Date: 2026

5. Available Attendance Forms: Second Year

6. Number of Credit Hours (3 theory 2 Lab.) / Number of Units (4)

7. Course administrator's name (mention all, if more than one name)


| | | |
|---|---|---|
| **Name : أ.د. نادرة سلمان محمد** | **(الجانب النظري)** | **dr.nadira@nahrainuniv.edu.iq :Email** |
| **Name: ا.م.د. داليا أحمد** | **(الجانب النظري)** | **dalia.a@covm.uobaghdad.edu.iq:Email** |
| **Name: م.د. نور عادل عبود** | **(الجانب النظري)** | **noor.adil@nahrainuniv.edu.iq :Email** |
| **Name : م.م رفل نزار طه** | **(الجانب العملي)** | **rafal.nazar@nahrainuniv.edu.iq:Email** |
| **Name: م.م لمى وعد عبداللطيف** | **(الجانب العملي)** | **Luma.waad@nahrainuniv.edu.iq :Email** |
| **Name: م. تقنيات أحيائية غفران أبراهيم** | **(الجانب العملي)** | **ghofran.e.jaleel@nahrainuniv.edu.iq :Email** |
| **Name: م.بايولوجي شهد سلمان** | **(الجانب العملي)** | **SHAHAD.SALMAN@nahrainuniv.edu.iq :Email** |


8. Course Objectives

- To provide students with knowledge about pathogenesis, morphology
- Laboratory diagnosis, identification, pathology, clinical features of medically important parasites
- Viral diseases and the basic concepts of immunity procedures against these diseases

9. Teaching and Learning Strategies

| | |
|---|---|
| **Strategy** | 1- Theoretical lectures<br>2- Practical laboratory skills<br>3- Whiteboard<br>4- Interactive electronic whiteboard<br>5- Seminars (questions and discussion)<br>6- Homework |

10. Course Structure **(Hours : theory 3 + lab. 2)**

| Week | Hours | Unit or subject name | **Required Learning Outcomes** | **Learning method** | **Evaluation method** |
|---|---|---|---|---|---|
| 1 | 5 | -Introduction of Parasitology& classification<br>- Introduction to immunology | - To understand the general concepts of Parasitology& determine the main characterization for parasite classification<br>- To learn immunity and the major parts of the immune system | 1- Lectures ( questions and discussion )<br>2- Interactive electronic board<br>3- Class effectiveness | Theory Exam<br>Lab. Exam<br>Quiz<br>Class effectiveness |
| 2 | 5 | -Protozoa pathogenic & commensal Amoeba<br>- Innate and adaptive immune response | - To compare between *E.coli*, *E.histolytica*<br>- To realize the body defense lines and biological barriers to infections | = | = |
| 3 | 5 | -Intestinal & reproductive flagellates<br>- Antigens | - Giardia, Balantidium ,Trichomonas<br>- To describe the term antigen, classification of antigens, antigen determinant (epitope), and its forms | = | = |
| 4 | 5 | - *Haemoflagellates: Leshmania spp.; Trypanosome spp. Coccidia*<br>- Antibodies | - Haemoflagellates Toxoplasmodium<br>- To explain the structure, functions and biological properties of individual antibody classes | = | = |
| 5 | 5 | -Helminthes: Classification, platyhelminthus Trematodes Flukes: Hepatic flukes, Blood flukes (*Schistosoma spp*).<br>- Major histocompatibility complex (MHC) | -To realize the general characterization and classification of helminthes, the main classes, pathogenicity ,life cycle ,transmission ,diagnosis, and trearment<br>- To describe the classification, structure, and function of MHC groups I, II, and III, and understand the gene structure of MHC | = | = |
| 6 | 5 | -Cestodes Tap worms: *Taenia spp.*, *Echinococcus* (Hydatid cyst).Nematods*: Ascaris*, *Entrobius*<br>-Cytokines | - To realize pathogenicity ,life cycle ,transmission ,diagnosis, and treatment<br>-To explain the types and function of immunoregulatory cytokines | = | = |

| | | | | | |
|---|---|---|---|---|---|
| 7 | | | Mid-Term Exam | | |
| 8 | 5 | - Virology: Introduction, and general characters<br>- Complement | - To realize the general concepts of Virology<br>- To describe the classical, lectin, and alternative complement activation pathway | = | = |
| 9 | 5 | - Reproduction and isolation methods for viruses<br>-Hypersensitivity | - To understand the mechanisms of viral Replication<br>- To define the term immunologic hypersensitivity, to name the classification of immunologic hypersensitivity, and to describe their main characteristics | = | = |
| 10 | 5 | -Anti-viral therapy and gene interaction<br>-Tumor immunology | - To realize types of antiviral compounds<br>- To describe tumor antigens, their subtypes, properties, and methods for demonstrating tumor antigens and human tumor antigens | = | = |
| 11 | 5 | -Classification of viruses<br>-Autoimmune diseases and tolerance | - To realize viral characterization used for classification<br>- To describe autoimmune diseases and their classification, genetic factors of autoimmunity, the influence of gender, age, infections, and immunologic disorders on the occurrence of autoimmunity | = | = |
| 12 | 5 | - DNA viruses | -To understand the pathogenicity, diagnosis, transmission, and treatment of Herpes, adeno, pox, papoviride | = | = |
| 13 | 5 | -RNA viruses | - To understand the pathogenicity, diagnosis , transmission, and treatment myxoviridae, Rhabdo, picorna, and Reoviridae | = | = |

| | | | | | |
|---|---|---|---|---|---|
| 14 | 5 | -Chemotherapy for viruses | The concept of chemotherapy for viruses | = | = |
| | | | Final Exam | | |

## 11.Course Evaluation

Annual pursuit degree 40%, theoretical exam 20% + practical exam 20%
*(20% mid-course exam + daily exams)
The final exam degree is 60% theoretical only
Final degree 100%

## 12.Learning and Teaching Resources

| | |
|---|---|
| Required textbooks (curricular books any) | Medical Microbiology. Jawetz, Melinck &Adebnrgs. 24th edition. a LANGE medical book. |
| Main references (sources) | Animal Agents and Vectors of Human Disease. 5th.Ed. P.C. Beaver.<br>Immunology 7th.Ed. Kuby. |
| Recommended books and references (scientific journals, reports…) | Animal Agents and Vectors of Human Disease. 5th.Ed. P.C. Beaver.<br>Immunology 7th.Ed. Kuby.<br>-Manual for Practical Lab. Adopted by the Department |
| Electronic References, Websites | Scientific Movies |

# Course Description Form

1. Course Name: Biochemistry I

2. Course Code:

3. Semester / Year: First Semester/Third Year

4. Description Preparation Date: 2026

5. Available Attendance Forms: Third Year

6. Number of Credit Hours (3 theory 2 Lab.) / Number of Units (4)

7. Course administrator's name (mention all, if more than one name)


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8. Course Objectives

- Learn the concept of biochemical materials (protein, peptide, amino acid )
- Learn the concept of carbohydrate, lipid, neucleic acid and DNA .
- Learn the concept of enzymes and enzyme kinetics.
- Learn the concept of hormone and signal transduction
- Learn the concept of vitamins.
- Learn the concept of intracellular and extracellular membranes

9. Teaching and Learning Strategies

**Strategy**

A. Teacher- center approach :

1. Direct instruction (lecture style):explain knowledge or skill by transferring information.
2. Demonstration: show knowledge and activity by power point, video,,
3. Debriefing by conversational method
4. Facilitator (active learning): promote self-learning,extended thinking.

B. Student-center approach :involve inquiry based learning and cooperative learning.

1. Delegator (group style):develop knowledge and skill through experience ,lab.activity, peer feedback activity, research activity

| | |
|---|---|
| | C. Assessment methods: Formative assessment, summative assessment, Quizzes,exam. |

10. Course Structure **(Hours : theory 3 + lab. 2)**

| Week | Hours | Unit or subject name | **Required Learning Outcomes** | **Learning method** | **Evaluation method** |
|---|---|---|---|---|---|
| 1 | 5 | Introduction | Structures of A.A (table of standard A.A abbreviation and side chain); Classification, properties, isomerism. | -Power Point Presentation,-Tutorials (Pen and White-board), Problem Solving, Practicalities | -Formative assessment, -summative assessment, -Quizzes, - Exam |
| 2 | 5 | Amino acids | : Chemical reactions, Zwitter ions, titration curve calculating Iso electric point values. Examples and questions. Non standards A.A: Structures, existence and clinical value. | = | = |
| 3 | 5 | Peptides | Peptide bond,resonance forms, isomers, physical properties and chemical reactions. Essential poly peptides in human body, structures, roles and clinical values. | = | = |
| 4 | 5 | Proteins | Structure andconformations of proteins, Primary structure, Secondary structure (**a** helix, **p** sheet), tertiary structure, quaternary structure. Classification, synthesis , cellular functions (Enzymes, cell signaling, & ligand transport, structural proteins),protein in nutrition | | |
| 5 | 5 | Denaturation of proteins and protein sequencing | : Determining A.A composition, N- terminal A.A analysis, C- terminal A.A analysis, Edman degradation, prediction protein sequence from DNA/ RNA sequences. Methods of protein study: | = | = |

| | | | | | |
|---|---|---|---|---|---|
| | | | Protein purification, cellular localization, proteomics and bioinformatics, structure predication and simulation. | | |
| 6 | 5 | Carbohydrates | : Chemistry and classification, biomedical importance, classification of CHO, Stereochemistry of monosaccharides, CHO; Physiologically important mono-saccharides, glycosides, disaccharides , polysaccharides. | = | = |
| 7 | | Lipids | Introduction, classification of lipids, fatty acids (F.A), nomenclature of F.A, saturated F.A, unsaturated F.A, physical and physiological properties of F.A , Phospholipids, lipid peroxidation and antioxidants, separation and identification of lipids, amphipathic lipids. | = | = |
| 8,9 | 5 | | Midterm exam | = | = |
| 10 | 5 | Enzymes | Structures and mechanism, nomenclature, classification, mechanisms of catalysis, thermodynamics, specificity, lock and key model, induced fit model, transition state stabilization, dynamics and function, allosteric modulation. Biological function, cofactors, coenzymes. | = | = |
| 11 | 5 | Enzyme-Kinetics | : General principles, factors effecting enzyme rates (substrate conc., pH, temperature, etc), single-substrate reaction (Michaelis-Menten kinetics), kinetic constants. Enzyme inhibition | = | = |
| 12 | 5 | Nucleic Acid | : Chemical structure, nucleic acid components, | = | = |

| | | | | | |
|---|---|---|---|---|---|
| | | | nucleic acid bases, nucleotides and deoxynucleotides (Properties, base pairing, sense and antisense, super-coiling, alternative structures, quadruple structures. Genes and genomes, transcription and translation, replication. | | |
| 13 | 5 | Biochemistry of the endocrine system | Classification of hormones, biomedical importance, the target cell concept and hormone receptors, biochemistry of hormone signal transduction. | = | = |
| 14 | 5 | Vitamins and Minerals | Water soluble vitamins, lipid soluble vitamins | = | = |
| 15 | 5 | Biochemistry of extracellular and intra-cellular communication | Plasma membrane structure and function; Biomedical importance, membrane proteins associated with lipid bilayer, membranes protein composition, dynamic structures of membranes, a symmetric structures of membranes. | = | = |
| | | | Final Exam | | |

## 11.Course Evaluation

| Theory | | Practical | | Total |
|---|---|---|---|---|
| Quizzes | 5 % | Quizzes and Reports | 10 % | |
| Mid term Exam | 15 % | Final Exam | 10 % | |
| Total | 20 % | Total | 20 % | 40% |
| Final Exam | 60 % | | | 100 % |

## 12.Learning and Teaching Resources

| | |
|---|---|
| Required textbooks (curricular books any) | -Harper's Illustrated Biochemistry |
| Main references (sources) | -Medical biochemistry by Kaplan |
| Recommended books and references (scientific journals, reports…) | -Biochemistry (Lippincott illustrated Reviews)<br>-Manual for Practical Lab. Adopted by the Department |

| | |
|---|---|
| Electronic References, Websites | Scientific Movies |

# Course Description Form

| |
|---|
| 1. Course Name: Pathophysiology |
| |
| 2. Course Code: |
| |
| 3. Semester / Year: First Semester/Third Year |
| |
| 4. Description Preparation Date: 2026 |
| |
| 5. Available Attendance Forms: Third Year |
| |
| 6. Number of Credit Hours (3 theory 2 Lab.) / Number of Units (4) |
| |
| 7. Course administrator's name (mention all, if more than one name) |
| **Name: م.د. قيس عامرعبدالامير (الجانب النظري والعملي) Email:qaisaloqaily@nahrainuniv.edu.iq**<br>**Name: م.م روان حازم عبدالحسين (الجانب العملي) Email:rawan.hazim@nahrainuniv.edu.iq**<br>**Name: م.م لمى وعد عبداللطيف (الجانب العملي) Email :Luma.waad@nahrainuniv.edu.iq** |
| 8. Course Objectives |
| ▶ Describe the basic concepts of pathophysiology at the cellular level related to injury<br>▶ The self-defense mechanism, mutation, and cellular proliferation<br>▶ Outline basic pathological factors that influence the disease process<br>▶ Describe the impact and abnormal functions upon the organ associated with the disease process of targeted body systems<br>▶ Describe clinical manifestations associated with the diseased organ |
| 9. Teaching and Learning Strategies |

| | |
|---|---|
| **Strategy** | 1- Theoretical lectures<br>2- Practical laboratory skills Presentation of sample slides for examination and diagnosis under an optical microscope<br>3- Whiteboard<br>4- Interactive electronic whiteboard<br>5- Seminars (questions and discussion)<br>6- Homework |

| | |
|---|---|

10. Course Structure **(Hours : theory 3 + lab. 2)**

| Week | Hours | Unit or subject name | Required Learning Outcomes | Learning method | Evaluation method |
|---|---|---|---|---|---|
| 1 | 5 | Introduction | Introduction of Pathophysiology | 1- Lectures ( questions and discussion )<br>2- Interactive electronic board<br>3- Class effectiveness | Theory Exam<br>Lab. Exam<br>Quiz<br>Class effectiveness |
| 2 | 5 | Cell injury and tissue response | Degeneration; Inflammation; Atrophy; Hypertrophy; Metaplasia; Calcification; Inflammation ; Repair and Necrosis | = | = |
| 3 | 5 | Disorders of electrolytes and water and acid–base balances | Disorders of electrolytes and water and acid–base balances | = | = |
| 4 | 5 | Disorders of cardiovascular system | Congestion; Coagulation . Embolism and infarction. shock; Cardiovascular disease, heart attacks, and rheumatic heart disease. heart failure; Acute pulmonary edema | = | = |
| 5 | 5 | Disorders of cardiovascular system | Hypertension . Secondary hypertension. Malignant hypertension. Reduction of Blood pressure . Aneurysms versus varicose veins | = | = |
| 6 | 5 | Disorders of respiratory system | Lung infections. tuberculosis; Distress syndrome. Bronchial asthma. Emphysema and bronchitis. cystic fibrosis; Pulmonary embolism. Pulmonary hypertension. | = | = |
| 7 | | | Mid-Term Exam | | |

| | | | | | |
|---|---|---|---|---|---|
| 8 | 5 | Disorders of the renal system | nephrotic syndrome; Glomerulonephritis. Diabetic glomeruli. Glomerular disease, high blood pressure. For pyelonephritis...acute kidney failure; Chronic kidney failure | = | = |
| 9 | 5 | Disorders of GI and hepatobiliary systems | Stomach ulcers, Ellison's disease, and Crohn's disease Diarrhea; Celiac disease. Hepatitis; Primary biliary cirrhosis; Liver failure. Cholelithiasis | = | = |
| 10 | 5 | Disorders of thyroid function | Increase and decrease of thyroid hormone, Crave's disease | = | = |
| 11 | 5 | Disorders of adrenal function | Kashnak fell ill. Adrenal insufficiency. Adrenal gland dysplasia | = | = |
| 12 | 5 | Metabolic syndrome | Diabetes mellitus and metabolic syndrome; Dyslipoproteinemia | = | = |
| 13 | 5 | Neoplasia | Neoplasia | = | = |
| 14 | 5 | Metabolic and rheumatic disorders of skeletal system | Metabolic and rheumatic disorders of skeletal system | = | = |
| 15 | 5 | Alteration in immune response | Alteration in immune response | = | = |
| | | | Final Exam | | |

## 11.Course Evaluation

Annual pursuit degree 40%, theoretical exam 20% + practical exam 20%
*(20% mid-course exam + daily exams)
The final exam degree is 60% theoretical only
Final degree 100%

## 12.Learning and Teaching Resources

| | |
|---|---|
| Required textbooks (curricular boo if any) | Essentials in Pathophysiology by: Carol Mattson Por Latest Edition. |
| Main references (sources) | Essentials in Pathophysiology by: Carol Mattson Port |

| | |
|---|---|
| | Latest Edition. |
| Recommended books and references (scientific journals, reports…) | Essentials in Pathophysiology by: Carol Mattson Port Latest Edition.<br>-Manual for Practical Lab. Adopted by the Department |
| Electronic References, Websites | Scientific Movies |

# Course Description Form

| |
|---|
| 1. Course Name: Biochemistry II |
| |
| 2. Course Code: |
| |
| 3. Semester / Year: Second Semester/Third Year |
| |
| 4. Description Preparation Date: 2026 |
| |
| 5. Available Attendance Forms: Third Year |
| |
| 6. Number of Credit Hours (3 theory 2 Lab.) / Number of Units (4) |
| |
| 7. Course administrator's name (mention all, if more than one name) |
| **Name:** أ.د. فريال هاشم رضا **(Theory)** **:Email** dr.feryal.hashim@nahrainuniv.edu.iq<br>**Name:** أ.م.د. امال اسماعيل ابراهيم **(Theory and Lab.) : Email** dr.ammal.obaidi@nahrainuniv.edu.iq<br>**Name:** م.د غفران محمد مجيد **(Theory and Lab.) : Email** dr.ghufran.mohammed@nahrainuniv.edu.iq<br>**Name:** م.د سمر ثامر حميد **(Lab.) : Email** samar.thamer@nahrainuniv.edu.iq<br>**Name:** م.م ونام فاضل **(Lab.) :Email** dr.weaam.fadhil@nahrainuniv.edu.iq<br>**Name:** م.م نور جميل عباس **(Lab.) : Email** Noor.Jamil@nahrainuniv.edu.iq<br>**Name:** م.م أيلاف عباس حسين **(Lab.) : Email** Elaf.Abbas@nahrainuniv.edu.iq<br>**Name:** م.م حنين أحمد محمد **(Lab.) : Email** haneen.ahmed@nahrainuniv.edu.iq<br>**Name:** م. تقنيات أحيائية غفران أبراهيم جليل **(Lab.) : Email** ghofran.e.jaleel@nahrainuniv.edu.iq |
| 8. Course Objectives |
| ▶ Understand the idea of Bioenergetics: The Role of ATP, The Respiratory Chain and Oxidative Phosphorylation<br>▶ Understand the idea of carbohydrates biosynthesis and metabolism<br>▶ Understand the idea of lipid biosynthesis and metabolism .<br>▶ Understand the idea of protein biosynthesis and metabolism .<br>▶ Understand the idea of Porphyrins and Bile pigments. |
| 9. Teaching and Learning Strategies |

| | |
|---|---|
| **Strategy** | A. Teacher- center approach:<br>1. Direct instruction (lecture style):explain knowledge or skill by transferring information.<br>2. Demonstration: show knowledge and activity by power point, video ,,<br>3. Debriefing by conversational method<br>4. Facilitator (active learning): promote self-learning,extended thinking. |

| | |
|---|---|
| | B. Student-center approach :involve inquiry based learning and cooperative learning.<br>1. Delegator (group style):develop knowledge and skill through experience ,lab.activity, peer feedback activity, research activity<br>C. Assessment methods: Formative assessment, summative assessment, Quizzes,exam. |

10. Course Structure **(Hours : theory 3 + lab. 2)**

| Week | Hours | Unit or subject name | Required Learning Outcomes | Learning method | Evaluation method |
|---|---|---|---|---|---|
| 1 | 5 | Bioenergetics: The Role of ATP | Biomedical importance, Free energy, Coupling of endergonic and exergonic reactions, The role of ATP, Adenylyle kinase interconvertes adenine nucleotides | -Power Point Presentation,<br>-Tutorials (Pen and White-board),<br>- Problem Solving,<br>- Practicalities | -Formative assessment,<br>-summative assessment,<br>-Quizzes,<br>-Exam |
| 2 | 5 | The Respiratory Chain and Oxidative Phosphorylation | Respiratory Chain Complexes, The Chemiosmotic Theory, ATP Synthase, Amount of energy produced via oxidative phosphorylation vs. substrate level phosphorylation, Inhibitors of The Respiratory Chain, Respiratory Chain Control and the Action of Uncouplers, Transfer of reducing equivalents through the inner mitochondrial membrane. | = | = |
| 3 | 5 | Overview of Metabolism and the Provision of Metabolic Fuels | Introduction, Levels of organization of metabolic pathways, Regulation of the Flux of Metabolites through Metabolic Pathways, Clinical Aspects. | = | = |
| 4 | 5 | The Citric Acid Cycle | Reactions of the Citric Acid Cycle, Energetics of the Citric Acid Cycle, Roles of the B vitamins in the Citric Acid Cycle, Anaplerotic reactions, Regulation of the TCA. | = | = |
| 5 | 5 | -Glycolysis and the Oxidation of Pyruvate | Reactions of the Glycolysis, The Fates of Pyruvate, | = | = |

| | | | | | |
|---|---|---|---|---|---|
| | | -Metabolism of Glycogen | Glycolysis and Pyruvate dehydrogenase Regulation, Clinical Aspects. Biomedical importance, Glycogenesis, Glycogenolysis, The regulation of glycogenesis and glycogenolysis | | |
| 6 | 5 | -Gluconeogenesis and the Control of Blood Glucose<br>- The Pentose Phosphate Pathway and Other Pathways of Hexose Metabolism | Biomedical importance, Gluconeogenesis reactions, Regulation of gluconeogenesis, Cori cycle.Biomedical importance, PPP reactions, Uronic acid pathway, Fructose metabolism, Galactose metabolism, | = | = |
| 7 | 5 | Biosynthesis of Fatty Acids and Eicosanoids | Biomedical importance, Lipogenesis reactions The source of acetyl-coA and NADPH, Elongation of fatty acids, Regulation of lipogenesis, Biosynthesis of unsaturated fatty acids | = | = |
| 8,9 | | | Midterm Exam | | |
| 10 | 5 | Oxidation of Fatty Acids: Ketogenesi | Biomedical importance, Carnitine cycle,Reactions of fatty acid oxidation, Energy production from fatty acid oxidation, Oxidation of unsaturated fatty acids,Ketogenesis ,The regulation of ketogenesis | = | = |
| 11 | 5 | Metabolism of Acylglycerols and Sphingo lipids | Biomedical importance ,Biosynthesis of acylglycerols, Biosynthesis of alkylglycerols, Degradation of acylglycerols, Biosynthesis of sphingolipigs, Biosynthesis of glycolipids | = | = |
| 12 | 5 | -Lipid Transport and Storage<br><br>-Overview of Proteins and Amino Acids Metaolism | Biomedical importance, Structure of lipoproteins ,Metabolism of lipoproteins.Storage and hydrolysis of triacylglycerol.Amino acids pool and its sources,Pathways of | = | = |

| | | | | | |
|---|---|---|---|---|---|
| | | | proteins degradation ,Rate of protein degradation. | | |
| 13 | 5 | -Biosynthesis of the Nutritionally Nonessential Amino Acids<br>-Catabolism of Proteins and of Amino Acid Nitrogen | Tansamination,Assimilation of free ammonia, Modification of the carbon skeletons of existing amino acids synthesis of hydroxyproline, hydroxylysine, and selenocysteine. Introduction,Deamination,Urea cycle reactions, regulation, and disposal of urea,Metabolic Disorders of Urea Cycle. | = | = |
| 14 | 5 | Catabolism of the Carbon Skeletons of Amino Acids | Specific keto acid products of deaminated amino acids ,One-carbon units metabolism<br>Metabolic diseases of dmino acids catabolism , Conversion of Amino Acids to Specialized Products. | = | = |
| 15 | 5 | Porphyrins and Bile pigments | . Introduction,Biosynthesis of Heme: reactions, regulation, and disordes Catabolism of Heme | = | = |
| | | | Final Exam | | |

## 11.Course Evaluation

| Theory | | Practical | | Total |
|---|---|---|---|---|
| Quizzes | 5 % | Quizzes and Reports | 10 % | |
| Mid term Exam | 15 % | Final Exam | 10 % | |
| Total | 20 % | Total | 20 % | 40% |
| Final Exam | 60 % | | | 100 % |

## 12.Learning and Teaching Resources

| | |
|---|---|
| Required textbooks (curricular books any) | -Harper's Illustrated Biochemistry |
| Main references (sources) | -Medical biochemistry by Kaplan |
| Recommended books and references (scientific journals, | -Biochemistry (Lippincott illustrated Reviews)<br>-Manual for Practical Lab. Adopted by the Department |

| | |
|---|---|
| reports…) | |
| Electronic References, Websites | Scientific Movies |

# Course Description Form

| |
|---|
| 1. Course Name: Public Health |
| |
| 2. Course Code: |
| |
| 3. Semester / Year: First Semester/Fourth Year |
| |
| 4. Description Preparation Date: 2026 |
| |
| 5. Available Attendance Forms: Fourth Year |
| |
| 6. Number of Credit Hours (2 theory) / Number of Units (2) |
| |
| 7. Course administrator's name (mention all, if more than one name) |
| **Name:** أ.م.د. شيماء حسين حمودي **Email :** shaymaah.alrajhi@nahrainuniv.edu.iq |
| **Name:** م.د. نور عادل عبود **Email :** noor.adil@nahrainuniv.edu.iq |
| **Name:** م.د. عائشة مثنى (فرع الصيدلة السريرية) **Email :** aisha.muthana@nahrainuniv.edu.iq |
| 8. Course Objectives |
| ▸ To help students understand the principles of public health<br>▸ Preventing disease<br>▸ promoting health and prolonging life through organized efforts made by the society |
| 9. Teaching and Learning Strategies |

| | |
|---|---|
| **Strategy** | 1- Theoretical lectures<br>2- Practical laboratory skills<br>3- Whiteboard<br>4- Interactive electronic whiteboard<br>5- Seminars (questions and discussion)<br>6- Homework |

| 10. Course Structure **(Hours : theory 2)** | | | | | |
|---|---|---|---|---|---|
| Week | Hours | Unit or subject name | **Required Learning Outcomes** | **Learning method** | **Evaluation method** |
| 1 | 2 | -Concepts and principles of public health and preventive medicine.<br>-Public health and statistics | -Concepts and principles of public health and preventive medicine.<br>-Public health and statistics | 1- Lectures ( questions and discussion )<br>2- Interactive electronic board<br>3- Class effectiveness | Theory Exam<br>Lab. Exam<br>Quiz<br>Class effectiveness |
| 2 | 2 | -Epidemiology<br>-Communicable diseases | -Epidemiology<br>-Communicable diseases | = | = |
| 3 | 2 | -Infections through skin and mucous membranes.<br>-Infections through the respiratory tract | -Infections through skin and mucous membranes.<br>-Infections through the respiratory tract | = | = |
| 4 | 2 | Arthropod-borne infections | Arthropod-borne infections | = | = |
| 5 | 2 | Non-communicable disease: Health in transition | Non-communicable disease: Health in transition | = | = |
| 6 | 2 | -Nutritional disorders<br>-Family health | -Nutritional disorders<br>-Family health | = | = |
| 7 | | | Mid-Term Exam | | |
| 8 | 2 | -Environmental health.<br>-Innate and acquired Immunity; Immunization | -Environmental health.<br>-Innate and acquired Immunity; Immunization | = | = |
| 9 | 2 | Introduction: historic background of pharmacy practice | Introduction: historic background of pharmacy practice | = | = |
| 10 | 2 | - Pharmacy practice and health care system I<br>- Pharmacy practice and health care system II | - Pharmacy practice and health care system I<br>- Pharmacy practice and health care system II | = | = |
| 11 | 2 | -Health promotion in community pharmacy<br>-Introduction to pharmaceutical care | -Health promotion in community pharmacy<br>-Introduction to pharmaceutical care | = | = |
| 12 | 2 | -Pharmaceutical care planning I<br>-Pharmaceutical care planning II | -Pharmaceutical care planning I<br>-Pharmaceutical care planning II | = | = |

| | | | | | |
|---|---|---|---|---|---|
| | | | | | |
| 13 | 2 | -Community pharmacy management<br>-Hospital pharmacy service | -Community pharmacy management<br>-Hospital pharmacy service | = | = |
| 14 | 2 | -Bio-safety in pharmacy practice I<br>-Bio-safety in pharmacy practice II | -Bio-safety in pharmacy practice I<br>-Bio-safety in pharmacy practice II | = | = |
| 15 | 2 | -Formulary management and regulatory affairs I<br>-Formulary management and regulatory affairs II | -Formulary management and regulatory affairs I<br>-Formulary management and regulatory affairs II | = | = |
| 16 | 2 | Rational use of drugs I and II | Rational use of drugs I and II | = | = |
| | | | Final Exam | | |

## 11.Course Evaluation

Annual pursuit degree 30%, theoretical exam
*(30% mid-course exam + daily exams)
The final exam degree is 70% theoretical only
Final degree 100%

## 12.Learning and Teaching Resources

| | |
|---|---|
| Required textbooks (curricular books any) | Lucas AO, Gilles HM, (Eds), Short Textbook of Public Health Medicine for the Tropic, Latest Edition. |
| Main references (sources) | Lucas AO, Gilles HM, (Eds), Short Textbook of Public Health Medicine for the Tropic, Latest Edition. |
| Recommended books and references (scientific journals, reports…) | Lucas AO, Gilles HM, (Eds), Short Textbook of Public Health Medicine for the Tropic, Latest Edition. |
| Electronic References, Websites | Scientific Movies |

# Course Description Form

1. Course Name: Clinical Chemistry

2. Course Code:

3. Semester / Year: First Semester/Fifth Year

4. Description Preparation Date: 2026

5. Available Attendance Forms: Fifth Year

6. Number of Credit Hours (3 theory 2 Lab.) / Number of Units (4)

7. Course administrator's name (mention all, if more than one name)


**Name:** أ.د. فريال هاشم رضا **(Theory)** **Email:** dr.feryal.hashim@nahrainuniv.edu.iq

**Name:** أ.م.د. امال اسماعيل ابراهيم **(Lab.)** **Email:** dr.ammal.obaidi@nahrainuniv.edu.iq

**Name:** م.دغفران محمد **(Lab)** **Email:** dr.ghufran.mohammed@nahrainuniv.edu.iq

**Name:** م.م وئام فاضل **(Lab)** **Email:** dr.weaam.fadhil@nahrainuniv.edu.iq

**Name:** م.م نور جميل عباس **(Lab.)** **Email:** Noor.Jamil@nahrainuniv.edu.iq

**Name:** م.م أيلاف عباس حسين **(Lab.)** **Email:** Elaf.Abbas@nahrainuniv.edu.iq

**Name:** م.م حنين أحمد محمد **(Lab.)** **Email:** haneen.ahmed@nahrainuniv.edu.iq

**Name:** م. تقنيات أحيائية غفران أبراهيم جليل **(Lab.)** **Email:** ghofran.e.jaleel@nahrainuniv.edu.iq


8. Course Objectives

- Discern the concept of Carbohydrates metabolism disorders, lipid metabolism. calcium metabolism
- Discern the concept of Pituitary Gland Disorders, Thyroid gland Disorders, Adrenal gland disorders
- Discern the concept of Diagnostic enzymology , Liver Function Tests.
- Discern the concept of Kidney Function Tests, Acid- Base Disorders
- Discern the concept of Reproductive system disorders, biochemical assessment during pregnancy.
- Discern the concept of Drug interaction with laboratory Tests.

9. Teaching and Learning Strategies

| | |
|---|---|
| **Strategy** | A. Teacher- center approach :<br>1. Direct instruction (lecture style):explain knowledge or skill by transferring informatio<br>2. Demonstration: show knowledge and activity by power point, video,,<br>3.Debriefing by conversational method |

| | |
|---|---|
| | 4.Facilitator (active learning): promote self-learning, extended thinking.<br>B. Student-center approach :involve inquiry based learning and cooperative learning.<br>1.Delegator (group style):develop knowledge and skill through experience ,lab. activity, peer feedback activity, research activity<br>C. Assessment methods: Formative assessment, summative assessment, Quizzes, exam. |

10. Course Structure **(Hours : theory 3 + lab. 2)**

| Week | Hours | Unit or subject name | **Required Learning Outcomes** | **Learning method** | **Evaluation method** |
|---|---|---|---|---|---|
| 1 | 5 | Disorders of Carbohydrates metabolism | , Hyperglycemia & Diabetes mellitus, Glycosylated Hemoglobin, Ketones, Ketones, Hypoglycemia. | -Power Point Presentation,<br>-Tutorials (Pen and Whiteboard),<br>-Problem Solving,<br>-Practicalities | -Formative assessment,<br>-summative assessment,<br>-Quizzes,<br>-Exam |
| 2 | 5 | Disorders of lipid metabolism. | Arteriosclerosis,Dyslipidemias, A-Hyperlipoproteinemias, Hypolipo-proteinemias | = | = |
| 3 | 5 | Disorders of calcium metabolism | Vitamin D, Parathyroid Hormones (PTH), Calcitonin Hormone, Hypercalcaemia, Hypocalcaemia, Metabolic Bone Diseases | = | = |
| 4 | 5 | Pituitary Gland Disorders | hypothalamic hormones, Anterior pituitary hormones, Growth hormone, Prolactin Hormone, hypopituitarism, Posterior Pituitary Horm, | = | = |
| 5 | 5 | Thyroid gland Disorders | Thyroid gland and hormones, ypothyroidism, Hyperthyroidism, | = | = |
| 6 | 5 | Adrenal gland disorders | Adrenal gland hormones, Hypercortisolism, Hyperaldosteronism, Androgen excess, Adrenal insufficiency, Adrenal medulla | = | = |
| 7 | 5 | Diagnostic enzymology | Enzymology, Creatine Kinase, Troponin, Lactate Dehydrogenase, Aspartate Aminotransferase, Alanine minotransferase, Alkaline Phosphatase, Acid Phosphatase, Gamma– | = | = |

| | | | | | |
|---|---|---|---|---|---|
| | | | Glutamyl transferase , Alpha-Amylase, Lipase, Plasma cholinesterase | | |
| 8,9 | | | Mid term exam | | |
| 10 | 5 | Liver Function Tests. | Measurements of serum bilirubin, Jaundice, hyperbilirubinaemias, Liver enzymes, Hepatic Synthetic Function Tests, Metabolic Disordered in liver disease | = | = |
| 11 | 5 | Kidney Function Tests. | Renal Function Tests, Renal tubular function tests, Protein uria, Glomerular Diseases, Urinary Tract Infection, Renal Calculi | = | = |
| 12 | 5 | Acid- Base Disorders | Types of buffer systems, Metabolic acidosis, Respiratory acidosis, Metabolic alkalosis, Respiratory alkalosis, | = | = |
| 13 | 5 | Reproductive system disorders | Male gonadal function , Disorders of male sex hormones, Female gonadal function, Ovarian dysfunction. | = | = |
| 14 | 5 | biochemical assessment during pregnancy. | Pregnancy and Antenatal Screening, Pre-natal diagnosis of fetal abnormalities , Complications in pregnancy | = | = |
| 15 | 5 | Drug interaction with laboratory Tests. | Mechanisms of Drug-Test Interference, Methodological interferences, Pharmacological interferences | = | = |
| | | | Final Exam | | |

## 11.Course Evaluation

| Theory | | Practical | | Total |
|---|---|---|---|---|
| Quizzes | 5 % | Quizzes and Reports | 10 % | |
| Mid term Exam | 15 % | Final Exam | 10 % | |
| Total | 20 % | Total | 20 % | 40% |
| Final Exam | 60 % | | | 100 % |

## 12.Learning and Teaching Resources

| | |
|---|---|
| Required textbooks (curricular books, if any) | -Clinical Chemistry & Metabolic Medicine, Crook |
| Main references (sources) | - Medical biochemistry by Kaplan |
| Recommended books and references | - Clinical Chemistry Principles by Bishop, |

| | |
|---|---|
| (scientific journals, reports…) | |
| Electronic References, Websites | - Practical Clinical biochemistry analysis |
| Electronic References, Websites | -Scientific Movies |

# Course Description Form

1. Course Name: Clinical Laboratory Science

2. Course Code:

3. Semester / Year: Second Semester/Fifth Year

4. Description Preparation Date: 2026

5. Available Attendance Forms: Fifth Year In Hospital Laboratories

6. Number of Credit Hours (4 Lab.) / Number of Units (2)

7. Course administrator's name (mention all, if more than one name)


| | |
|---|---|
| **Name: ا.د. رفل شكيب عبد الوهاب** | **dr.rafal.shakeeb@nahrainuniv.edu.iq: Email** |
| **Name: أ.د. فريال هاشم رضا** | **dr.feryal.hashim@nahrainuniv.edu.iq :Email** |
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| **Name: م.م حنين أحمد محمد** | **haneen.ahmed@nahrainuniv.edu.iq :Email** |


8. Course Objectives

- To provide general information about the biochemical basis of diseases and the principles of laboratory diagnosis
- It supplies specific guidance on the clinical value of chemical investigations, indicating their range of application and limitations as well as relating results of laboratory tests
- process of clinical diagnosis and management as these might be applied to individual patients

9. Teaching and Learning Strategies

| | |
|---|---|
| **Strategy** | A. Student-center approach: involve inquiry based learning and cooperative learning.<br>1. Delegator (group style):develop knowledge and skill through |

| | |
|---|---|
| | experience<br>2.Facilitator (active learning): promote self-learning, extended thinking lab. activity, peer feedback activity, research activity<br>B.Assessment methods: Formative assessment, summative assessment, Quizzes,exam. |

10. Course Structure **(Hours : lab. 4)**

| Week | Hours | Unit or subject name | **Required Learning Outcomes** | **Learning method** | **Evaluation method** |
|---|---|---|---|---|---|
| 1 | 4 | Instrumentation and Analytical Principles | Diagnostic test basics, collecting &transporting specimens, venipuncture, urine specimen, stool specimen. | 1- Tour in Hospital Laboratories<br>2-LaboratoryDiagnosis<br>3- Lectures ( questions and discussion ) | Laboratory training exam in Hospital<br>Quiz<br>Class effectiveness |
| 2 | 4 | Immunological test | C-reactive protein test, Rheumatic factor test, Rosebengal test, Typhoid fever Test (Widal test), Pregnancy Test. Serological tests: VDRL, ASO- Titer, Hepatitis tests. | = | = |
| 3 | 4 | Carbohydrates | Biochemical tests: Fasting blood glucose, Post-prandial glucose, Oral glucose tolerance test. | = | = |
| 4 | 4 | Proteins and Non ProteinNitrogenous Compounds | Blood protein,Blood urea, Blood creatinine, Creatinine clearance, Uric acid. | = | = |
| 5 | 4 | Electrolytes | Calcium, Inorganic phosphate, Serum chloride | = | = |
| 6,7 | 4 | Enzymes And Liver Function Test | Alkaline phosphatase, Acid phosphatase, Alanine amiotransferase, Aspartate aminotransferase, Lactate dehydrogenase, Creatine phosphokinase,bilirubin | = | = |
| 8,9 | | | Mid-Term Exam | | |
| 10 | 4 | Lipid and lipoprotein | Cholesterol, Lipoproteins, triglycerides. | = | = |
| 11,12 | 4 | Hematological Analyses ,Complete Blood Count (CBC) | Hematological tests: RBC count, Hb, PCV, RBC indices, WBC | = | = |

| | | | | | |
|---|---|---|---|---|---|
| | | | count,Platelets count. Blood typing, Coombs test, Bleeding time, ESR. | | |
| 13 | 4 | Urine analysis | General urine examination, urine specimen collection. | = | = |
| 14,15 | 4 | Bacteriology | Microbiological tests: culture and sensitivity tests, Staining methods.Culture media, Enriched culture media for general use.Tests for identification of bacteria, Disk diffusion tests of sensitivity to antibiotics, Choice of drugs for disk test, bacterial disease and their laboratory diagnosis. | = | = |
| | | | Final Exam | | |

## 11.Course Evaluation

| **Practical** | |
|---|---|
| Mid term Exam | 20 % |
| Total 40% | Quizzes 10%<br>Reports /attendance 10% |
| Final Exam | 60 % |
| Total | 100% |

## 12.Learning and Teaching Resources

| | |
|---|---|
| Required textbooks (curricular books any) | Manual for Laboratory Training Adopted by the Department |
| Main references (sources) | Manual for Laboratory Training Adopted by the Department |
| Recommended books and references (scientific journals, reports…) | Manual for Laboratory Training Adopted by the Department |
| Electronic References, Websites | Tour in Hospital Laboratories, Scientific Experiments Training |

# Course Description Form

| | |
|---|---|
| 10. Course Name: Advance Clinical Biochemistry | |
| | |
| 11. Course Code: | |
| | |
| 12. Semester / Year: First Semester/MSC | |
| | |
| 13. Description Preparation Date: 2026 | |
| | |
| 14. Available Attendance Forms: MSC Year | |
| | |
| 15. Number of Credit Hours (2 theory) / Number of Units (2) | |
| | |
| 16. Course administrator's name (mention all, if more than one name) | |
| **Name:** أ.د. فريال هاشم رضا **(Theory)** **:Email** dr.feryal.hashim@nahrainuniv.edu.iq | |
| 17. Course Objectives | |
| ▶ This course will describe metabolism disorders of carbohydrates , lipid, plasma proteins.<br>▶ Describe tests and disorders of Liver, and kidney.<br>▶ Describe the disorders of endocrine system. | |
| 18. Teaching and Learning Strategies | |
| **Strategy** | A. Teacher- center approach :<br>1. Direct instruction (lecture style):explain knowledge or skill by transferring informatio<br>2. Demonstration: show knowledge and activity by power point, video,,<br>3.Debriefing by conversational method<br>4.Facilitator (active learning): promote self-learning, extended thinking.<br>B. Student-center approach :involve inquiry based learning and cooperative learning.<br>1.Delegator (group style):develop knowledge and skill through experience ,lab. activity, peer feedback activity, research activity<br>C. Assessment methods: Formative assessment, summative assessment, Quizzes, exam. |

## 10. Course Structure **(Hours : theory 2)**

| Week | Hours | Unit or subject name | Required Learning Outcomes | Learning method | Evaluation method |
|---|---|---|---|---|---|
| 1 | 1 | Carbohydrates metabolism disorders | describe metabolism disorders of carbohydrates | -Power Point Presentation, -Tutorials (Pen and Whiteboard), -Problem Solving, -Practicalities | -Formative assessment, -summative assessment, -Quizzes, -Exam |
| 2 | 1 | Plasma lipoproteins | describe types of lipoprotein in plasma. | = | = |
| 3 | 1 | Dyslipidemia | describe metabolism disorders of lipid | = | = |
| 4 | 1 | Plasma protein disorder | describe metabolism disorders of protein in plasma | = | = |
| 5 | 2 | Liver function tests | describe disorders of liver function | = | = |
| 6 | 2 | Kidney function tests | describe disorders of kidney function | = | = |
| 7 | 2 | Hypothalamus and Pituitary gland - Thyroid gland | -describe disorders of pituitary glands and hypothalamus function -describe disorders of thyroid glands function | = | = |
| 8 | | | Mid term exam | | |
| 9 | 2 | - Adrenal gland | describe disorders of adrenal glands function | = | = |
| 10 | 2 | - Gonads gland | Describe disorders of gonads function | = | = |
| | | | Final Exam | | |

## 11.Course Evaluation

| | Theory | | Total |
|---|---|---|---|
| | Quizzes | 5 % | |
| | Mid term Exam | 25 % | |
| | Total | 30 % | 30% |
| | Final Exam | 70 % | 100 % |

## 12.Learning and Teaching Resources

| | |
|---|---|
| Required textbooks (curricular books, if any) | - Medical biochemistry by Kaplan<br>- Clinical Chemistry Principles by Bishop, |

| | |
|---|---|
| Main references (sources) | -Clinical Chemistry & Metabolic Medicine, Crook |
| Recommended books and references (scientific journals, reports…) | - Clinical Chemistry Principles by Bishop, |
| Electronic References, Websites | - website |

# Course Description Form

| |
|---|
| 1. Course Name: Biostatics |
| |
| 2. Course Code: |
| |
| 3. Semester / Year: First Semester /MSC |
| |
| 4. Description Preparation Date: 2026 |
| |
| 5. Available Attendance Forms: |
| |
| 6. Number of Credit Hours (2 Theory) / Number of Units (2) |
| |
| 7. Course administrator's name (mention all, if more than one name) |
| Name: ا.م.د قاسم شرهان : Email Qasim.sharhan@alnahrain.univ.edu.iq |
| 8. Course Objectives |

| | |
|---|---|
| **Course Objectives** | • **Providing students with the ability to deal with biostatistical concepts, a emphasizing the knowledge and skills required to perform the duties a responsibilities of a pharmacist efficiently.**<br>• **The course covers basic statistical concepts and the application biostatistics in the medical field.**<br>• **At the end of the course, students will be able to understand the applicati of statistics in the medical field.** |
| 9. Teaching and Learning Strategies | |
| **Strategy** | A. Teacher- center approach :<br>1. Direct instruction (lecture style):explain knowledge or skill by transferring information.<br>2. Demonstration: show knowledge and activity by power point, video,,<br>3.Debriefing by conversational method<br>4.Facilitator (active learning): promote self-learning, extended thinking.<br>B. Student-center approach :involve inquiry based learning and cooperative learning.<br>1.Delegator (group style):develop knowledge and skill through experience ,lab. activity, pe feedback activity, research activity<br>C. Assessment methods: Formative assessment, summative assessment, Quizzes, exam. |

| 10. Course Structure | | | | | |
|---|---|---|---|---|---|
| **Week** | **Hours** | **Required Learning Outcomes** | **Unit or subject name** | **Learning method** | **Evaluation method** |
| 1 | 2 | Understand what SPSS is and recognize its capabilities in data entry, analysis, and visualization | Introduction to SPSS | Theoretical explanation followed by practical application | Practically through asking each student to enter the data in SPSS |
| 2 | 2 | Differentiate between quantitative and categorical data**,** and understand their relevance in statistical analysis. | Analysis of Quantitative Variable | Theoretical explanation followed by practical application | Practically through asking each student to analyze quantitative variables |
| 3 | 2 | Understand the concept and purpose of a t-test as an inferential statistical tool used to compare means and test hypotheses between groups. | Types of t-test | Theoretical explanation followed by practical application | Practically through asking each student to perform t-test |
| 4 | 2 | Understand the concept of One-Way ANOVA **as** a parametric test for comparing means across two or more independent groups. | One way ANOVA | Theoretical explanation followed by practical application | Practically through asking each student to perform ANOVA |
| 5 | 2 | Understand the concept and purpose of non-parametric tests, and know when to use them as alternatives to parametric tests. Identify appropriate situations for using non-parametric tests | Non Parametric tests | Theoretical explanation followed by practical application | Practically through asking each student to perform non-parametric test |
| 6 | 2 | Understand the concept of cross-tabulation (crosstab, contingency table, or two-way table) and its role in describing the relationship between two categorical variables. Interpret table dimensions in | Cross tabulation | Theoretical explanation followed by practical application | Practically through asking each student to perform cross tabulation |

| | | | | | |
|---|---|---|---|---|---|
| | | cross-tabulation using the RxC format | | | |
| 7 | 2 | Understand the concept of correlation as a statistical measure of the relationship between two continuous or ranked variables. Differentiate between Pearson and Spearman correlation | Correlations | Theoretical explanation followed by practical application | Practically through asking each student to perform correlation |
| 8 | 2 | Understand the concept of the ROC curve as a graphical tool used to evaluate the performance of binary classification diagnostic tests. | Receiver operating characteristic curve | Theoretical explanation followed by practical application | Practically through asking each student to perform ROC curve |
| 9 | 2 | Calculation of sensitivity and specificity | Calculation of sensitivity and specificity | Theoretical explanation followed practical application | Practically through asking each student to calculate sensitivity and specificity |

## 11. Course Evaluation

Annual pursuit degree 30%, theoretical exam
*(25% mid-course exam + 5% daily exams)
The final exam degree is 70% theoretical only
Final degree 100%

## 12. Learning and Teaching Resources

| | |
|---|---|
| Required textbooks (curricular books, if any) | 1. Field, Andy P. *Discovering Statistics Usi IBM SPSS Statistics*. 5th ed., North Americ ed., Sage Publications Inc., 2018. |
| Main references (sources) | 1. Field, Andy P. *Discovering Statistics Usi IBM SPSS Statistics*. 5th ed., North Americ ed., Sage Publications Inc., 2018. |
| Recommended books and references (scientific journals, reports…) | 1. Field, Andy P. *Discovering Statistics Usi IBM SPSS Statistics*. 5th ed., North Americ ed., Sage Publications Inc., 2018. |
| Electronic References, Websites | https://www.statisticshowto.com/probabilit and-statistics/spss-tutorial-beginners/ |

# Course Description Form

| |
|---|
| 1. Course Name: New Headway Plus |
| |
| 2. Course Code: |
| |
| 3. Semester / Year: First Semester/ MSC |
| |
| 4. Description Preparation Date: 2026 |
| |
| 5. Available Attendance Forms: MSC Year |
| |
| 6. Number of Credit Hours (1 theory) / Number of Units (Pass) |
| |
| 7. Course administrator's name (mention all, if more than one name) |
| **Name:** أ. علا عبد الغفور محمد صالح **Email:** dr.olaa.abdulghafoor@nahrainuniv.edu.iq |
| 8. Course Objectives |
| ▸ Developing students' linguistic and communication skills through the latest technical means<br>▸ Providing students with comprehensive knowledge of English language, literature, linguistics and translation<br>▸ Encouraging dialogue, understanding and communication between cultures internally and externally for the purpose of providing distinguished graduates to serve society |
| 9. Teaching and Learning Strategies |

| | |
|---|---|
| **Strategy** | 1- Theoretical lectures<br>2- Whiteboard<br>3- Interactive electronic whiteboard<br>4- Seminars (questions and discussion)<br>5- Homework |

| Week | Hours | Unit or subject name | Required Learning Outcomes | Learning method | Evaluation method |
|---|---|---|---|---|---|
| 1 | 1 | • Tenses(Part One)<br>• Newspaper articles | Learn the students English grammar which enables them to write sentence grammatically correct and learn them how to write newspaper articles. | 1- Lectures ( questions and discussion )<br>2- Interactive electronic board | Theory Exam<br>Quiz<br>Class effectiveness |
| 2 | 1 | • Tenses(Part 2)and Future forms<br>• Modern Technology | Learn the student English grammar which enables them to write sentence grammatically correct and get new theoretical knowledge about modern technology This way, practice and theory will building at same time, which is super efficient. | = | = |
| 3 | 1 | • If Conditionals<br>• Conferences and visits | Learn the students English grammar which enables them to write sentence grammatically correct. Besides,they can ***Read the programme for a management conference*** to practise and improve your reading skills. | = | = |
| 4 | 1 | • Relative Clauses<br>• Science and our world | Learn the students English grammar which enables them to write sentence grammatically correct.In addition, ***they learn*** about ***the science*** of ***language***. ***The languages*** we speak may help shape how we see, smell and hear ***the world*** around us. | = | = |

| | | | | | |
|---|---|---|---|---|---|
| 5 | 1 | • Direct and Indirect Speech<br>• People:Past and present(part one) | Learn the students English grammar which enables them to write sentence grammatically correct. Moreove,it is interested in ***how people learned languages in the past***, a time before the internet and the modern tools we have nowadays | = | = |
| 6 | 1 | • Time Clauses<br>• People :Past and Present(Part 2) | Learn the students English grammar which enables them to write sentence grammatically correct.Moreove,it is interested in ***how people learned languages in the past***, a time before the internet and the modern tools we have nowadays. | = | = |
| 7 | 1 | Midterm Exam | | = | = |
| 8 | 1 | • Passive Voice<br>• The World of IT(part one) | Learn the students English grammar which enables them to write sentence grammatically correct | | |
| 9 | 1 | • Modal Verbs<br>• The World of IT(part two) | Learn the students English grammar which enables them to write sentence grammatically correct.Besides, ***the World of IT*** is a reliable source of technology-related news and insights. Our team of experts provides practical advice to help you stay ahead. | = | = |
| 10 | 1 | • Inventions ,discoveries and process(part one) | Learn the students English grammar which enables them to write sentence grammatically correct. Besides, ***the World of IT*** is a reliable source of technology-related news and insights. Our team of experts provides practical advice to help you stay ahead. | = | = |
| 11 | 1 | • Prepositions<br>• Inventions,discoveries and process(part 2) | Learn the students English grammar which enables them to write sentence grammatically correct.Also, students debate the most important ***inventions and*** | = | = |

| | | | | | |
|---|---|---|---|---|---|
| | | | ***discoveries*** in human history. | | |
| 12 | 1 | • Like….as<br>• Phrasal verbs | Learn the students English grammar which enables them to write sentence grammatically correct | = | = |
| 13 | 1 | Travel and tourism | It covers the duties of travel agents and tour operators and describes the tools and strategies they use to succeed in the ***travel and tourism*** ... | = | = |
| 14 | | | Final Exam | | |

| 11.Course Evaluation | |
|---|---|
| Annual pursuit degree 30%, theoretical exam *(25% mid-course exam + 5% daily exams)<br>The final exam degree is 70% theoretical<br>Final degree 100% | |
| **12.Learning and Teaching Resources** | |
| Required textbooks (curricular books, if any) | Headway Academic Skills Reading, Writing and Study Skills |
| Main references (sources) | Headway Academic Skills Reading, Writing and Study Skills |
| Recommended books and references (scientific journals, reports…) | Headway Academic Skills Reading, Writing and Study Skills |
| Electronic References, Websites | Scientific movies |