



University of Basrah
College of science
Department of Physics



Graduation projects for fourth-year students in the Physics Department, College of Science, University of Basra, for the second semester of the 2023-2024 academic year.



University of Basrah
College of science
Department of Physics



Project title
Study and preparation of PAN/ZnO
fibers by electrospinning method

Graduation project
submitted by the student
Raad Hardan's messengers
Under supervision
Fatima Hamid Khalil

For the academic year
2023-2024
second semester



University of Basrah
College of science
Department of Physics

Project title

**Magnetic properties of the compound
($4O_2CuFe$)**

**Graduation project
submitted by the student**

Rusel Laith Majeed

Under supervision

Dr. Samia Hassan Gatie

For the academic year

2023-2024

second semester



University of Basrah
College of science
Department of Physics



Project title

**Effect of injection current, modulation current and
modulation frequency on semiconductor laser**

**Graduation project submitted by
the student**

Haider Basem Jassim

Under supervision

Dr. Khansa Abdullah Nasser

For the academic year

2023-2024

second semester



University of Basrah
College of science
Department of Physics



Project title

**Preparation and characterization of copper oxide
nanocomposite "CuO" sol-gel method**

**Graduation project
submitted by the student**

Ahlam Saadi Yassin's

Under supervision

Mr. Ali Jassim Mohammed

For the academic year

2023-2024

second semester



University of Basrah
College of science
Department of Physics



Project title

**Calculation of alpha decay half-lives of some even-even
(superheavy) nuclei**

**Graduation project
submitted by the student**

Ahmed Qasim Salem

Under supervision

Ammar Abdulrahman

For the academic year

2023-2024

second semester



University of Basrah
College of science
Department of Physics



Project title

**Spectroscopic study of PVK polymer and rhodamine 6G
dye with their mixtures**

**Graduation project
submitted by the student**

Asia Mohamed Ashour

Under supervision

Basil Ali Abdullah

For the academic year

2023-2024

second semester



University of Basrah
College of science
Department of Physics



Project title
Design and study of fire alarm circuit
Using thermistor in the circuit
Transistor

Graduation project
submitted by the student

Alaa Abdul Amir Nasser

Under supervision

Dr. Alaa Abdel Halim
Hashem

For the academic year

2023-2024

second semester



University of Basrah
College of science
Department of Physics



Project title

**Calculation of some optical constants of
polylactic acid/zinc oxide (PLA/ZnO) composite
films**

**Graduation project
submitted by the student**

Um Al Banin Nouri Ali

Under supervision

Prof. Dr. Ali Qasim Abdullah

For the academic year

2023-2024

second semester



University of Basrah
College of science
Department of Physics



Project title

**Study the effect of the thickness of the insulating
layer and the dielectric constant on the radar
cross-section area of axisymmetric objects using
the simulation program HFSS**

**Graduation project
submitted by the student**

Ayat Khaled Abdul Redha

Under supervision

Aqeel Sami Tahir

For the academic year

2023-2024

second semester



University of Basrah
College of science
Department of Physics



Project title

**Theoretical study of the effect of doping on the
nonlinear optical response of coronin synthesis**

**Graduation project
submitted by the student**

Ban Abdul Hassan Dawood

Under supervision

**A.M. Ahmed Jawad Abdul
Latif**

For the academic year

2023-2024

second semester



University of Basrah
College of science
Department of Physics



Project title

**The study of the decrease in the theoretical value
of the linear equation is based on the analysis of
the experimental data and the application of the
experimental design.**

**Graduation project
submitted by the student**

Batoul Fadel Mohammed

Under supervision

**Prof. Dr. Haitham Lafta
Saadoun**

For the academic year

2023-2024

second semester



University of Basrah
College of science
Department of Physics



Project title

**Study of the optical properties of the organic
mixture polymethacrylate/Congo
red/methylene diisocyanate (PMMA/CR/MDI)**

**Graduation project
submitted by the student**

Zahraa Saad Younis

Under supervision

M. M. Ikram Kamal Jassim

For the academic year

2023-2024

second semester



University of Basrah
College of science
Department of Physics



Project title

**Preparation and study of the structural and optical
properties of the compound molybdenum trioxide
3M**

**Graduation project
submitted by the student**

Basma Abbas Golan Rashk

Under supervision

Dr. Furqan Abdullah Kazem

For the academic year

2023-2024

second semester



University of Basrah
College of science
Department of Physics



Project title

**Design of a rectangular comb-shaped serrated
strip antenna using HFSS simulation software**

**Graduation project
submitted by the student**

Balqis Abdul Amir Nasser

Under supervision

Raed Muslim Shaaban

For the academic year

2023-2024

second semester



University of Basrah
College of science
Department of Physics



Project title

**Study The dielectric and Optical Properties for
Polymers Blending**

**Graduation project
submitted by the student**

Nour Kazem Awda

**Under supervision
Dr. Karima Majeed Zidane**

For the academic year

2023-2024

second semester



University of Basrah
College of science
Department of Physics



Project title

**Measurement of some physical properties of polymeric
materials (PAN, PVP) using the resonant cavity method
within the s-band microwave beam**

Graduation project

submitted by the student

Noor Al-Hoda Hazem Jawad

Under supervision

Dr. Dalia Kazim Katea

For the academic year

2023-2024

second semester



University of Basrah
College of science
Department of Physics



Project title

**Study of the binding of nicotine with 60C
Fullerene doped with With the following
elements: (Ge , Si , B, Al)**

**Graduation project
submitted by the student
Naif Salem Abdul**

**Under supervision
Dr. Samira Fakher**

**For the academic year
2023-2024
second semester**



University of Basrah
College of science
Department of Physics



Project title

Photocatalysis using zinc oxide

ZnO as Photocatalyst

Graduation project

submitted by the student

Zeina Widad Sakban Abdel Nabi

Under supervision

Dr. Ali Hussein Rashk

For the academic year

2023-2024

second semester



University of Basrah
College of science
Department of Physics



Project title

**Preparation and characterization of 2TiO
nanomaterial by hydrothermal method**

Graduation project

submitted by the student

Sarah Abdullah Najm

Under supervision

A. Noor Ahmed, A. Noor Jassim

For the academic year

2023-2024

second semester



University of Basrah
College of science
Department of Physics



Project title

**Measuring neutron flux and radiation dose
equivalent in the neutron source laboratory and
store in the Physics Department**

Graduation project
submitted by the student
sajad Kazem Janih

Under supervision
Dr. Maitham Abdullah Ali

For the academic year
2023-2024
second semester



University of Basrah
College of science
Department of Physics



Project title

**(Contact Angle Measurement of Polystyrene Thin
Film-Coated Glass)**

Graduation project
submitted by the student
saher Hassan Khalaf

Under supervision
Dr. Raad Adnan Abdul Nab

For the academic year
2023-2024
second semester



University of Basrah
College of science
Department of Physics



Project title

**Preparation of titanium dioxide 2TiO_2 nucleated
rods by hydrochemical precipitation method**

**Graduation project
submitted by the student**

Ali Rahim Jassim

Under supervision

Dr. Hossam Shaker

For the academic year

2023-2024

second semester



University of Basrah
College of science
Department of Physics



Project title

**Determination of radioactivity level in different
types of rice available in local markets**

Graduation project
submitted by the student
Ali Falah Abdul Karim

Under supervision
D. Riyadh munady ramadan

For the academic year
2023-2024
second semester



University of Basrah
College of science
Department of Physics



Project title

**Study of the structural and electrothermal
properties of the compound Preparation (m=0, 2)**

AgPbmSbSe_{2+m}

by liquid phase method

**Using microwave technology with automatic
control**

Graduation project

submitted by the student

Ghadeer Jabbar Abdul Hussein

Under supervision

Prof. Dr. Arshad Hamoud Abdul

For the academic year

2023-2024

second semester



University of Basrah
College of science
Department of Physics



Project title

**Preparation and study of the properties of
nanostructures Nickel oxide**

Graduation project
submitted by the student
Fatima Eidy odah

Under supervision
Asst. Prof. Dr. Jalal Jabbar
Hassan

For the academic year
2023-2024
second semester



University of Basrah
College of science
Department of Physics



Project title

**The Electrical and Optical Properties for Polymer
PANI -PTSA**

**Graduation project
submitted by the student
Ghadeer Rashad Abhoui**

**Under supervision
Dr. Manal Zaki Ragab**

**For the academic year
2023-2024
second semester**



University of Basrah
College of science
Department of Physics



Project title

**Electrostatic effect of elastic scattering of
electrons from an indium atom at electron
energies of 1-100 eV**

**Graduation project
submitted by the student
Ghadeer Hussein samom**

**Under supervision
Dr. Aqeel Hashim Hussein**

**For the academic year
2023-2024
second semester**



University of Basrah
College of science
Department of Physics



Project title

**tudy the effect of solar activities on the Earth's
atmosphere**

Graduation project
submitted by the student
Sheikha Abdullah Jaber

Under supervision
Dr. Doha Mahmoud Al-
Fayyad

For the academic year
2023-2024
second semester



University of Basrah
College of science
Department of Physics



Project title

Preparation of impregnated carbon points

Graduation project

submitted by the student

Mortada Abdul Karim Jaber

Under supervision

A.M.D. Saeed Jabbar Abbas

For the academic year

2023-2024

second semester



University of Basrah
College of science
Department of Physics



Project title

**Improving the performance of a circular strip
antenna in the band x using drilling technology**

Graduation project

submitted by the student

Luam Abdul Karim Zwaid Taama

Under supervision

M.D. Reyam Ahmed Mutshar

For the academic year

2023-2024

second semester



University of Basrah
College of Science
Department of Physics
Second Semester

Project title

**Ionization by the collision of an electron with
atoms**

Graduation project submitted by the student

Jafar Sadiq Mohsen

Under supervision

Prof. Dr. Alaa Abdel Hassan Khalaf

For the academic year

2023-2024



University of Basrah
College of Science
Department of Physics
Second Semester

Project title

**Measuring the equivalent dose level in the
General Company for Petrochemical Industries**

**Graduation project submitted by the
student**

Hussein Ahmed Abde

Under supervision

For the academic year

2023-2024



University of Basrah
College of Science
Department of Physics
Second Semester

Project title

**Improving the physical properties of SeTe thin
films prepared by electrochemical method**

Graduation project submitted by the student

Hussein Kamal Mohammed Qasim

Under supervision

Prof. Dr. Alaa Al-Shawi Mishaan

For the academic year

2023-2024



University of Basrah
College of Science
Department of Physics
Second Semester

Project title

**Study of the optical properties of gold
nanoparticles at different concentrations**

Graduation project submitted by the student

Hawra Mohammed Hassan

Under supervision

Mr. Muhammad Amin Yahya

Mr. Ali Riyad

For the academic year

2023-2024



University of Basrah
College of Science
Department of Physics
Second Semester



Project title

**Preparation and study of the optical properties of zinc
galcogenate compounds by thermal evaporation in vacuum**

Graduation project submitted by the student

Rehab Tariq Kazim

Under supervision

Asst. Prof. Dr. Arej Kazim Abbas

For the academic year

2023-2024



University of Basrah
College of Science
Department of Physics
Second Semester

Project title

**Study and preparation of ZnO/PAN fibers by
electrospinning method**

Graduation project submitted by the student

Rusul Raad Hardan

Under supervision

Dr. Fatima Hamid Khalil

For the academic year

2023-2024



University of Basrah
College of Science
Department of Physics
Second Semester



Project title

**Optical identifier of natural plant-derived
pigments**

Graduation project submitted by the student

Rawan Ahmed Sharif

Under supervision

Asst. Prof. Dr. Maha Abdul Hussein

For the academic year

2023-2024



University of Basrah
College of Science
Department of Physics
Second Semester

Project title

**Interaction between nicotine $C_{10}H_{10}N_2$ and defect formation in
fullerene C_{58} (as a conductor): A semi-experimental theoretical
study**

Graduation project submitted by the student

Rowan Star Jabbar

Under supervision

Prof. Dr. Muhannad Jassim Mohammed

For the academic year

2023-2024



University of Basrah
College of Science
Department of Physics
Second Semester

Project title

Echo device

Graduation project submitted by the student

Zahra Hatem Turki

Under supervision

Mrs. Ruwa Rahim Hilan

Mrs. Rabab Mustafa Abdul Hussein

For the academic year

2023-2024



University of Basrah
College of Science
Department of Physics
Second Semester

Project title

Nanostructure and study of CdS/SnS composite films, their surface and optical properties, and their application as photocatalyst for the analysis of organic dyes

Graduation project submitted by the student

Zahraa Haider Haraz

Under supervision

Dr. Marwa Jawad Kazim

Mrs. Rana Jabbar Mohammed

For the academic year

2023-2024



University of Basrah
College of Science
Department of Physics
Second Semester

Project title

Study of the effect of deposition time on the optical and structural properties of nano-thin films of TiO_2 prepared by hydrothermal technique

Graduation project submitted by the student

Zahraa Salim Abdul Sahib

Under supervision

Asst. Prof. Dr. Mohamed Mohsen Ali

For the academic year

2023-2024



University of Basrah
College of Science
Department of Physics
Second Semester

Project title

Ferrite particles. Magnetic nanoparticles

Graduation project submitted by the student

Zahraa Tariq Mohammed Ali

Under supervision

Asst. Prof. Dr. Hashem Mohammed

For the academic year

2023-2024



University of Basrah
College of Science
Department of Physics
Second Semester

Project title

**Numerical Simulation for Fraunhofer
Diffraction by using Fourier Optics**

Graduation project submitted by the student

Zahra Muslim Mohammed

Under supervision

Asst. Prof. Dr. Imad Abdul Zahra Mohammed

For the academic year

2023-2024



University of Basrah
College of Science
Department of Physics
Second Semester

Project title

**General relativity and its behavior in some
astronomical phenomena**

Graduation project submitted by the student

Zainab Hussein Bari

Under supervision

Dr. Firas Mohi Balboul

For the academic year

2023-2024



University of Basrah
College of Science
Department of Physics
Second Semester

Project title

The ionization of electron collides with atoms

Graduation project submitted by the student

Zainab Hamoud Saeed

Under supervision

Dr. Ahlam Khader Yasser

For the academic year

2023-2024



University of Basrah
College of science
Department of Physics



Project title

**Study of the effect of preparation temperature
on the properties of nano-thin films of the
compound NIO**

Graduation project

Submitted by the student

Hajar Khaled

Under supervision

A. Saif Mohammed

For the academic year

2023-2024

First semester



University of Basrah
College of science
Department of Physics



Project title

**Preparation and study of the physical properties
of zinc oxide nanocomposite**

Graduation project

submitted by the student

sajad Abdul Amir Saleh

Under supervision

**Dr. Alaa Abdel Halim Hashem Al-
Helou**

For the academic year

2023-2024

First semester



University of Basrah
College of science
Department of Physics



Project title

**Preparation of nanostructured materials using
pulsed laser technology and study of their
volumetric properties**

Graduation project

submitted by the student

Sarah Mahdi Hassan

Under supervision

Prof. Mazen Mahdi Awni

For the academic year

2023-2024

First semester



University of Basrah
College of science
Department of Physics



Project title

**Measurement of background radiation (B.G) in
nuclear physics laboratories and nearby areas**

Graduation project

submitted by the student

Mohammed Ali Khalaf

Under supervision

Dr. Mitham Abdullah Ali

For the academic year

2023-2024

First semester



University of Basrah
College of science
Department of Physics



Project title

**Determination of the radioactivity level in some
types of flour available in local markets**

Graduation project

submitted by the student

Aya Asaad Kazem

Under supervision

D. Riyadh is the Ramadan crier

For the academic year

2023-2024

First semester



University of Basrah
College of science
Department of Physics



Project title

**Study of dielectric and optical bonds of polymeric
blends Pani- PVP**

Graduation project

submitted by the student

Alaa Mohan Jaber

Under supervision

Dr. Manal Zaki Ragab

For the academic year

2023-2024

First semester



University of Basrah
College of science
Department of Physics



Project title

Study of optical properties of polymer blends

Pani-PTSA/PVA

Graduation project

submitted by the student

noor najm heriz

Under supervision

Karima Majid Zidane

For the academic year

2023-2024

First semester



University of Basrah
College of science
Department of Physics



Project title

**Comparison of electrical properties of large solid
and spongy bones using microwave cavity
perturbation technique**

Graduation project

submitted by the student

Hoda Hussein Ali

Under supervision

Dr. Raad Adnan Abdul Nabi

For the academic year

2023-2024

First semester



University of Basrah
College of science
Department of Physics



Project title

**Preparation of carbon quantum dots by
hydrothermal synthesis**

Graduation project

submitted by the student

Zainab Ismail Abdel Nabi

Under supervision

Dr. Saeed Jabbar Abbas

For the academic year

2023-2024

First semester



University of Basrah
College of science
Department of Physics



Project title

Black holes

Graduation project

submitted by the student

Aqeel Shamkhi Nasser

Under supervision

Dr. Firas Mohi

For the academic year

2023-2024

First semester



University of Basrah
College of science
Department of Physics



Project title

**Preparation and study of the thermoelectric
properties of the compound**

Mn_2Sn

Graduation project

submitted by the student

Haider Fadel Abdul Qader

Under supervision

Dr. Arshad Hamoud Abdulkadhim

For the academic year

2023-2024

First semester



University of Basrah
College of science
Department of Physics



Project title

**Study of double ionization of manganese and
calcium atoms from interaction with
electromagnetic radiation**

Graduation project

submitted by the student

Safaa Helmy Mohsen

Under supervision

Prof. Dr. Alaa Abdel Hassan Khalaf

For the academic year

2023-2024

First semester



University of Basrah
College of science
Department of Physics



Project title

Study the effect of microwave waves
(x-brand)

On vitamin D, calcium and phosphorus in rabbits

Graduation project
submitted by the student
Fatima Ayoub

Under supervision
Dr. Dalia Kazim Katea

For the academic year
2023-2024
First semester



University of Basrah
College of science
Department of Physics



Project title

**Study of the effect of wave plates on polarized
light**

Graduation project

submitted by the student

**Ghadeer Abdul Sattar Jabbar
Salman**

Under supervision

**A.M.D. Imad Abdel Zahra
Mohammed**

For the academic year

2023-2024

First semester



University of Basrah
College of science
Department of Physics



Project title

**Design a device to measure the level of pollution
in the air using the Arduino board and its
readings via a mobile phone**

**Graduation project
submitted by the student**

Ali Ghazi Abdo

**Under supervision
Dr. Star Qasim Jassim**

For the academic year

2023-2024

First semester



University of Basrah
College of science
Department of Physics



Project title

**Design and simulation of circular strip antenna
for wireless communication**

Graduation project

submitted by the student

Hussein Ali Blade

Under supervision

Dr. Riyam Ahmed Mutasher

For the academic year

2023-2024

First semester



University of Basrah
College of science
Department of Physics



Project title

**Optical energy gap calculation for thin films of
methylene diphenyl diisocyanate/crystal violet dye
(MDI/CV)**

Prepared by the coating twisting method

**Graduation project
submitted by the student
Tabark Salem Hezam**

**Under supervision
Dr. Fatima Hamid Khalil**

**For the academic year
2023-2024
First semester**



University of Basrah
College of science
Department of Physics



Project title

**Calculating the radar cross-sectional area of
conductive bodies coated with multiple insulating
layers using a simulation program**

**Graduation project
submitted by the student**

Safe Asaad Khalaf

Under supervision

Aqeel Sami Tahir

For the academic year

2023-2024

First semester



University of Basrah
College of science
Department of Physics



Project title
Embedding sound into a laser beam

Graduation project
submitted by the student
Sami Obaid Naseem

Under supervision
Hussein Ali Rashk

For the academic year
2023-2024
First semester



University of Basrah
College of science
Department of Physics



Project title

**Preparation of nanostructured materials using
pulsed laser technology and study of their
volumetric properties**

Graduation project

submitted by the student

Mohammed Abdul Sajjad Najm

Under supervision

Prof. Mazen Mahdi Awni

For the academic year

2023-2024

First semester



University of Basrah
College of Science
Department of Physics
First Semester

Project title

**Preparation of Films For Polymer Poly Vinyl Pyrrolidone
(PVP) and study their linear Optical Properties.**

Graduation project submitted by the student

Hussein Salman

Under supervision

Ass.Lect. Aqeel Lafta Mghames

For the academic year

2023-2024



University of Basrah
College of Science
Department of Physics
First Semester

Project title

**Optical conductivity of fluorescein dye-doped polyvinyl
alcohol (PVA-g-Flu)**

Graduation project submitted by the student

Hawra Majed Khaled

Under supervision

Prof. Dr. Ali Qasim Abdullah

For the academic year

2023-2024



University of Basrah
College of Science
Department of Physics
First Semester

Project title

**Study of the physical properties of polymeric carbohydrates
(starch)**

Graduation project submitted by the student

Rabab Abdullah

Under supervision

Asst. Prof. Dr. Samia Hassan Katea

For the academic year

2023-2024



University of Basrah
College of Science
Department of Physics
First Semester

Project title

Calculation of alpha decay half-lives for some even-even nuclei of tungsten, osmium, platinum, mercury and lead.

Graduation project submitted by the student

Retaj Khairallah

Under supervision

Asst. Prof. Dr. Amar Abdulrahman Najm

For the academic year

2023-2024



University of Basrah
College of Science
Department of Physics
First Semester

Project title

Nonlinear optical response of henna dye

Graduation project submitted by the student

Zahraa Jassim Abdulkarim

Under supervision

Mr. Ahmed Jawad Abdullatif

For the academic year

2023-2024



University of Basrah
College of Science
Department of Physics
First Semester

Project title

**Study the effect of increasing temperature on both current
and voltage of a thermoelectric generator**

Graduation project submitted by the student

Zahraa Shaaban Ibrahim

Under supervision

Asst. Prof. Dr. Arej Kazim Abbas

For the academic year

2023-2024



University of Basrah
College of Science
Department of Physics
First Semester

Project title

**Simulating the effect of series and shunt resistances on the
performance of a solar cell using MATLAB**

Graduation project submitted by the student

Zainab Salman Naeem

Under supervision

Dr. Marwa Jawad Kazim

Mrs. Rana Jabbar

For the academic year

2023-2024



University of Basrah
College of Science
Department of Physics
First Semester

Project title

**The interaction between the antiviral drug SARS-CoV-2 and
the formation of defects in fullerene C60 (as delivery): a
theoretical semi-empirical study**

Graduation project submitted by the student

Doha Hamad Saleh

Under supervision

Prof. Dr. Muhannad Jassim Mohammed

For the academic year

2023-2024



University of Basrah
College of Science
Department of Physics
First Semester

Project title

**Nonlinear optical properties of fig fruit pigment using
diffraction ring patterns at 532nm laser**

Graduation project submitted by the student

Ali Hassan Ali

Under supervision

Prof. Dr. Haitham Lafta Saadoun

For the academic year

2023-2024



University of Basrah
College of Science
Department of Physics
First Semester

Project title

Study of optical properties of polyaniline-paratylenesulfonic acid (PAni-PTSA/MWNCT) multi-walled carbon nanotubes

Graduation project submitted by the student

Duaa Qusay Shaker

Under supervision

Prof. Dr. Karima Majeed Zidane

For the academic year

2023-2024



University of Basrah
College of Science
Department of Physics
First Semester

Project title

Preparation of quantum carbon dots by chemical method

Graduation project submitted by the student

Fatima Farazdaq Abdullah

Under supervision

Asst. Prof. Dr. Saeed Jabbar Abbas

For the academic year

2023-2024



University of Basrah
College of Science
Department of Physics
First Semester

Project title

Design and study of circular microstrip antenna

Graduation project submitted by the student

Karar Rahim Abdulredha

Under supervision

Prof. Dr. Wael Abdel Latif Kadimi

For the academic year

2023-2024



University of Basrah
College of Science
Department of Physics
First Semester

Project title

**Preparation of TiO_2 compound by chemical peroxide
coating method**

Graduation project submitted by the student

Mohammed Abdulkadhim Munshid

Under supervision

Asst. Prof. Dr. Hossam Shaker Jassim

For the academic year

2023-2024



University of Basrah
College of Science
Department of Physics
First Semester

Project title

Study of the effect of deposition time on the optical and structural properties of CdS nano-thin films

Graduation project submitted by the student

Mahmoud Sabeih Assi

Under supervision

Asst. Prof. Dr. Mohamed Mohsen Ali

For the academic year

2023-2024



University of Basrah
College of Science
Department of Physics
First Semester

Project title

**Study of linear and nonlinear optical properties of a dye
extracted from black fig (Ficus carica)**

Graduation project submitted by the student

Marwa Sattar Jabbar

Under supervision

Asst. Prof. Dr. Maha Abdul Hussein

For the academic year

2023-2024



University of Basrah
College of Science
Department of Physics
First Semester

Project title

**Preparation of environmentally friendly PMMA:P3HT
polymer nanoparticles using nanoprecipitation method and
study of their optical properties**

Graduation project submitted by the student

Maryam Emad Abdelhassan

Under supervision

Asst. Prof. Dr. Furqan Abdullah Qasim

For the academic year

2023-2024



University of Basrah
College of Science
Department of Physics
First Semester

Project title

**Preparation of a new copolymer of polyurethane/Congo red
(PU/Red Congo) and calculation of the optical energy gap**

Graduation project submitted by the student

Mustafa Jassim Hamid

Under supervision

Prof. Dr. Ali Qasim Abdullah

For the academic year

2023-2024



University of Basrah
College of Science
Department of Physics
First Semester

Project title

**Effect of heat treatment on the properties of SeTe films
prepared by electrochemical method**

Graduation project submitted by the student

Mahdi Najih Saywan

Under supervision

Asst. Prof. Dr. Alaa Shawi Mishaan

For the academic year

2023-2024



University of Basrah
College of Science
Department of Physics
First Semester

Project title

**Dielectric Behavior of Natural and Demineralized
Cortical Bone at Microwave Frequencies**

Graduation project submitted by the student

Hijran Jassim Mohammed

Under supervision

Dr. Raad Adnan Abdelnabi

For the academic year

2023-2024