This course provides deep knowledge of the work, components and uses of the computer in all fields and knowledge of the language of the computer and how it is understood by the user. This rapporteur also works to enable the recipient (student) to understand the proper ways to keep files from being hacked, sabotaged and to work to fix the flaw that comes from intruders, viruses, etc., thereby preserving computer components and storing information correctly.

1- name of the institute	Al-Ayen Iraqi University, College of Health and Medical Technologies
2- Scientific department	Optical technologies department
3- Course name	Introduction to computer
4- Avalaible form of attendance	100%
5- Academic level / semester	First year /semester 1
6- Total number of teaching hours	1 hours theoretical + 2 hours practical = 3 hours * 15 weeks = 45 hours
7- Date of this Syllabus	2024

8- Objectives of this course

Enabling the student to understand the computer language and how to deal with this language in a homogeneous way to translate it into an easy-to-read language.
Recognize the basic components of the computer and how to deal with them in a way that ensures that the user has full access to them.
Work to fully protect the computer from abuses in the electronic world and thus preserve information from internal and external risks.

9- Course's outputs and teaching, learning and evaluation methods

A- Knowledge objectives

1-Understanding the general fundamentals of the computer and knowing its functions and what benefits can be obtained through dealing with the computer.

2- Identification of computer components and working methods.

3- Handling computer information in a literal manner to preserve it from damage and electronic hacks.

B- Decision-specific skills objectives.

1 - The student is able to understand the computer language and translate it into simplified language that can be read smoothly.

2 - Easy handling of data in a simplified manner that enables the student to understand and work on it.

Teaching and Learning Methods

- Lectures
- Video clips

Evaluation modalities

Written tests every week.

1- Daily oral assessment.

2- Quarterly exams.

C. Conscientious and value objectives

C1. Convinced of the importance of the specialization he is studying.

C2. The effort of teachers and professionals to give scientific material is appreciated.

C3. Students' groups participate in group work.

C4. Respects dedication to work and hates fraud

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

D1. Understanding the functioning of chemical reactions.

D2. The possibility of searching for and analysing information logically and producing a scientific compendium.

D3. Ability to gather information on various chemical components and their composition in the human body.

10- Course structure

Evaluation method	Teaching method	Name of unit/or subject	Required learning outputs	Number of teaching hours	Week
Tests and practice	Interactive	Basic Excel Terminology Manipulating Excel Contents	Understand the subject	1 h theory and 2 h practical	1
Tests and practice	Interactive		Understand the subject	1 h theory and 2 h practical	2
Tests and practice	Interactive	Formulas in Excel Managing Excel Workbooks	Understand the subject	1 h theory and 2 h practical l	3
Tests and practice	Interactive		Understand the subject	1 h theory and 2 h practical	4
Tests and practice	Interactive	Working with Charts in Excel Understanding PowerPoint & Presentation	Understand the subject	1 h theory and 2 h practical	5
Tests and practice	Interactive		Understand the subject	1 h theory and 2 h practical	6
Tests and practice	Interactive	Managing Slide Objects in PowerPoint The Internet, Browsers, and the World Wide Web	Understand the subject	1 h theory and 2 h practical	7
Tests and	Interactive		Understand the	1 h	8

practice			subject	theory and 2 h practical	
Tests and practice	Interactive	Digital Communication	Understand the subject	1 h theory and 2 h practical	9
Tests and practice	Interactive	Using Microsoft Outlook	Understand the subject	1 h theory and 2 h practical	10
Tests and practice	Interactive	Digital Citizenship	Understand the subject	1 h theory and 2 h practical	11
Tests and practice	Interactive	Finding Information	Understand the subject	1 h theory and 2 h practical	12
Tests and practice	Interactive	Evaluating Information	Understand the subject	1 h theory and 2 h practical	13
Tests and practice	Interactive	Common Web Site/Page Elements	Understand the subject	1 h theory and 2 h practical	14
Tests and practice	Interactive	Browser Features and Functions	Understand the subject	1 h theory and 2 h practical	15

11- References	
1- Principal books	Principal books
1. "Computer Science Illuminated" by Nell Dale and John Lewis (Latest Edition: 8th Edition, 2021)	Pricncipal references

2. "Introduction to the Theory of Computation" by Micha Sipser (Latest Edition: 3rd Edition, 2012) 2- Pricncipal - Recommended books and references 1. Operating System Concepts" by Abraham Silberschatz, Peter B. Galvin, and Greg Gagne (Latest Edition: 10th Edition, 2018) 2. "Introduction to Algorithms" by Thomas H. Cormen, Charles E. Leiserson, Ronald L. Rivest, and Clifford Stein (Latest Edition: 3rd Edition, 2009) 3. "Computer Networking: A Top-Down Approach" by James F. Kurose and Keith W. Ross (Latest Edition: 7th Edition, 2016) 4- Websites https://www.khanacademy.org/computing/computer-science	Recommended books and references (scientific (...،journals, reports Electronic references, ...websites

12- Curriculum Development Plan
The curriculum development plan is based on my objectives: • Give the prescribed scientific material and observe and analyze the student's results. • Study feedback from students' observations on vocabulary. • Examination of the practical laboratory observations of the Rapporteur. • Compare current vocabulary with corresponding faculty vocabulary in the field

This course provides in-depth knowledge of the basics of chemistry, chemical structures, and identification of biochemistry and the chemical components of the human body.

1- name of the institute	Al-Ayen Iraqi University, College of Health and Medical Technologies
2- Scientific department	Department of Optics Technologies
3- Course name	Chemistry principles
4- Avalaible form of attendance	100 %
5- Academic level / semester	First course – First year
6- Total number of teaching hours	2 theoretical hours + 1 practical hours = 3 hours * 15 weeks = 45 hours
7- Date of this Syllabus	2024
8. Course objectives Providing students with abundant information about the basics of chemistry and chemical structures, and learning about biochemistry and the chemical components of the human body.	

9- Course's outputs and teaching, learning and evaluation methods
A- Cognitive objectives A1- Understands the principles and basics of chemistry and chemical structures. A2- Identify the types of chemical components of the human body. A3- Learn about the principles of biochemistry and the types of biochemical reactions that occur in the human body.
B - The skills objectives of the course. B1 - The student will be able to understand the basics of chemistry and the chemical structures of substances. B2 - Read reports, research and scientific information in an accurate manner and with a deep understanding. B3 - Exchanging scientific expertise and competencies with similar laboratories

in other universities and colleges. B4 - Preparing efficient cadres to meet the needs of educational institutions in general and the health sector in general private.
Teaching and learning methods
• Lectures • Video clips
Evaluation methods
1. Written exams every week. 2. Daily oral evaluation. 3. Semester exams.
C- Emotional and Evalution objectives C1- He is convinced of the importance of the specialty he is studying. C2- The effort of teaching staff and technicians in providing scientific material is appreciated. C3- Groups of students participate in group work. C4- He respects sincerity in work and hates cheating
D - General and qualifying transferable skills (other skills related to employability and personal development). D1- Understanding the operation of chemical reactions. D2- The ability to search for information, analyze it logically, and produce a general scientific conclusion. D3- The ability to collect information about various chemical components and their compositions in the human body.

11. Course structure

Evaluation method	Teaching method	Name of the unit/topic	Required learning outputs	Number of teaching hours	Week
Evaluation method	Teaching method	Biochemistry of the eyes I	Understand the subject	2 h theory and 2 h practical	1
Tests and practice	Interactive	Biochemistry of the eyes II	Understand the subject	2 h theory and 4 h practical	2

Tests and practice	Interactive	Redox reaction (Oxidation-Reduction), Oxidation stress in the eye	Understand the subject	2 h theory and 2 h practical	3
Tests and practice	Interactive	Tear film, Oxygen in the eye, Water in the eye	Understand the subject	2 h theory and 2 h practical	4
Tests and practice	Interactive	Mechanism of the food metabolism related to the eyes vision	Understand the subject	2 h theory and 2 h practical	5
Tests and practice	Interactive	Organic chemistry: alkane, alkene, alkyne	Understand the subject	2 h theory and 2 h practical	6
Tests and practice	Interactive	problems and questions	Understand the subject	2 h theory and 2 h practical	7
Tests and practice	Interactive	**Introduction to Biosafety and Security** • Key components of Biorisk Management • Components of safety in all laboratories • Universal safety precautions	Understand the subject	2 h theory and 2 h practical	8
Tests and practice	Interactive	**Biosafety barriers in laboratories** • Personal protective equipment (PPE) • Facility Design	Understand the subject	2 h theory and 2 h practical	9
Tests and practice	Interactive	**Biosafety level** • Risk Assessment Strategy • Hazard groups, biosafety levels, practices and equipment • Standard practices required in biology laboratories	Understand the subject	2 h theory and 2 h practical	10
Tests and practice	Interactive	**Biological Agents** • Routs of infection • Basis for control Measures • Hazard group classification	Understand the subject	2 h theory and 2 h practical	11

		system • A Biosafety cabinet (BSC)			
Tests and practice	Interactive	**Biorisk and biohazards** • Control of substances hazardous to health • Assessing risk for working with human blood and tissues hazards • Control measures for working with human blood and tissue • Containment level	Understand the subject	2 h theory and 2 h practical	12
Tests and practice	Interactive	**Biorisk management system** • Assess the capability of the laboratory staff to control hazards • Relation of risk groups to biosafety levels, practices of and equipment	Understand the subject	2 h theory and 2 h practical	13
Tests and practice	Interactive	• Mitigation Control Measures • Sustainability of the bio-risk management system • Strengthening biorisk management	Understand the subject	2 h theory and 2 h practical	14
Tests and practice	Interactive	**Types of biological wastes** • Categories of biological wastes • Decontaminatio n of biological wastes	Understand the subject	2 h theory and 2 h practical	15

12. Infrastructure

1- Required prescribed books	Oxtoby, David W., H. Pat Gillis, and Laurie J. Butler. Principles of modern chemistry. Cengage AU, 2016.
2- Main references (sources)	• **Stoker, Howard Stephen, Owen C. Gayley, and Ruth Sherman. Introduction to chemical principles. Upper Saddle River, NJ: Pearson Prentice Hall, 2005.** • Agarwal, G. R., and O. P. Agarwal. Text book of Biochemistry. Krishna Prakashan Media, 2007.
A-Recommended books and references (scientific journals, reports,...)	Elsevier, Sciencedirect, springer
B - Electronic references, Internet sites...	• PubMed (https://pubmed.ncbi.nlm.nih.gov/) • ScienceDirect (https://www.sciencedirect.com/) • Google Scholar (https://scholar.google.com/) • Khan Academy (https://www.khanacademy.org/science) • Coursera (https://www.coursera.org/) • Site of the American National Library of Medicine (https://www.nlm.nih.gov/) ResearchGate (https://www.researchgate.net/

13. Course development plan
The curriculum development plan is based on the following: • Giving the prescribed scientific material and observing and analyzing the students' results • Study feedback from students' comments about vocabulary • Study the practical laboratory notes for the course • Comparing current vocabulary with the vocabulary of corresponding colleges in the field

Human Rights Course" is one of the most important courses covered by many academic programs in various countries around the world. The aim of this course is to provide a deep understanding of the concepts of human rights and the values on which they are based. The course includes the study of international and local documents that protect human rights, in addition to analyzing the issues and challenges facing the implementation of these rights in different societies. The course also focuses on the importance of protecting human rights for all members of society without discrimination, and the role of individuals and institutions in promoting and protecting these rights globally.

1- name of the institute	Al-Ayen Iraqi University, College of Health and Medical Technologies
2- Scientific department	Optical technologies department
3- Course name	Human rights
4- Avalaible form of attendance	100%
5- Academic level / semester	First year /semester 1
6- Total number of teaching hours	2 hour theoretical * 15 weeks = 30 hours
7- Date of this Syllabus	2024

8- Objectives of this course

1- Promoting Human Dignity: Human rights aim to protect the dignity of every individual and ensure their respect and consideration as an independent entity deserving protection and respect.

2- Promoting Equality and Justice: Human rights strive to achieve equality among all individuals without discrimination based on gender, race, religion, color, or social class. They ensure justice in treatment and access to services and opportunities.

3- Protecting Fundamental Freedoms: Human rights aim to ensure the protection of individual freedoms such as freedom of expression, freedom of religion, freedom of thought, and the rights of assembly and association. This is to ensure the development and advancement of individuals without unjustified restrictions.

4- Promoting Peace and Peaceful Coexistence: Human rights aim to create an environment of peace and stability by promoting understanding and peaceful coexistence among individuals and different communities. This is achieved by promoting values of mutual respect and acceptance of others.

9- Course's outputs and teaching, learning and evaluation methods

A- Knowledge objectives

Important Objectives of the Human Rights Course:

1. Understanding the Concepts and Principles of Human Rights: The course aims to introduce students to the fundamental concepts of human rights and the values upon which they are based, such as justice, equality, and human dignity. This is achieved through the study of international and local documents related to human rights.

2. Analyzing Current Challenges and Issues: The course seeks to guide students in understanding the challenges and issues facing the implementation of human rights in their local communities and the world at large. This helps develop their critical thinking skills and their ability to search for effective solutions.

B- Decision-specific skills objectives.

1. Enhancing Awareness and Community Engagement: The course aims to enhance awareness of the importance of human rights and the necessity of working to protect and promote them within society. It encourages students to participate in community activities and initiatives related to human rights.

2. Applying Knowledge in Practical Practice: The course seeks to equip students with the skills and tools necessary to apply their knowledge in practical fields of work, whether in the legal field, social work, or humanitarian work, in order to achieve a positive impact in their communities.

3. Stimulating Critical Thinking and Innovation: The course aims to develop students' abilities in critical thinking and innovation in the field of human rights, through analyzing current issues and proposing creative and innovative solutions to the challenges facing human rights in different societies.

Teaching and Learning Methods

- Lectures
- Video clips

Evaluation modalities

Written tests every week.
1- Daily oral assessment.
2- Quarterly exams.

C. Conscientious and value objectives
C1. Convinced of the importance of the specialization he is studying.
C2. The effort of teachers and professionals to give scientific material is appreciated.
C3. Students' groups participate in group work.
C4. Respects dedication to work and hates fraud

D. General and rehabilitative skills transferred (other skills related to employability and personal development.(
D1. Understanding the functioning of chemical reactions.
D2. The possibility of searching for and analysing information logically and producing a scientific compendium.
D3. Ability to gather information on various chemical components and their composition in the human body.

10- Course structure

Evaluation method	Teaching method	Name of unit/or subject	Required learning outputs	Number of teaching hours	Week
Tests and practice	Interactive	Roots of Human Rights	Understand the subject	2 hours theory	1
Tests and practice	Interactive	Objectives of Human Rights	Understand the subject	2 hours theory	2
Tests and practice	Interactive	Human Rights in Ancient Civilizations	Understand the subject	2 hours theory l	3
Tests and practice	Interactive	Human Rights in Thought and Wealth	Understand the subject	2 hours theory	4
Tests and practice	Interactive	Contemporary Recognition of	Understand the	2 hours	5

		Human Rights	subject	theory	
Tests and practice	Interactive	Regional Recognition of Human Rights	Understand the subject	2 hours theory	6
Tests and practice	Interactive	The Emergence of Non-Governmental Organizations (NGOs) for Human Rights	Understand the subject	2 hours theory	7
Tests and practice	Interactive	Human Rights in International Charters	Understand the subject	2 hours theory	8
Tests and practice	Interactive	Human Rights in National Legislation	Understand the subject	2 hours theory	9
Tests and practice	Interactive	Forms and Generations of Human Rights	Understand the subject	2 hours theory	10
Tests and practice	Interactive	Guarantees of Human Rights	Understand the subject	2 hours theory	11
Tests and practice	Interactive		Understand the subject	2 hours theory	12
Tests and practice	Interactive		Understand the subject	2 hours theory	13
Tests and practice	Interactive		Understand the subject	2 hours theory	14
Tests and practice	Interactive		Understand the subject	2 hours theory	15

11- References

1- Principal books	Principal books
3. "The International Human Rights Movement: A History" by Aryeh Neier (Latest Edition: 2012)	Pricncipal references

4. "The Idea of Human Rights" by Charles R. Beitz (Latest Edition: 2009) 5. "Universal Human Rights in Theory and Practice" by Jack Donnelly (Latest Edition: 2013) 6. United Nations Human Rights Bill 7. United Nations Children's and Mother's Rights Bill 2- Pricncipal - Recommended books and references "Human Rights: A Very Short Introduction" by Andrew Clapham (Latest Edition: 2007) "The Human Rights Revolution: An International History" by Akira Iriye, Petra Goedde, and William I. Hitchcock (Latest Edition: 2012) "The Tyranny of Experts: Economists, Dictators, and the Forgotten Rights of the Poor" by William Easterly (Latest Edition: 2014) 3- Websites https://www.hrw.org/ https://www.ohchr.org/en/ohchr_homepage	Recommended books and references (scientific (...،journals, reports Electronic references, ...websites

12- Curriculum Development Plan
The curriculum development plan is based on my objectives: • Give the prescribed scientific material and observe and analyze the student's results. • Study feedback from students' observations on vocabulary. • Examination of the practical laboratory observations of the Rapporteur. • Compare current vocabulary with corresponding faculty vocabulary in the field

This course provides deep knowledge of the basics of biology, bio-composition of the cell, and knowledge of biochemistry and composition components of the human eye and head.

1- name of the institute	Alayen Iraqi university
2- Scientific department	Optical technologies department
3- Course name	Principales of Biology
4- Avalaible form of attendance	100%
5- Academic level / semester	First year /semester 1
6- Total number of teaching hours	2 hours theoretical + 4 hours practical = 6 hours * 15 weeks = 60 hours
7- Date of this Syllabus	2024

8- Objectives of this course

Defining the concept of biology and the biological kingdom.
Differentiation and understanding of the significance of brocarriott and ecarriott.
Understand the structure and function of cellular devices and identify their components.
Recognize the structure and function of each of the mentioned cellular devices.
Classify tissue and understand its properties.
Classification of tissues based on their different properties.
Understand the structure and properties of DNA.
Recognize the structure and characteristics of RNA.
Understanding the importance of biological waste transport and related international legislation.
Recognize safety and biosafety equipment and its fundamentals.
Understanding the principles of safety and biosafety.
Recognize the components of biohazard management.
Recognize and apply safety components in laboratories.
Apply safety precautions effectively.
Experience simulating biosafety rules by default.
Receive the necessary training in biosafety.

Appreciate understanding of materials and concepts through an evaluation exam.

9- Course's outputs and teaching, learning and evaluation methods

A- Knowledge objectives

A1. Understands the principles and fundamentals of biology and bio composition of the cell.

A2. Recognizes the types of chemical components of the human body.

A3. Recognizes the principles of life chemistry and the types of biological reactions occurring in the human body.

B- Decision-specific skills objectives.

B1 - The student is able to understand the basics of the bio and biological structure of the materials.

B2 - Read reports, research and scientific information in an accurate manner and understand in depth.

B3 - Exchange scientific experiences and competencies with similar laboratories in other universities and colleges.

B 4. Enumeration of competent cadres to meet the needs of educational institutions in general and the health sector in a manner Special.

Teaching and Learning Methods

- Lectures
- Video clips

Evaluation modalities

Written tests every week.

1- Daily oral assessment.

2- Quarterly exams.

C. Conscientious and value objectives

C1. Convinced of the importance of the specialization he is studying.

C2. The effort of teachers and professionals to give scientific material is appreciated.

C3. Students' groups participate in group work.

C4. Respects dedication to work and hates fraud

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

D1 - Understanding the basics of biology as it is the fundamental science in health-related disciplines.

D2 - Ability to research and logically analyze information, and produce a concise scientific summary.

D3 - Capability to gather information about various cells of the eye and their interrelations.

D4 - Reading medical reports concerning matters of the eye and its cells, and explaining them to patients or clients in a simplified manner.

10- Course structure

Evaluation method	Teaching method	Name of unit/or subject	Required learning outputs	Number of teaching hours	Week
Tests and practice	Interactive	Definition of Biology and Biological Kingdom	Understand the subject	2 h theory and 4 h practical	1
Tests and practice	Interactive	Prokaryotes and Eukaryotes	Understand the subject	2 h theory and 4 h practical	2
Tests and practice	Interactive	The Cell: Introduction, Structure, and Function of Organelles	Understand the subject	2 h theory and 4 h practical	3
Tests and practice	Interactive	The Cell: Introduction, Structure, and Function of Organelles (Mitochondria, Free Ribosomes, Rough Endoplasmic Reticulum, Smooth Endoplasmic Reticulum, Golgi Apparatus, Lysosomes (Primary and Secondary Lysosomes), Microtubules, Cilia, Flagella, and Centrioles)	Understand the subject	2 h theory and 4 h practical	4

Tests and practice	Interactive	Tissue (Types and Properties)	Understand the subject	2 h theory and 4 h practical	5
Tests and practice	Interactive	Tissue Classification	Understand the subject	2 h theory and 4 h practical	6
Tests and practice	Interactive	Nucleic Acid, DNA Structure, Properties	Understand the subject	2 h theory and 4 h practical	7
Tests and practice	Interactive	RNA Structure, Properties	Understand the subject	2 h theory and 4 h practical	8
Tests and practice	Interactive	Transportation of Biological Wastes, International Transport Regulations, The Basic Triple Packaging System	Understand the subject	2 h theory and 4 h practical	9
Tests and practice	Interactive	Overview of Biological Safety and Security Equipment	Understand the subject	2 h theory and 4 h practical	10
Tests and practice	Interactive	Introduction to Biosafety and Security 1. Key Components of Biorisk Management 2. Compone	Understand the subject	2 h theory and 4 h practical	11

		nts of Safe ty in All Lab orat ories Universal Safety Precautions			
Tests and practice	Interactive	Biosafety Rules Simulation 3D	Understand the subject	2 h theory and 4 h practical	12
Tests and practice	Interactive	Biosafety Training	Understand the subject	2 h theory and 4 h practical	13
Tests and practice	Interactive	Biosafety Training	Understand the subject	2 h theory and 4 h practical	14
Tests and practice	Interactive	Biosafety Training	Understand the subject	2 h theory and 4 h practical	15

11- References

1- Principal books o "Biology: Concepts and Connections" by Neil A. Campbell and Jane B. Reece o "Cell Biology: A Short Course" by Stephen R. Bolsover, Jeremy S. Hyams, and Elizabeth A. Shephard	Principal books Pricncipal references Recommended books and references (scientific (...،journals, reports

2- Pricncipal references o "Molecular Biology of the Cell" by Bruce Alberts et al. o "Essential Cell Biology" by Bruce Alberts et al. o "Campbell Biology" by Lisa A. Urry et al. 3- Recommended books and references • Nature Reviews Molecular Cell Biology • Cell • Cellular and Molecular Immunology" by Abul K. Abbas et al. • Molecular Genetics of Bacteria" by Larry Snyder and Wendy Champness 4- Websites • PubMed (https://pubmed.ncbi.nlm.nih.gov/) • ScienceDirect (https://www.sciencedirect.com/) • Google Scholar (https://scholar.google.com/) • Khan Academy (https://www.khanacademy.org/science) • Coursera (https://www.coursera.org/) • Site of the American National Library of Medicine (https://www.nlm.nih.gov/) • ResearchGate (https://www.researchgate.net/)	Electronic references, ...websites

12- Curriculum Development Plan

The curriculum development plan is based on my objectives:

- Give the prescribed scientific material and observe and analyze the student's results.
- Study feedback from students' observations on vocabulary.
- Examination of the practical laboratory observations of the Rapporteur.
- Compare current vocabulary with corresponding faculty vocabulary in the field

This course provides knowledge of the basics of general anatomy, the divisions of the human body, and its organs, with a focus on the human head, its components, and extending to the human skeleton and its parts.

1- name of the institute	Alayen Iraqi university
2- Scientific department	Optical technologies department
3- Course name	**Anatomy of the head and neck**
4- Avalaible form of attendance	100%
5- Academic level / semester	First year /semester 1
6- Total number of teaching hours	2 hours theoretical + 2 hours practical = 4 hours * 15 weeks = 60 hours
7- Date of this Syllabus	2024

8- Objectives of this course

Providing students with abundant information about general human anatomy, its components, and organs in general, with a focus on the head, neck, and the human eye. Empowering students to:

A. Understand and analyze the parts of the human body and its organs.

B. Connect medical and health information to other subjects and courses with the human body in general, and the head and eye in particular.

9- Course's outputs and teaching, learning and evaluation methods

A- Knowledge objectives

1. Understands the principles, fundamentals, and vocabulary of anatomy in general.
2. Recognizes the organs of the human body, their components, and functions.
3. Familiarizes with some parts of the skull, face, and the human eye.

B- Decision-specific skills objectives.
1 - The student should be able to understand the principles of anatomy.
2 - Utilize anatomical principles in their specialization to understand the components of the human eye..

Teaching and Learning Methods

- Lectures
- Video clips

Evaluation modalities

Written tests every week.
1- Daily oral assessment.
2- Quarterly exams.

C. Conscientious and value objectives
C1. Convinced of the importance of the specialization he is studying.
C2. The effort of teachers and professionals to give scientific material is appreciated.
C3. Students' groups participate in group work.
C4. Respects dedication to work and hates fraud

D - Transferable General and Qualification Skills (Other skills related to employability and personal development).
D1 - Understanding of anatomy.
D2 - Ability to research and logically analyze information, and produce a concise scientific summary.
D3 - Capability to gather information about various parts of the eye and their interrelations.
D4 - Reading medical reports concerning matters of the eye and its parts, and explaining them to patients or clients in a simplified manner.

10- Course structure

Evaluation method	Teaching method	Name of unit/or subject	Required learning outputs	Number of teaching hours	Week
Tests and practice	Interactive	Introduction to Anatomy	Understand the subject	2 h theory and 4 h practical	1

Tests and practice	Interactive	Anatomy Terminology	Understand the subject	2 h theory and 4 h practical	2
Tests and practice	Interactive	Body Cavities	Understand the subject	2 h theory and 4 h practical	3
Tests and practice	Interactive	Skull Bones	Understand the subject	2 h theory and 4 h practical	4
Tests and practice	Interactive	Blood Vessels, Nervous System, Bones	Understand the subject	2 h theory and 4 h practical	5
Tests and practice	Interactive	Definition of the Brain	Understand the subject	2 h theory and 4 h practical	6
Tests and practice	Interactive	Blood Vessels of the Brain	Understand the subject	2 h theory and 4 h practical	7
Tests and practice	Interactive	Facial Skin	Understand the subject	2 h theory and 4 h practical	8
Tests and practice	Interactive	Body Bones and Joints	Understand the subject	2 h theory and 4 h practical	9
Tests and practice	Interactive	Facial Anatomy	Understand the subject	2 h theory and 4 h practical	10
Tests and practice	Interactive	Neck Anatomy (Blood Vessels, Lymphatic Vessels, Nerves)	Understand the subject	2 h theory and 4 h practical	11

Tests and practice	Interactive	Neck Muscles	Understand the subject	2 h theory and 4 h practical	12
Tests and practice	Interactive	Definition of the Eye and its Part	Understand the subject	2 h theory and 4 h practical	13
Tests and practice	Interactive	Eye Anatomy	Understand the subject	2 h theory and 4 h practical	14
Tests and practice	Interactive	Final Exam	Understand the subject	2 h theory and 1 h practical	15

11- References

1- Principal books ""Gray's Anatomy for Students" by Richard Drake, A. Wayne Vogl, and Adam W. M. Mitchell (Latest Edition: 4th Edition, 2019) "Clinically Oriented Anatomy" by Keith L. Moore, Arthur F. Dalley, and Anne M. R. Agur (Latest Edition: 9th Edition, 2018) 2- Pricncipal references 1. Anatomy & Physiology: The Unity of Form and Function" by Kenneth S. Saladin (Latest Edition: 9th Edition, 2019) 2. "Anatomy: A Photographic Atlas" by Johannes W. Rohen, Chihiro Yokochi, and Elke Lütjen-Drecoll (Latest Edition: 9th Edition, 2018) 3- Recommended books and references • Atlas of Human Anatomy" by Frank H. Netter (Latest Edition: 7th Edition, 2019)	Principal books Pricncipal references Recommended books and references (scientific (...،journals, reports Electronic references, ...websites

• "Grant's Atlas of Anatomy" by Anne M. R. Agur and Arthur F. Dalley (Latest Edition: 14th Edition, 2017) • "Essential Clinical Anatomy" by Keith L. Moore and Anne M. R. Agur (Latest Edition: 6th Edition, 2017) • "Rohen's Photographic Anatomy Flash Cards" by Johannes W. Rohen and Chihiro Yokochi (Latest Edition: 5th Edition, 2018) 4- Websites • PubMed (https://pubmed.ncbi.nlm.nih.gov/) • ScienceDirect (https://www.sciencedirect.com/) • Google Scholar (https://scholar.google.com/) • Khan Academy (https://www.khanacademy.org/science) • Coursera (https://www.coursera.org/) • Site of the American National Library of Medicine (https://www.nlm.nih.gov/) • ResearchGate (https://www.researchgate.net/)	

12- Curriculum Development Plan

The curriculum development plan is based on my objectives:

- Give the prescribed scientific material and observe and analyze the student's results.
- Study feedback from students' observations on vocabulary.
- Examination of the practical laboratory observations of the Rapporteur.
- Compare current vocabulary with corresponding faculty vocabulary in the field

The English course provides an introduction to learning English grammar rules orally and in writing, giving students the ability to conjugate verbs, understand tenses, and construct correct sentences.

1- name of the institute	Al-Ayen Iraqi University, College of Health and Medical Technologies
2- Scientific department	Optical technologies department
3- Course name	English
4- Avalaible form of attendance	100%
5- Academic level / semester	First year /semester 1
6- Total number of teaching hours	2 hours theoretical = 2 hours * 15 weeks = 30 hours
7- Date of this Syllabus	2024

8- Objectives of this course

1- Understanding and using the English language as a means of communication and learning in their specialties.
2- Comprehending the material they read by establishing connections between its various components.
3- Using colloquial English in their daily lives.
4- Initiating and sustaining short and simple conversations.
5- Writing grammatically correct and meaningful sentences.
6- Graduating individuals with a high degree of education, qualification, and excellence.

9- Course's outputs and teaching, learning and evaluation methods

A- Knowledge objectives

The program aims to prepare students and enhance their scientific and professional capabilities, as well as to cultivate a conscious and academic generation.

- Teaching them new vocabulary and terms.
- Instructing them in the general rules of the English language.
- Training them on English grammar skills and acquiring general language principles.

B- Decision-specific skills objectives.

- Understanding the target language's meaning, structure, and pronunciation proficiency.
- Developing basic linguistic competencies that enable dealing with introductory level vocabulary.
- Enhancing comprehension and ability to use communicative language in daily life.

Thinking Skills:

- Personal Skills and Responsibility: The student's ability to engage in short conversations, use common phrases in daily life, ask for directions, and guide others. Additionally, the student should be able to talk about themselves, express their desires, concerns, and problems in daily life.
- Analytical and Communication Skills: This course will develop the student's ability to think and communicate with their peers in the same subject and other subjects, which is essential for improving student relationships. Moreover, the student will enhance their ability to think critically and use the English language to communicate with others, whether within their environment or across the globe.

Teaching and Learning Methods

1- Delivering lectures.
2- Organizing student groups during lectures.
3- Integrating theoretical and practical learning.
4- Assigning students homework related to the required topics.

Evaluation modalities

Written tests every week.
1- Daily oral assessment.
2- Quarterly exams.

C. Conscientious and value objectives
C1. Convinced of the importance of the specialization he is studying.
C2. The effort of teachers and professionals to give scientific material is appreciated.
C3. Students' groups participate in group work.
C4. Respects dedication to work and hates fraud

D. General and rehabilitative skills transferred (other skills related to employability and personal development).
1- Understanding optical and medical physics.
2- Ability to research, logically analyze information, and produce a concise scientific summary.
3- Capability to gather information about various optical physics equations and link them together.
4- Reading medical reports containing physical equations and explaining them to patients or clients in a simplified manner.

10- Course structure

Evaluation method	Teaching method	Name of unit/or subject	Required learning outputs	Number of teaching hours	Week
Tests and practice	Interactive	Cardinal numbers/years/prices/times (in words and figures).	Understand the subject	2 h theory	1
Tests and practice	Interactive	Phonetic of alphabet letters, Punctuation.	Understand the subject	2 h theory	2
Tests and practice	Interactive	Countries/Capitals, arrange words (makes full sentence)/ arrange letters (make full word).	Understand the subject	2 h theory	3
Tests and practice	Interactive	Simple present/1. Verb to be (is/am/are) (affirmative,	Understand the subject	2 h theory	4

		negative and interrogative).			
Tests and practice	Interactive	Simple present/2. Verb to do (Do/Does) (affirmative, negative and interrogative).	Understand the subject	2 h theory	5
Tests and practice	Interactive	Simple present/3. Verb to have (have/has) (affirmative, negative and interrogative).	Understand the subject	2 h theory	6
Tests and practice	Interactive	Simple present/4. Ordinary verbs like (eat, go, play… etc.) (affirmative, negative and interrogative)	Understand the subject	2 h theory	7
Tests and practice	Interactive	Tag questions and short answers (yes/no questions).	Understand the subject	2 h theory	8
Tests and practice	Interactive	Review (Simple present).	Understand the subject	2 h theory	9
Tests and practice	Interactive	Question words (what, where, when, who, why, how, whom, whose, which).	Understand the subject	2 h theory	10
Tests and practice	Interactive	Abbreviation (short form), adjectives (and their opposite).	Understand the subject	2 h theory	11
Tests and practice	Interactive	Plural nouns (regular and irregular).	Understand the subject	2 h theory	12
Tests and practice	Interactive	Possession (all types).	Understand the subject	2 h theory	13
Tests and practice	Interactive	Pronunciation (-s at the end of a word).	Understand the subject	2 h theory	14
Tests and practice	Interactive	Pronouns (all types)	Understand the subject	2 h theory	15

11- References

1- Principal books

- "English for Everyone: English Basics" by DK (Latest Edition: 2016)
- "English Made Easy Volume One: A New ESL Approach: Learning English Through Pictures" by Jonathan Crichton and Pieter Koster (Latest Edition: 2015)

2- Pricncipal references and Recommended books

- "Oxford Picture Dictionary" by Jayme Adelson-Goldstein and Norma Shapiro (Latest Edition: 2018)
- "Side by Side: Student Book 1, Third Edition" by Steven J. Molinsky and Bill Bliss (Latest Edition: 2002)
- "English Grammar in Use with Answers: A Self-Study Reference and Practice Book for Elementary Learners of English" by Raymond Murphy (Latest Edition: 4th Edition, 2012)

3- Websites

- Duolingo (https://www.duolingo.com/)
- BBC Learning English (http://www.bbc.co.uk/learningenglish)
- ESL Gold (https://www.eslgold.com/)
- EnglishClub (https://www.englishclub.com/)
- British Council LearnEnglish (https://learnenglish.britishcouncil.org/)
- FluentU (https://www.fluentu.com/)
- Memrise (https://www.memrise.com/)
- Busuu (https://www.busuu.com/)

Principal books

Pricncipal references

Recommended books and references (scientific (...،journals, reports

Electronic references, ...websites

• EF Education First (https://www.ef.com/) • ManyThings.org (http://www.manythings.org/)	

12- Curriculum Development Plan
The curriculum development plan is based on my objectives: • Give the prescribed scientific material and observe and analyze the student's results. • Study feedback from students' observations on vocabulary. • Examination of the practical laboratory observations of the Rapporteur. • Compare current vocabulary with corresponding faculty vocabulary in the field

This course provides knowledge of the basics of physics and the principles that have been applied to link physics and optics to medicine. Then, the course offers in-depth and focused information about optics, its branches, its workings, and the processes or conditions that occur within it.

1- name of the institute	Al-Ayen Iraqi University, College of Health and Medical Technologies
2- Scientific department	Optical technologies department
3- Course name	Medical and optical physics 1
4- Avalaible form of attendance	100%
5- Academic level / semester	First year /semester 1
6- Total number of teaching hours	2 hours theoretical + 4 hours practical = 6 hours * 15 weeks = 60 hours
7- Date of this Syllabus	2024

8- Objectives of this course

Providing students with abundant information about medical and optical physics, its components, principles, and applications, especially focusing on all factors that light encounters such as reflection, refraction, and how refraction occurs within the human eye.

1. Introduction to light, electromagnetic spectrum, formation of rainbow.
2. Understanding optical phenomena: reflection, refraction, polarization, and diffraction.
3. Introduction to mirrors, their types, and problem-solving related to them, and the telescope as one of their applications.
4. Understanding lenses, their types, defects, and problem-solving related to them.
5. Understanding the eye, its parts, and the devices used in its examination.

6. Understanding vision, refractive errors affecting the eye, and their correction.

7. Understanding visual acuity.

8. Laser: types and applications.

Empowering students to read, understand, analyze, and apply:
A- Medical and optical physical phenomena.
B- Acquiring the scientific and physical inventory to pursue their specialization.

9- Course's outputs and teaching, learning and evaluation methods

A- Knowledge objectives
1- Understands the principles and fundamentals of engineering physics in general.
2- Familiarizes with the types of lenses and mirrors, their components, characteristics, and functions.
3- Recognizes the properties of images and their effects.

B- Decision-specific skills objectives.
1 - The student should be able to understand medical physics.
2- Utilize the principles and equations of physics in their specialization to understand the physical processes inside the eye.

Teaching and Learning Methods

- Lectures and practical exercises
- Video clips

Evaluation modalities

Written tests every week.
1- Daily oral assessment.
2- Quarterly exams.

C. Conscientious and value objectives
C1. Convinced of the importance of the specialization he is studying.
C2. The effort of teachers and professionals to give scientific material is appreciated.
C3. Students' groups participate in group work.
C4. Respects dedication to work and hates fraud

D. General and rehabilitative skills transferred (other skills related to employability and personal development).
1- Understanding optical and medical physics.
2- Ability to research, logically analyze information, and produce a concise scientific summary.

3- Capability to gather information about various optical physics equations and link them together.
4- Reading medical reports containing physical equations and explaining them to patients or clients in a simplified manner.

10- Course structure

Evaluation method	Teaching method	Name of unit/or subject	Required learning outputs	Number of teaching hours	Week
Tests and practice	Interactive	Light and Vision	Understand the subject	2 h theory and 4 h practical	1
Tests and practice	Interactive	Reflection	Understand the subject	2 h theory and 4 h practical	2
Tests and practice	Interactive	Lenses: Definition and Types	Understand the subject	2 h theory and 4 h practical	3
Tests and practice	Interactive	Practical Exercises	Understand the subject	2 h theory and 4 h practical	4
Tests and practice	Interactive	Deviation	Understand the subject	2 h theory and 4 h practical	5
Tests and practice	Interactive	Mirrors	Understand the subject	2 h theory and 4 h practical	6
Tests and practice	Interactive	Refraction	Understand the subject	2 h theory and 4 h practical	7

Tests and practice	Interactive	Reflection and Different Types of Mirrors	Understand the subject	2 h theory and 4 h practical	8
Tests and practice	Interactive	Magnification, Mirror Equation, Examples	Understand the subject	2 h theory and 4 h practical	9
Tests and practice	Interactive	Dispersion and Visible Spectrum	Understand the subject	2 h theory and 4 h practical	10
Tests and practice	Interactive	Polarization: Definition and Types	Understand the subject	2 h theory and 4 h practical	11
Tests and practice	Interactive	Diffraction: Definition; Huygens Principle; Mechanism; Constructive and Destructive Interference	Understand the subject	2 h theory and 4 h practical	12
Tests and practice	Interactive	Prism (dispersion)	Understand the subject	2 h theory and 4 h practical	13
Tests and practice	Interactive	Eye: definition; parts; focusing element; photoreceptors cells; accommodation.	Understand the subject	2 h theory and 4 h practical	14
Tests and practice	Interactive	Real &the apparent depth	Understand the subject	2 h theory and 4 h practical	15

11- References	
1- Principal books	Principal books

" "Optics" by Eugene Hecht (Latest Edition: 5th Edition, 2020) "Principles of Optics: Electromagnetic Theory of Propagation, Interference and Diffraction of Light" by Max Born and Emil Wolf (Latest Edition: 7th Edition, 1999) "Optics" by Ajoy Ghatak and S. Lokanathan (Latest Edition: 6th Edition, 2019) 2- Pricncipal references and Recommended books "Optics and Photonics: An Introduction" by F. Graham Smith (Latest Edition: 2nd Edition, 2010) "Optics: Learning by Computing, with Examples Using MathCad" by Karl Dieter Moeller (Latest Edition: 2nd Edition, 2002) "Modern Optical Engineering" by Warren J. Smith (Latest Edition: 4th Edition, 2007) 3- Websites - https://opg.optica.org/ - https://physicsworld.com/ - https://www.photonics.com/	Pricncipal references Recommended books and references (scientific (...،journals, reports Electronic references, ...websites

12- Curriculum Development Plan

The curriculum development plan is based on my objectives:

- Give the prescribed scientific material and observe and analyze the student's results.
- Study feedback from students' observations on vocabulary.
- Examination of the practical laboratory observations of the Rapporteur.
- Compare current vocabulary with corresponding faculty vocabulary in the field