



**PHAROS UNIVERSITY
IN ALEXANDRIA**

FACULTY OF ENGINEERING 2022-2023



**Graduation Projects
Expo**

Academic Year 2022-2023

Dear Senior Students,

At the Faculty of Engineering, we are committed to prepare you for your future careers to compete in the job market of many engineering and industrial sectors. At our faculty, there are eight different distinguished programmes: Architecture, Mechanical, Manufacturing and industrial, Electronic and Communication, Electric power and Control, Petrochemical, Construction and Management Engineering, Computer engineering.

The Faculty of Engineering at Pharos University in Alexandria is distinguished by its long term strategic scientific partnership and cooperation with the Royal Institute of Technology in Sweden - KTH. As well as its strong ties and cooperation with industry, through their engagement in teaching and curriculum development, training, and industrial visits.

Therefore, we regard graduation projects as an effective way through which you learn to be flexible and creative, and have the ability to think critically, and gain practical experience and team work skills. In many cases, such graduation projects produce prototypes and participate in competitions. Meanwhile, it is important to pay attention to the quality and comprehensiveness of the reports which represent such outstanding projects.

Prof. Mohamed G. Abouali

Dean- Faculty of Engineering

Dear Future Engineers ...

Your BSc. project is the final element of your engineering study program that ensures you can apply engineering competences and knowledge / skills acquired to a concrete industrial, environmental, or economic problem. The BSc thesis report is the document that describes the progress, process, and results of the technical research. The thesis should demonstrate your ability to formulate a good problem definition and a good research methodology.

Therefore, we put a great effort to this component to cope with Egypt 2030 strategy for science, technology, and innovation. We are pleased that your thesis will clearly communicate the proposed solution to the addressed problems and convince the reader with your professional success.

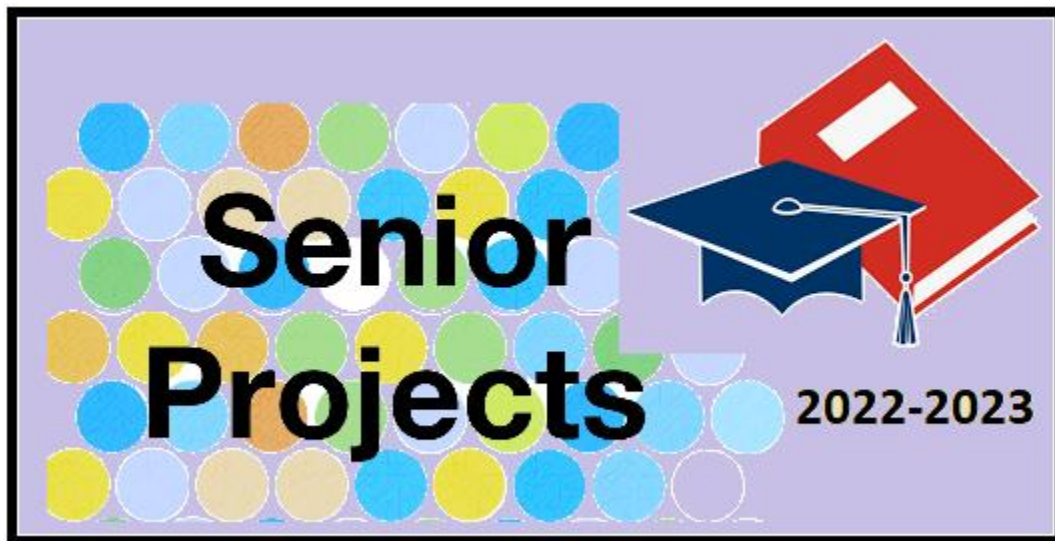
Thank you to our partner -The Royal Institute of Technology in Sweden (KTH) - and thank you to all Departments Heads, projects' coordinators and supervisors for such effort.

Prof. Mohamed Abdel Rahman

Graduate Studies & Researches Consultant

Pharos University in Alexandria





Computer Engineering Department

(EC400-1 & EC400-2)

FACULTY OF ENGINEERING

2022-2023

Computer Engineering Department (EC400-1 & EC400-2)



1. Application for psychiatrists

Program	Computer Engineering	
Project Title	Application for psychiatrists	
Supervisor(S)	Dr.Sameh Abo-Samra	
Goals / Objectives	<p>Psychiatry is the branch of medicine focused on the diagnosis, treatment and prevention of mental, emotional and behavioural disorders. Psychiatry helps give an individual the power to make major changes in our life, and to help target the exact issues relating to their mental or behavioural health challenges.</p> <p>The objective of our project:</p> <ul style="list-style-type: none"> - Create an application to communicate with psychiatrists in more than one way. - Book appointments with psychiatrists and communicate with them in complete secrecy in addition to full encryption, whether it is for sound or for a picture. - Create an application to communicate with psychiatrists in more than one way. - Book appointments with psychiatrists and communicate with them in complete secrecy in addition to full encryption, whether it is for sound or for a picture. 	
Student Names and IDs	ID	Name
	201801202	Ahmed Farag Ahmed
	201801188	Ahmed Samir Younis
	201801237	Omnia Salah Ibrahim
	201801261	Basmala Farid Shawky
	201802009	Ahmed Yasser Farouq
	201801730	Mohamed Ibrahim Mohamed

2. First Tour Guide

Program	Computer Engineering	
Project Title	First Tour Guide	
Supervisor(S)	Prof.Dr.Magdy Abd Azim & Dr.Wessam M.Salama	
Goals / Objectives	<p>Ancient Egyptian civilization has been blessed with a long and extensive history, so when it comes to archaeological finds, very few countries can live up to the level of ancient Egyptian artifacts. It is important to share these wonderful archaeological discoveries and civilizations with the world.</p> <p>The main objective of this project is that the robot offers two choices for the tour:</p> <ul style="list-style-type: none"> - To take the whole tour so the tourist will see all the artifacts in the museum. The tourist can choose which artifacts he/she wants to see and the robot will take him/her to see them. - The robot will be staying at a base point and when the tour starts the robot will follow a line that will guide it to the artifact's place and will stop when it senses an RFID of the artifact and retrieve information about it from the database and start to present it to the tourist when the presentation ends the robot will start moving to the next artifact. - TUT-GUIDE is a mobile application that helps tourists tour the museum by offering information about the relics (artifacts). The tourist can scan the QR code to retrieve information about the artifact from the database the information contains the name and description of the artifact and some images and videos. 	
Student Names and IDs	ID	Name
	201801427	Youssef Amr Mohamed
	201801422	Nourhan Abdelghany Mohamed
	201801176	Ezz Eldin Ayman Ramadan
	201801346	Abd Elrahman Nady Abderady
	201801484	Abd Elrahman Saad Tawfik
	201801804	Mohamed Yasser Aly Ibrahim

3. Online Food Court Ordering System

Program	Computer Engineering	
Project Title	Online Food Court Ordering System	
Supervisor(S)	Dr. Hicham Elmongui	
Goals / Objectives	<p>An online food ordering system is software that lets restaurants, coffee shops, or bars accept orders online. It typically allows customers to choose and pay for food, then alerts the kitchen when an order is made.</p> <ul style="list-style-type: none"> - This happens without contact between staff and customers. <p>Our project aims to:</p> <ul style="list-style-type: none"> - Eliminate the queue and wait time problem caused by the congestion of student orders at rush hour times. - Eliminate the need for cash and replace it with an online currency. - Develop an easily accessible gateway for the students and store owners to order/deliver desired items. - Creating a functional website as well as mobile application to enable the largest amount of students accessibility to the service. 	
Student Names and IDs	ID	Name
	201801308	Sherif Magdy Mohamed Barakat
	201801235	Alaa Harby Ahmed Shawer
	201801732	Mohammed Ahmed Abdulaziz
	201801391	Mohamed Ahmed Mohamed Amin
	201801299	Sarah Samy Ramadan Abuelenin
	201801234	Asmaa Mohamed Taher Alam

4. Online Voting System

Program	Computer Engineering	
Project Title	Online Voting System	
Supervisor(S)	Dr Hicham Elmongui	
Goals / Objectives	<p>Voting is a method for a group, such as a meeting or an electorate, in order to make a collective decision or express an opinion usually following discussions, debates or election campaigns. Democracies elect holders of high office by voting. The objective of our project is:</p> <ul style="list-style-type: none">- Providing web and mobile application to enable people to vote online.- Enable candidates to enter their electoral program.- Counting votes with anonymity and declare the results.	
Student Names and IDs	ID	Name
	201801242	Amina Mohamed Ahmed
	201801698	Gehad Essam Hamdy
	201801855	Mohanad Mohamed Mahmoud
	201801283	Rawan Maher Abdelwahab
	201801277	Dalia Mohamed Abdelfattah
	201801273	Khaled Essam Fayez

5. Quizzes

Program	Computer Engineering	
Project Title	Quizzes	
Supervisor(S)	Dr. Saleh Abdel Shacour El Shehaby& Dr. Magdy Abdel-Azim	
Goals / Objectives	<p>Quizzes is a platform that aims to provide a secure environment for instructors to create cheating free exams using face detection, facial recognition and plagiarism checking.</p> <p>As well as automatic marking of different questions, including essay questions though a simple easy to use interface.</p> <p>The goal of our project is to:</p> <ul style="list-style-type: none"> - Combine multiple classification and detection techniques from machine learning in order to combat cheating such as face detection, face recognition, plagiarism - Create s a system to check for multiple types of questions. - A system that can auto-grade different types of questions is created. - Develop those services through a secure , responsive, easy to use interface. 	
Student Names and IDs	ID	Name
	201801367	Omar abd ellatif
	201801423	Haidy salem ahmed
	201801785	Mohamed adel beshir
	201801254	Ehab abd elrahman
	201801203	Ahmed farag fawzy
	201801368	Omar essam eldin

6. Skin Diseases

Program	Computer Engineering	
Project Title	Skin Diseases	
Supervisor(S)	Prof.Dr.Magdy Abd Azim & Dr.Wessam M.Salama	
Goals / Objectives	<p>Skin diseases becomes significant health problem worldwide with an increasing incidence over the past decades.</p> <p>Due to the fine grained differences in the appearance of skin lesions, it is very challenging to develop an automated system for skin diseases classification through images.</p> <p>Our project is identified to:</p> <ul style="list-style-type: none"> - Detect skin diseases and skin cancer based on artificial intelligence models. - Create a mobile application for human usage. - A hardware device is created to help in detecting some kinds of skin diseases. 	
Student Names and IDs	ID	Name
	201801226	Arsany Nashaat Fawzy
	201801195	Ahmed Abd El-Hakim Abd El-Samad
	201801716	Loaa Ahmed Mohamed
	201801723	Maria Mina William
	201801794	Mohamed Mohamed Ibrahim
	201801410	Mahmoud Mostafa Fathalla

7. Work Matcher

Program	Computer Engineering	
Project Title	Work Matcher	
Supervisor(S)	Dr.Sameh Abo-Samra	
Goals / Objectives	<p>Individuals struggle when finding suitable places in nearby workspaces.</p> <p>Our system will promote the suitable places:</p> <ul style="list-style-type: none"> - By querying workspace management system. - Moreover, a software will be developed to manage workspaces to make this connection easier and much more seamless. - Create a system that manages workspace reservation for users with similar interest- match users who have similar practical and behavioural life's. - Create a system that manages workspace reservation for users with similar interest - Match users who have similar practical and behavioral life 	
Student Names and IDs	ID	Name
	201802074	Sayed aly ahmed Hassan
	201802066	Ahmed mohamed aly mohamed nossiry
	201801731	Mohamed Ahmed Hassan
	201801418	Mai Ahmed Mohamed
	201801820	Maryam Mohamed Kamal Mohamed

8. WiFi VGA Monitor

Program	Computer Engineering	
Project Title	WiFi VGA Monitor	
Supervisor(S)	Dr. Hossam Eldin Mustafa	
Goals / Objectives	<p>Wireless VGA devices consist of two pieces, one that connects to the computer's VGA port and the other which connects to the HDTV or video projector.</p> <p>The most common type of port was a VGA output, which allowed you to connect your analog computer monitor to other monitors or televisions.</p> <p>Our project promotes to:</p> <ul style="list-style-type: none"> - Sending photos wirelessly from mobile to wall mounted VGA monitors. - It can be used for developing the advertising in shops, malls, restaurants and educational institutes. - Also photos can be identified to be loaded through a web application. 	
Student Names and IDs	ID	Name
	201701190	Ahmed yaser elsead Mahmoud
	201801473	Ahmed Abd Elazem Elwany Elgamal
	201802013	Ahmed Waled Abdelhamid Mohamed Abdein
	201600427	Mohamed Ahmed Basyoni Salem
	201802544	Ahmed Saeed Hamed Awad
	201801342	Abd Elrahman Mohamed Atia

9. Non-invasive Blood Glucose Measurements

Program	Computer Engineering	
Project Title	Non-invasive Blood Glucose Measurements	
Supervisor(S)	Dr. Hossam Eldin Mostafa Abdelbaki	
Goals / Objectives	<p>The technology used for non-invasive blood glucose monitoring involves either radiation or fluid extraction play an important role in our life.</p> <p>Therefore, our project develops the following:</p> <ul style="list-style-type: none"> - Non-invasive method is created to measure blood glucose level to the nearest results of the traditional glucose measurement methods - Developing IoT to be connected to the device with a mobile application. 	
Student Names and IDs	ID	Name
	201801824	Moustafa Essam
	201801366	Omar sherief
	201802012	Zeyad Elyamany
	201701388	Mahmoud Elwakeel
	20170220	Golanda Ahmed
	201801243	Ingy Hassan

10. Lung cancer diagnosis using convolutional neural networks

Program	Computer Engineering	
Project Title	Lung cancer diagnosis using convolutional neural networks	
Supervisor(S)	Prof.Dr. Magdy Abd Azim & Dr. Lamiaa Ali Ahmed Said	
Goals / Objectives	<p>Lung cancer is usually considered as the largest cause of cancer-related fatalities across the world. Lung cancer has the greatest mortality rate of any kind of cancer.</p> <p>Therefore, detecting cancer in lung is considered an important issue.</p> <p>The main objective of this work is to detect lung cancerous using convolutional neural networks and implementing a web application for diagnosing lung cancer patients.</p>	
Student Names and IDs	ID	Name
	201801425	Yasmin khaled fouad
	201801403	Mohamed essam Mohamed
	201801285	Remas zakaria fatthalla
	201701166	Ahmed Anwer Hanafy
	201702125	Mark Maher Nagib
	201801302	Salma Mahmoud Al Sayed

11. Brain MRI Tumors Diagnosis Using Deep Neural Networks

Program	Computer Engineering	
Project Title	Foot diabetes diagnosis using deep neural networks	
Supervisor(S)	Prof.Dr.Magdy Abd Azim & Dr.Lamiaa Ali Ahmed Said	
Goals / Objectives	<p>Brain tumor detection can make the difference between life and death. Recently, deep learning-based brain tumor detection techniques have gained attention due to their higher performance. However, obtaining the expected performance of such deep learning-based systems requires large amounts of classified images to train the deep models.</p> <p>Obtaining such data is usually boring, time-consuming, and can easily be exposed to human mistakes which hinder the utilization of such deep learning approaches</p> <p>The main objective of this work is to detect MRI brain tumors using deep neural networks and implementing a web application for diagnosing brain tumor patients.</p>	
Student Names and IDs	ID	Name
	201801336	Abd Elrahman Alla Eldin Mahrous Abd Elfatah
	201902441	Shady Ramadan Ebrahim Abdelkhalik Eldakroury
	201801179	Ahmed Gomaa Hussien Mokhtar
	201801411	Marawan Abd Elaziz Mahmoud Abo Elenain
	201801353	Abdallah Nabil Abdelaziz Abdelhamid
	201801429	Moustafa Magdy Hassan Shaaban Elfakharany

12. Cafe Robot Waiter

Program	Computer Engineering	
Project Title	Cafe Robot Waiter	
Supervisor(S)	Dr. Abdelghafar R. Elshenaway	
Goals / Objectives	<p>In today's world, the usage of robots is certainly increasing. Because of different robot applications, our daily life is becoming more efficient and easier daily. In restaurants and hotels, customers face many difficulties due to overcrowding at peak hours, unavailability of waiters, and manual order handling are the primary problems. These difficulties can be controlled by using a restaurant automation system used by waiter robots and smart food ordering system to order food and beverages.</p> <ul style="list-style-type: none"> - Design a robot that going to do the waiter's job based on deep learning algorithms to interact with the customers with NLP (Nature Language Processing). - Embedded systems are utilized to design hardware to direct the robot from one point to another with line follow. - Smart ordering system by using a web application to display the menu that opens when the customer scans the QR code on the table. 	
Student Names and IDs	ID	Name
	201801289	Ziyad Ahmed Mohamed Nassar
	201801746	Mohamed Samy Salah
	201801748	Mohamed Salah Mohamed Abdelghani
	201801390	Maher Abdelatty Mehery
	201801288	Ziad Ibrahim Haggag
	201801790	Mohamed Ali Saeed

13. Brain Computer Interface (entertainment for handicapped)

Program	Computer Engineering	
Project Title	Brain Computer Interface (entertainment for handicapped)	
Supervisor(S)	Dr. Abdelghafar R. Elshenaway	
Goals / Objectives	<p>Millions of people around the world suffer from mobility impairments. People having mobility impairments need new devices which will make their lives easier.</p> <p>Many inventions and services were made to help them in many cases, especially using eye gestures and brain signal waves resulting in no need to use any parts of their body to decrease the effort they need to make.</p> <p>In this project:</p> <ul style="list-style-type: none"> - We are using the previous functions in implementing it into our project that combines microservices using Computer Vision and human-computer interaction and deploys it into a desktop application for daily use. - Our Objective is to Design a Command Grid so that the person can choose which task he wants to perform using brain signals and eye gestures - One of the features of our brain sensor is to give the handicap person complete control over the cursor for example with just the gestures of his eyes. 	
Student Names and IDs	ID	Name
	201801271	Khalid Hosni Mohamed Ibrahim
	201801793	Mohamed Magdy firky
	201801239	Amir Said Ahmed
	201801808	Marwan Khaled saber elsayed
	201801208	Ahmed mohamed ahmed atta
	201801895	Yasser Hassan abdelghafar

14. Identification of Diabetic Retinopathy through Machine Learning

Course Name	Graduation Project	
Course Code	EC400-1	
Department	Computer Engineering Department	
Program	Computer Department	
Project Title	Identification of Diabetic Retinopathy through Machine Learning	
Supervisor(S)	Dr. Marwan Torky	
Number of Students	6	
Goals / Objectives	<p>Use of artificial intelligence in medicine in an evolving technology which holds promise for mass screening and perhaps may even help in establishing an accurate diagnosis.</p> <p>In this project:</p> <ul style="list-style-type: none"> - The ability of complex computing is to perform pattern recognition by creating complex relationships based on input data and then comparing it with performance standards is a big step. Diabetic retinopathy is an ever-increasing problem. Early screening and timely treatment of the same can reduce the burden of sight threatening retinopathy. Any tool which can aid in quick screening of this disorder and minimize requirement of trained human resource for the same would probably be a boon for patients and ophthalmologists. 	
Student Names and IDs	201802000	Yousef Rezk Mohamed Otyan
	201801406	Mohamed wael abd el monem
	201801707	Fady hany amin mansour
	201801224	Ahmed Yahia mousa Sultan
	201801791	Mohamed Emad Hamdy Dawood
	201801889	Hana Zakria Hanfy Abdou
	201802000	Yousef Rezk Mohamed Otyan

15. Prescriptions Analyzer

Course Name	Graduation Project	
Course Code	EC400-1	
Department	Computer Engineering Department	
Program	Computer Department	
Project Title	Prescriptions Analyzer	
Supervisor(S)	Dr. Marwan Torky	
Number of Students	5	
Goals / Objectives	<p>A data science solution to a hospital problem, Pharm IA is an intelligent platform for prescription analysis for hospital pharmacists.</p> <p>In our project, the Prescriptions Analyser is utilized as an application.</p> <ul style="list-style-type: none"> - Smartphone camera is developed to capture pictures of doctor prescriptions and then detect the used drug name and compare it to database. - The result of our project will be promoted to the users. 	
Student Names and IDs		Ammar Yasser
		Hend Hany
		Ibrahim Mamdouh
		Nancy Khaled
		Kahled Hammam

Construction Engineering and Management Department

(ES400-1 & ES400-2)

FACULTY OF ENGINEERING

2022-2023

Construction Engineering and Management Department (ES400-1 & ES400-2)



1. Introduction of value engineering to the construction of a residential/commercial building

Program	Construction Engineering and Management	
Project Title	Introduction of value engineering to the construction of a residential/commercial building	
Supervisor(S)	Dr. Hisham Ali Sayed	
Goals / Objectives	<p>Value engineering in construction of a residential/commercial building represents an interesting area of study. By the end of this project, students should:</p> <ol style="list-style-type: none"> 1. Integrate knowledge acquired from the various courses of the undergraduate curriculum to an open-ended construction management effort. 2. Apply the knowledge gained to the construction of a residential/commercial building. 3. Identify the value engineering as an area of interest for the project. 4. Gain a familiarity with available technical literature on value engineering in construction of a residential/commercial building. 5. Experience the life cycle of construction management effort within a team environment. 6. Improve oral and written communication skills. 	
Student Names and IDs	ID	Name
	201801722	Majed Mohamed Hafez Abdelrazek
	201801999	Yahya Ashraf Alsaïd
	201801204	Ahmed Maher Fathy Alkady

2. Introducing BIM to the Construction Management of a Residential Compound

Program	Construction Engineering and Management	
Project Title	Introducing BIM to the Construction Management of a Residential Compound	
Supervisor(S)	Dr. Hisham Ali Sayed	
Goals / Objectives	<p>BIM in the Construction Management of a Residential Compound represents an interesting area of study. By the end of this project, students should:</p> <ol style="list-style-type: none"> 1. Integrate knowledge acquired from the various courses of the undergraduate curriculum to an open-ended construction management effort. 2. Apply the knowledge gained to the construction of a residential compound. 3. Concentrate on BIM as an area of interest for the project. 4. Gain a familiarity with available technical literature on BIM in construction of residential compounds. 5. Experience the life cycle of construction management effort within a team environment. 6. Improve oral and written communication skills. 	
Student Names and IDs	ID	Name
	201801857	Moamen Abd Elghfar
	201801255	Basem Ibrahim Eltrass
	201801407	Mahmoud Ahmed Ayoub

3. Construction Management of an Iconic Landmark, High Level of Uncertainty

Program	Construction Engineering and Management	
Project Title	Construction Management of an Iconic Landmark, High Level of Uncertainty	
Supervisor(S)	Dr. Hisham Ali Sayed	
Goals / Objectives	<p>Construction Management of an Iconic Landmark, High Level of Uncertainty represents an interesting area of study. By the end of this project, students should:</p> <ol style="list-style-type: none"> 1. Integrate knowledge acquired from the various courses of the undergraduate curriculum to an open-ended construction management effort. 2. Apply the knowledge gained to the construction of an iconic landmark. 3. Concentrate on the risk management and uncertainty as an area of interest for the project. 4. Gain a familiarity with available technical literature on risk management in construction of iconic buildings. 5. Experience the life cycle of construction management effort within a team environment. 6. Improve oral and written communication skills. 	
Student Names and IDs	ID	Name
	201801495	Gharam Ayman Aly Abdelazem
	201801738	Mohamed Ayman Ahmed Eid
	201701370	Mohamed Abdaltawab Abdalghani

4. Sustainable Construction Management of an Infrastructure Project

Program	Construction Engineering and Management	
Project Title	Sustainable Construction Management of an Infrastructure Project	
Supervisor(S)	Dr. Hisham Ali Sayed	
Goals / Objectives	<p>Sustainable Construction Management represents an interesting area of study on both the national and the international levels. By the end of this project, students should:</p> <ol style="list-style-type: none"> 1. Integrate knowledge acquired from the various courses of the undergraduate curriculum to an open-ended construction management effort. 2. Apply the knowledge gained to the construction of an infrastructure project. 3. Concentrate on the sustainability as an area of interest for the project. 4. Gain a familiarity with available technical literature on sustainability in construction of infrastructure project. 5. Experience the life cycle of construction management effort within a team environment. 6. Improve oral and written communication skills. 	
Student Names and IDs	ID	Name
	201801735	Mohamed Ashraf Abou Elmakarem
	201801797	Mohamed Medhat Mohamed Elsayed
	201801811	Marwan Mohamed

5. Artificial Island and beaches construction using sand nourishment

Program	Construction Engineering and Management	
Project Title	Artificial Island and beaches construction using sand nourishment	
Supervisor(S)	Prof. Dr Mohamed Elnagar Dr. Essam Eldin Fouad Dr. Dina Saleh	
Goals / Objectives	<p>Construction projects are one of the main directions in this department. Construction of an artificial island with artificial beaches using sand nourishment is of interest to several countries. By the end of this project, students should:</p> <ol style="list-style-type: none"> 1. Demonstrate understanding of knowledge on coastal and marine processes 2. Integrate knowledge from fundamental sciences to identify and analyze different factors of marine hydrodynamics 3. Different techniques & procedures appropriate to protect coastal areas 4. Plan an engineering policies, action plans and different measures for defending coastal area projects. 5. Utilize the basic design of different types of coastal soft protections. 6. Apply codes in design for marine nourishment protection 7. Select the most appropriate method for design and constructing marine nourishment 	
Student Names and IDs	ID	Name
	201802401	Hisham Fayez Abdelfattah Rizq
	201802142	Mohamed Mohamed ahmed Almaghraby
	5312062	Ahmed Madian Elshafiey

6. Coastal protection measures for the artificial island, lakes and harbor water area

Program	Construction Engineering and Management	
Project Title	Coastal protection measures for the artificial island, lakes and harbor water area	
Supervisor(S)	Prof. Dr Mohamed Elnagar Dr. Essam Eldin Fouad Dr. Dina Saleh	
Goals / Objectives	<ol style="list-style-type: none"> 1. Demonstrate understanding of knowledge on coastal and marine processes 2. Different techniques & procedures appropriate to protect coastal areas 3. Plan an engineering policies, action plans and different measures for defending coastal area projects. 4. Utilize the basic design of different types of coastal hard protections. 5. Apply codes in design for marine constructions 6. Select the most appropriate method for design and constructing marine and port structures 	
Student Names and IDs	ID	Name
	201600295	Islam Reda Shams Eldin
	201701276	Abdallah Hussien Elsayed Hussien Mohamed
	201801388	Kerolos nageh bekhith hennawey

7. Multi-purpose port alignment and design

Program	Construction Engineering and Management	
Project Title	Multi-purpose port alignment and design	
Supervisor(S)	Prof. Dr Mohamed Elnagar Dr. Essam Eldin Fouad Dr. Dina Saleh	
Goals / Objectives	<ol style="list-style-type: none"> 1. Apply codes in design for marine and port constructions 2. Select the most appropriate method for design and constructing marine and port structures 3. Plan an engineering alignment for multipurpose ports projects. 4. Different techniques & procedures appropriate to design marine and port construction 5. Utilize different effectively aspects to sustainable design of marine and port structure 6. Demonstrate awareness of marine and port projects constructed effectively 	
Student Names and IDs	ID	Name
	5313129	Raouf mohamed Hassan
	201701234	Rafik Mohamed Abo el Fadle ahmed
	201701306	Omar Mohamed elbadry

8. Modeling coastal protections and hydrodynamics

Program	Construction Engineering and Management	
Project Title	Modeling coastal protections and hydrodynamics	
Supervisor(S)	Prof. Dr Mohamed Elnagar Dr. Essam Eldin Fouad Dr. Dina Saleh	
Goals / Objectives	<ol style="list-style-type: none"> 1. Apply software in design and analysis of marine and port constructions 2. Select the most appropriate protection measures for marine and port through software 3. Plan an engineering alignment for multipurpose ports projects. 4. Study Different techniques & procedures appropriate to plan marine and port construction 5. Utilize different effectively aspects to sustainable design of marine and port structure 6. Demonstrate awareness of marine and port projects constructed effectively 	
Student Names and IDs	ID	Name
	201701461	Khaled samy hagrass
	5313273	Mohamed reda elshabasy
	5314254	Mohamed Mordy Saad Elshamy

9. Using the Marble waste powder for Improving the Engineering Properties of Hot Asphalt Mix

Program	Construction Engineering and Management	
Project Title	Using the Marble waste powder for Improving the Engineering Properties of Hot Asphalt Mix	
Supervisor(S)	Dr. Usama Heneash	
Goals / Objectives	<p>Goal</p> <p>The aim of the project is to study the effect of using marble powder on the performance of hot asphalt mixtures.</p> <p>Objectives</p> <p>By the end of this project, students should:</p> <ul style="list-style-type: none"> ● Chose gradation and design a hot mix asphalt suitable for high traffic loads ● Specify the marble powder ratio that gives the hot asphalt mixture its ideal qualities ● Determine the tests by which the properties of hot asphalt mixture are evaluated ● Analyse the results obtained from tests 	
Student Names and IDs	ID	Name
	201802072	David Mounir Labib
	201801383	Karim Ayman Elkordy
	201701443	Wadea fawzy wadea

10. Using the Iron Waste powder for Improving the Engineering Properties of Hot Asphalt Mix

Program	Construction Engineering and Management	
Project Title	Using the Iron Waste powder for Improving the Engineering Properties of Hot Asphalt Mix	
Supervisor(S)	Dr. Usama Heneash	
Goals / Objectives	<p>Goal</p> <p>The aim of the project is to study the effect of using iron powder on the performance of hot asphalt mixtures.</p> <p>Objectives</p> <ul style="list-style-type: none"> • Choosing gradation and designing a hot mix asphalt suitable for high traffic loads • Specifying the iron ratio that gives the hot asphalt mixture its ideal qualities • Determining the tests by which the properties of hot asphalt mixture are evaluated 	
Student Names and IDs	ID	Name
	201600469	Mohamed mohie mohamed elashry
	201802557	Ahmed alamir fawzy
	201801209	Ahmed mohamed elsayed ghaly

11. Investigating the Effect of Using the crushed glass for Producing the Hot Asphalt Mix

Program	Construction Engineering and Management	
Project Title	Investigating the Effect of Using the crushed glass for Producing the Hot Asphalt Mix	
Supervisor(S)	Dr. Usama Heneash	
Goals / Objectives	<p>Goal</p> <p>The aim of the project is to study the effect of using crushed glass on the performance of hot asphalt mixtures.</p> <p>Objectives</p> <ul style="list-style-type: none"> • Choosing gradation and designing a hot mix asphalt suitable for high traffic loads • Specifying the crushed glass ratio at which the properties of the hot asphalt mixture is improved • Determining the tests by which the properties of hot asphalt mixture are evaluated 	
Student Names and IDs	ID	Name
	201802002	Youssef salah salem zhran
	201801211	Ahmed Mohamed Radwan Moustafa
	201600265	Ahmed Abdelmoneem Abdelgawaad Awad

12. The use of cement factory waste in the manufacture of hot asphalt mixtures

Program	Construction Engineering and Management	
Project Title	The use of cement factory waste in the manufacture of hot asphalt mixtures	
Supervisor(S)	Dr. Usama Heneash	
Goals / Objectives	<p>Goal</p> <p>The aim of the project is to study the effect of using cement factory waste on the performance of hot asphalt mixtures.</p> <p>Objectives</p> <ul style="list-style-type: none"> • Choosing gradation and designing a hot mix asphalt suitable for high traffic loads • Specifying the cement factory waste ratio that gives the hot asphalt mixture its ideal qualities • Determining the tests by which the properties of hot asphalt mixture are evaluated • Analysis the results obtained from tests 	
Student Names and IDs	ID	Name
	201801892	Walid El Sayed Mohamed El Sayed Krat
	201801744	Mohamed Hamdy Abdelfatah
	5313347	Mostafa amin alshreef

13. The Hydraulic Design for First Part of Fourth Branch Canal (4/) of Toshka Project The use of cement factory waste in the manufacture of hot asphalt mixtures

Program	Construction Engineering and Management	
Project Title	The Hydraulic Design for First Part of Fourth Branch Canal (4/) of Toshka Project	
Supervisor(S)	A. Prof. Dr. Magdy M. Aboelela & Dr. Irine Mahfuz	
Goals / Objectives	<p>The objective of the project is to design hydraulically the irrigation network open canals for the first part of fourth branch canal (4/) of Toshka project. The area served by the fourth branch to be cultivated is two hundred thousand (200,000) feddans. By the end of this project, students should:</p> <ol style="list-style-type: none"> 1. Integrate knowledge acquired from the various courses of the undergraduate curriculum to an open-ended construction management effort. 2. Apply the knowledge gained to hydraulic irrigation networks 3. Identify the value engineering as an area of interest for the project. 4. Design an irrigation network open canal 5. Experience the life cycle of large areas cultivated through open canals irrigation systems. 6. Improve oral and written communication skills. 	
Student Names and IDs	ID	Name
	201801270	Hamza Mahmoud Fouad Mahmoud
	201600415	Kareem Mohamed Saied
	201801326	Abdelrahman Eslam Samy

14. The Hydraulic Design for Second Part of Fourth Branch Canal (4) of Toshka Project

Program	Construction Engineering and Management	
Project Title	The Hydraulic Design for Second Part of Fourth Branch Canal (4) of Toshka Project	
Supervisor(S)	A. Prof. Dr. Magdy M. Aboelela & Dr. Irine Mahfuz	
Goals / Objectives	<p>The objective of the project is to design hydraulically the irrigation network open canals for the first part of fourth branch canal (4¹) of Toshka project. The area served by the fourth branch to be cultivated is two hundred thousand (200,000) feddans. By the end of this project, students should:</p> <ol style="list-style-type: none"> 1. Integrate knowledge acquired from the various courses of the undergraduate curriculum to an open-ended construction management effort. 2. Apply the knowledge gained to hydraulic irrigation networks 3. Identify the value engineering as an area of interest for the project. 4. Design an irrigation network open canal 5. Experience the life cycle of large areas cultivated through open canals irrigation systems. 6. Improve oral and written communication skills. 	
Student Names and IDs	ID	Name
	201701309	Amr Reda Abdelghafor
	201600491	Medhat Maher Mohamed Lotfy
	201501319	Mustafa Mahmoud Ebrahim Elashry

15. The Planning and Design for First Part of Fourth Branch Canal (4/) of Toshka Project

Program	Construction Engineering and Management	
Project Title	The Planning and Design for First Part of Fourth Branch Canal (4/) of Toshka Project	
Supervisor(S)	A. Prof. Dr. Magdy M. Aboelela & Dr. Irine Mahfuz	
Goals / Objectives	<p>The objective of the project is to design hydraulically the irrigation network open canals for the first part of fourth branch canal (4/) of Toshka project. The area served by the fourth branch to be cultivated is two hundred thousand (200,000) feddans. By the end of this project, students should:</p> <ol style="list-style-type: none"> 1. Integrate knowledge acquired from the various courses of the undergraduate curriculum to an open-ended construction management effort. 2. Apply the knowledge gained to hydraulic irrigation networks 3. Identify the value engineering as an area of interest for the project. 4. Design an irrigation network open canal 5. Experience the life cycle of large areas cultivated through open canals irrigation systems. 6. Improve oral and written communication skills. 	
Student Names and IDs	ID	Name
	5313006	Ebrahim Mahmoud Elkafoury
	201701233	Radwan Nageh Radwan
	201701314	Awad Mohamed Lotfi
	5314252	Mohamed Mohamed Ahmed

16. The Planning and Design for Second Part of Fourth Branch Canal (4) of Toshka Project

Program	Construction Engineering and Management	
Project Title	The Planning and Design for Second Part of Fourth Branch Canal (4) of Toshka Project	
Supervisor(S)	A. Prof. Dr. Magdy M. Aboelela & Dr. Irine Mahfuz	
Goals / Objectives	<p>The objective of the project is to design hydraulically the irrigation network open canals for the first part of fourth branch canal (4') of Toshka project. The area served by the fourth branch to be cultivated is two hundred thousand (200,000) feddans. By the end of this project, students should:</p> <ol style="list-style-type: none"> 1. Integrate knowledge acquired from the various courses of the undergraduate curriculum to an open-ended construction management effort. 2. Apply the knowledge gained to hydraulic irrigation networks 3. Identify the value engineering as an area of interest for the project. 4. Design an irrigation network open canal 5. Experience the life cycle of large areas cultivated through open canals irrigation systems. 6. Improve oral and written communication skills. 	
Student Names and IDs	ID	Name
	201701474	Mrwan Waheed Abdelhakim
	201501259	Omar Ahmed Abdulrahman Gad

17. Utilization of Ceramic Wastes as an Additive Material in Concrete Mixes

Program	Construction Engineering and Management	
Project Title	Utilization of Ceramic Wastes as an Additive Material in Concrete Mixes	
Supervisor(S)	Prof. Alaa Aly Bachandy – Dr. Osama A. Omar ENg. Amr saad	
Goals / Objectives	<p>The use of recycled material obtained from the demolished construction wastes is essential to reduce its bad effects on environment. Recycling ceramic wastes as concrete aggregates is one of the recycling applications. By the end of this project, students should:</p> <ol style="list-style-type: none"> 1. Study the feasibility of using recycled ceramic wastes as coarse/fine aggregates to cast concrete. 2. Identify the main properties of recycled concrete cast using ceramic wastes. 3. Design a suitable recycled concrete cast using ceramic wastes. 4. Enhance the effect of using ceramic wastes as additive to reduce concrete permeability to improve its durability. 5. Improve oral and written communication skills. 	
Student Names and IDs	ID	Name
	201600649	Yousef Ahmed Yousef
	201601897	Fares Amir Mostafa Abd El Hameed
	201902443	Mosad Saad Mosad Aly

18. Quality Control of Concrete Blocks containing Recycled Ceramic Wastes

Program	Engineering	
Project Title	Quality Control of Concrete Blocks containing Recycled Ceramic Wastes	
Supervisor(S)	Prof. Alaa Aly Bachandy – Dr. Osama A. Omar – Eng. Amr Saad	
Goals / Objectives	<p>The use of recycled material obtained from the demolished construction wastes is essential to reduce its bad effects on environment. Recycling ceramic wastes as concrete aggregates is one of the recycling applications. By the end of this project, students should:</p> <ol style="list-style-type: none"> 1. Study the feasibility of using recycled ceramic wastes as coarse/fine aggregates to cast concrete. 2. Identify the main properties of recycled concrete cast using ceramic wastes. 3. Design a suitable recycled concrete cast using ceramic wastes. 4. Enhance the effect of using ceramic wastes as additive to reduce concrete permeability to improve its durability. 5. Improve oral and written communication skills. 	
Student Names and IDs	ID	Name
	5314049	Ahmed Nabil Yousef
	5314121	Saeed Ismael Aly
	201600473	Mohamed Mansour Fathy

19. Light weight impermeable concrete blocks using Aluminium waste

Program	Engineering	
Project Title	Light weight impermeable concrete blocks using Aluminium waste	
Supervisor(S)	Prof. Alaa Aly Bachandy – Dr. Osama A. Omar – Eng. Amr Saad	
Goals / Objectives	<p>The use of recycled material obtained from the aluminium industry waste (aluminium dross) as additive material in blocks for achieving sustainability.</p> <p>By the end of this project, students should:</p> <ol style="list-style-type: none"> 1. Study the feasibility of using Aluminium waste as fine aggregates to cast green concrete blocks. 2. Identify the main properties of recycled green concrete blocks cast using aluminium wastes. 3. Design a suitable recycled green concrete blocks cast using aluminium wastes. 4. Improve oral and written communication skills. 	
Student Names and IDs	ID	Name
	201501088	Ahmed Mohamed Hemada
	5314121	Samir Khaled Samir
	201600473	Mahmoud Samy El Kholoy

20. Green lightweight blocks using church red bricks

Program	Engineering	
Project Title	Green lightweight blocks using church red bricks	
Supervisor(S)	Prof. Alaa Aly Bachandy – Dr. Osama A. Omar – Eng. Amr Saad	
Goals / Objectives	<p>The use of recycled material obtained from the demolished construction wastes (red bricks) is essential to reduce its bad effects on environment. Recycling red brick as concrete coarse aggregates is one of the recycling applications. By the end of the project, students should:</p> <ol style="list-style-type: none"> 1. Study the feasibility of using recycled red bricks as coarse aggregates to cast green concrete blocks. 2. Identify the main properties of recycled green concrete blocks cast using red bricks wastes. 3. Design a suitable recycled green concrete blocks cast using red bricks wastes. 4. Practise oral presentation and technical report writing. 	
Student Names and IDs	ID	Name
	201501223	Belal Mohamed Gauish
	201801223	Ahmed Hisham Hassan
	201801743	Mohamed Hamada Hamad

21. Green lightweight blocks using crushed ceramic

Program	Engineering	
Project Title	Green lightweight blocks using crushed ceramic	
Supervisor(S)	Prof. Alaa Aly Bachandy – Dr. Osama A. Omar- Eng. Amr Saad	
Goals / Objectives	<p>The use of recycled material obtained from the ceramic industry in the production of green blocks. Recycling ceramic wastes as concrete aggregates is one of the recycling applications.</p> <p>By the end of the project, students should:</p> <ol style="list-style-type: none"> 1. Study the feasibility of using recycled ceramic wastes as coarse aggregates to cast green concrete blocks. 2. Identify the main properties of recycled green concrete blocks cast using ceramic wastes. 3. Design a recycled green concrete blocks cast using ceramic wastes. 3. Improve oral presentation and technical report writing. 	
Student Names and IDs	ID	Name
	5311030	Ahmed Abbas Hafzy
	201601822	Mahmoud Mohamed Aly Emara

22. Utilization of Cement Dust in the Production of Green building Blocks

Program	Engineering	
Project Title	Utilization of Cement Dust in the Production of Green building Blocks	
Supervisor(S)	Prof. Alaa Aly Bachandy – Dr. Osama A. Omar – Eng. Amr Saad	
Goals / Objectives	<p>Using cement dust as additive to improve concrete properties to produce green concrete blocks is one of the recent economic solution to reduce the bad impact of cement dust on environment. In this project, the effect of using cement dust on the main concrete block properties will be studied. By the end of this project, students should:</p> <ol style="list-style-type: none"> 1. Study the feasibility of using cement dust to cast green concrete blocks. 2. Identify the main properties of green concrete blocks. 3. Design a cast green concrete block from cement dust. 4. Practise oral presentations and technical report writing skills. 	
Student Names and IDs	ID	Name
	201801696	Ahmed Mohamed Ismael
	201801337	Abd El Rahman Amr Ismael
	201801222	Ahmed Hisham Ibrahim

23. Part 1: Concrete Shells Derived from Experimental Shapes

Part 2: Design R.C residential building

Program	Construction Engineering and Management	
Project Title	Part 1: Concrete Shells Derived from Experimental Shapes Part 2: Design R.C residential building	
Supervisor(S)	Prof. Dr Hazem Bakry Dr. Moustafa Marzouk	
Goals / Objectives	R.C. residential buildings design is an important component in the area of study for several civil engineers. This project comprises two components. By the end of the project, students should: <ol style="list-style-type: none">1. Demonstrate understanding of knowledge on R.C Structure Design2. Integrate knowledge from fundamental sciences to identify3. Analyse different factors of RC design4. Experimental techniques for structure main system5. Utilise the basic design of different types of concrete elements.6. Apply Egyptian codes of practice for the design.7. Select the most appropriate structural system	
Student Names and IDs	ID	Name
	201801210	Ahmed Mohamed Hamadallah
	201802566	Khaled ashraf mostafa

24. Construction of Sports Stadium

Program	Construction Engineering and Management	
Project Title	Construction of Sports Stadium	
Supervisor(S)	Prof. Dr. Mohamed El-Ghandour	
Goals / Objectives	<p>The stadium and its surroundings are being developed primarily to achieve the goal of a sustainable building design which includes the interactions between the environment, the building's structure, and its active building services.</p> <p>As a result of this holistic approach to planning, technical servicing to the structure will only have to be carried out when necessary. In addition, all the building sections should be operated as naturally as possible to cut back on resource consumption wherever possible.</p> <p>By the end of the project, students should:</p> <ol style="list-style-type: none"> 1. Identify stadium and its surroundings development. 2. Achieve the goal of a sustainable building design. 3. Promote the interactions between the environment, the building's structure, and its active building services. 4. Operate as naturally as possible resource consumption wherever possible. 5. Improve oral presentation and technical report writing. 	
Student Names and IDs	ID	Name
	201801199	Ahmed Alaa El-Din Abdallah
	201801371	Omar mohamed aboshaara
	201801493	Omar fayez abdelmonam elsaied mohamed

25. Cars Factory Trussed Frame Hanger with Storage and Office Building Construction of Sports Stadium

Program	Construction Engineering and Management	
Project Title	Cars Factory Trussed Frame Hanger with Storage and Office Building	
Supervisor(S)	Prof. Dr. Mohamed El-Ghandour	
Goals / Objectives	<p>The basic goal of this Project is to Design this project to be a suitable building and meet the following:</p> <p>Meet the specification in the steel code that we used : Egyptian code of practice for steel construction and bridges.</p> <p>By the end of the project, students should:</p> <ul style="list-style-type: none"> ● Design the structure system to be stable . ● Improve the Architectural Views by applying the specification of Egyptian executive regulations. ● Improve oral presentation and technical report writing 	
Student Names and IDs	ID	Name
	201801516	Ansam AbouZayd
	201801397	Mohamed ehab mohamed abas darwish
	201801734	Mohamed osama elgazzar

26. Gedela Factory (Steel Hangar)

Program	Construction Engineering and Management	
Project Title	Gedela Factory (Steel Hangar)	
Supervisor(S)	Prof. Dr. Mohamed El-Ghandour	
Goals / Objectives	<p>The project is owned by protection construction and design (PSC), the commissioning came to design and construct a textile factory to cover an area of about 6060 square meters.</p> <p>The factory consists of three parts with the middle part representing a store area with a crane track girder moving at all the length of the hangar to store the goods in the store by the crane and to store the machines and engines for the factory.</p> <p>By the end of the project, students should:</p> <ul style="list-style-type: none"> ● Study the feasibility of textile factory design. ● Identify the main properties of storage areas in factories. ● Design the factory with needs and requirements. ● Enhance the design performance. ● Improve oral presentation and technical report writing. 	
Student Names and IDs	ID	Name
	201801402	Mohamed Abdalla Abdelrehim Eltanany
	201701191	Ahmed yasser eid
	201501294	Mahmoud gamal abdelnasser ahmed elhalawany

27. Design of multi-story residential building

Program	Construction Engineering and Management	
Project Title	Design of multi-story residential building	
Supervisor(S)	Prof. Dr. Mohamed El-Ghandour	
Goals / Objectives	<p>The aim the project is to:</p> <p>Identify slabs, beams, columns, isolated footing types.</p> <p>Design slabs, beams, columns, isolated footing types.</p> <p>Design of frames.</p> <p>Learn selection of structural system selection of the suitable type of foundation.</p> <p>Practice presentation and technical report writing skills.</p>	
Student Names and IDs	ID	Name
	201801750	Mohamed Adel Ahmed Alsharkawy

28. Wastewater treatment and sewerage network design for Al Muruj compound in Alexandria, Egypt.

Program	Construction Engineering and Management	
Project Title	Wastewater treatment and sewerage network design for Al Muruj compound in Alexandria, Egypt.	
Supervisor(S)	Prof. Medhat Mostafa – Dr. Hossam El Sherbiny - Dr. Diaa Seif	
Goals / Objectives	<p>In this project Al Muruj compound were selected, one of major project in Alexandria, Egypt.</p> <p>The main objectives:</p> <ul style="list-style-type: none"> - Training in Eastern wastewater treatment plant the largest wastewater treatment plant in Alex. - Investigation study for wastewater flow rate in Al Muruj compound - Design the sewerage network using the sewerCAD software. - Cost evaluation. <p>Design wastewater treatment plant.</p>	
Student Names and IDs	ID	Name
	201801260	Basma khaled mohamed
	201801865	Nadeen Yousri Khalil
	201801704	Rewan Mohamed Elsayed Ahmed Suliman

29. Wastewater treatment and sewerage network design for Al Muruj compound in Alexandria, Egypt.

Program	Construction Engineering and Management	
Project Title	Wastewater treatment and water network design for Al Muruj compound in Alexandria, Egypt.	
Supervisor(S)	Prof. Medhat Mostafa – Dr. Hossam El Sherbiny Dr. Daaa Seif	
Goals / Objectives	<p>In this project Al Muruj compound were selected, one of major project in Alexandria, Egypt.</p> <p>The main objectives:</p> <ul style="list-style-type: none"> - Training in Eastern wastewater treatment plant the largest wastewater treatment plant in Alex. - Investigation study for water flow rate in Al Muruj compound. - Design wastewater treatment plant. - water network design using the water CAD software. - Cost evaluation. 	
Student Names and IDs	ID	Name
	201801212	Ahmed mohamed abbas
	201801703	Rowan hassan ahmed
	201801513	Marwan Ahmed Abd Al-Rahim

30. Wastewater treatment and sewerage network design for Al Muruj compound in Alexandria, Egypt.

Program	Construction Engineering and Management	
Project Title	Wastewater treatment and irrigation network design for Al Muruj compound in Alexandria, Egypt.	
Supervisor(S)	Prof. Medhat Mostafa – Dr. Hossam El Sherbiny Dr. Diaa Seif	
Goals / Objectives	<p>In this project Al Muruj compound were selected, one of major project in Alexandria, Egypt.</p> <p>The main objectives:</p> <ul style="list-style-type: none"> - Training in Eastern wastewater treatment plant the largest wastewater treatment plant in Alex. - Investigation study for green areas to design the irrigation network system in Al Muruj compound. - Design wastewater treatment plant. - Irrigation network analysis using the waterCAD software. - Cost evaluation. 	
Student Names and IDs	ID	Name
	201801856	Mohaned mimi shoaib
	201801291	Ziad Abdelmomem Shoeap
	201801348	Abdallah Ahmed Abozena

31. Wastewater treatment and sewerage network design for Al Muruj compound in Alexandria, Egypt.

Program	Construction Engineering and Management	
Project Title	Wastewater treatment design and EIA study for Al Muruj compound in Alexandria, Egypt.	
Supervisor(S)	Prof. Medhat Mostafa – Dr. Hossam El Sherbiny - Dr. Diaa Seif	
Goals / Objectives	<p>In this project Al Muruj compound were selected, one of major project in Alexandria, Egypt.</p> <p>The main objectives:</p> <ul style="list-style-type: none"> - Training in Eastern wastewater treatment plant the largest wastewater treatment plant in Alex. - Investigation study for preparing environmental impact assessment for the Al Muruj compound. - Design wastewater treatment plant. <p>Study the possibility to develop the vision of the Al Muruj compound to be more sustainability.</p>	
Student Names and IDs	ID	Name
	201801324	Abdelrhman Ahmed
	201802008	Amr Bayoumi Abdullah

Electrical Engineering Department

(EE400-1 & EE400-2)

FACULTY OF ENGINEERING

2022-2023

Electrical Engineering Department (EE400-1 & EE400-2)



1. AI Applications - Human-Machine Interaction Through Voice Command

Program	Electronics and Communication Engineering	
Project Title	AI Applications - Human-Machine Interaction Through Voice Command	
Supervisor(S)	Dr. Amgad Salama	
Goals / Objectives	<p>Allowing people to converse with machines is a long-standing dream of human-computer interaction. The ability of computers to understand natural speech has been revolutionized in the last few years by the application of deep neural networks (DNN).</p> <p>With recent technological advancements and advances in artificial intelligence and machine learning techniques, it is now possible for a machine to recognize and respond to voice and allowing them to engage more smoothly with humans who work with them in many environments as part of Human-Machine Interaction (HMI).</p> <p>The goal of this project is to develop a voice-controlled HMI which allows a person to control and communicate with a machine through voice commands.</p> <p>This project's objectives are:</p> <ul style="list-style-type: none"> • Review numerous types of features in various domains in the feature extraction stage, such as time, frequency, cepstral. • Implement the inverse Fourier transform for the signal spectrum logarithm and deep domains. • Use subspace learning for dimensionality reduction to eliminate the redundancies of high-dimensional features by further processing extracted features to reflect their semantic information better. • Infer from the extracted features the objects or human behaviours for semantic understanding using speech and speaker recognition. • Design, implement, and deploy a machine learning model that can perform the tasks mentioned above and present it in a final product. • Publish one or more research papers in a prestigious journal based on the work mentioned. 	
Student Names and IDs	ID	Name
	201801313	Safa Mohamed Salah Eldin Hamza Mohamed Taha
	201801311	Shaimaa Ramadan Abdelrehim Badr Makram
	201801282	Rewan Kadry Abdelaziz Khalaf
	201801317	Taha Mahmoud Taha Ahmed Ammar
	201802400	Ahmed Mohamed Ali Mohamed Ahmed

2. Diseases Early Detection using Intelligent Medical Imaging Systems

Program	Electronics and Communication Engineering	
Project Title	Diseases Early Detection Using Intelligent Medical Imaging Systems	
Supervisor(S)	Dr. Abdelmoneim Mohsen	
Goals / Objectives	<p>Breast cancer detection using Artificial Intelligence (AI) is a promising field of research that has the potential to revolutionize the way we diagnose and treat breast cancer. AI technologies, such as machine and deep learning algorithms, can analyze large amounts of medical imaging data and help doctors identify potential breast cancer lesions early on.</p> <p>The main goal of this project is to apply AI tools to detect breast cancer using medical imaging modalities. By uploading images to the modalities, patients and doctors will be able to diagnose and detect breast cancer, if there is an abnormality in the breast or not and to also classify this abnormality to benign or malignant.</p> <p>This project's objectives are:</p> <ul style="list-style-type: none"> • Understand basic Image processing techniques. • Identify the different modalities used to capture medical Images (such as Mammogram, Histopathology, CT, X-Ray, MRI, US, ... etc.), and learn more about key features of each modality technique. • Investigate about breast cancer and how it can be captured using medical imaging, then select a suitable medical imaging modality for breast cancer detection. • Understand the basic concepts of machine and deep learning. • Apply the best fit AI tools to detect the breast cancer in order to give the best results and minimize the probability of wrong classifications, especially the false negatives. • Implement and develop a website and mobile application of the proposed model to help the patients know if they have cancer or not by uploading images to any of the modalities and create a database for the doctors to help them follow up the cases of the patients. 	
Student Names and IDs	ID	Name
	201801851	Menna Ahmed Mohamed Baaes
	201801376	Amr Ahmed Mahmoud Aboelkhair Ahmed
	201801872	Noran Mohamed Mohamed Shawky AlNamrawy
	201801893	Waled Moustafa Mohamed Ibrahim
	201801869	Nesren Tarek Mohamed Ibrahim Saeid

3. AI in Detection of Pneumonia

Program	Electronics and Communication Engineering	
Project Title	AI in Detection of Pneumonia	
Supervisor(S)	Dr. Abdelmoneim Mohsen	
Goals / Objectives	<p>One of the greatest developments that are already changing the world now is the rapid development of Artificial Intelligence (AI) and its effect on the medical field. It was greatly helpful as it can save time and provide more accuracy in surgery and predictions. For that, Convolution Neural networks (CNNs) are used to design the AI system to help in detection and diagnosis of Pneumonia through Chest X-ray images which can save time to help more lives to be saved and treated faster.</p> <p>The goal of this project is to develop an accurate and fast pneumonia detection deep learning model by providing a reliable automated assessment of Chest X-rays images which can be utilized as a second opinion in hospitals or other healthcare entities. For the doctor, the model can assist him/her by reassuring his detection opinion. Meanwhile, for the patient, it can assist him/her by giving recommendations for the coming steps after this examination.</p> <p>This project's objectives are:</p> <ul style="list-style-type: none"> • Understand basic Image processing techniques. • Identify the different modalities used to capture medical Images (such as CT, X-Ray, MRI, US, ... etc.), and know more about key features of each modality technique. • Investigate about Pneumonia and how it can be captured using medical imaging, then select a medical imaging technique to use for Pneumonia detection. • Demonstrate the effectiveness of deep learning models in pneumonia detection and provides insights into the advantages and limitations of different models and training configurations. • Implement and design a mobile application and website that should be consistent, user-friendly, and easy to use and navigate, even for users who are not familiar with AI. 	
Student Names and IDs	ID	Name
	201801729	Mohamed Ibrahim Abdelhakim Elshibiny
	201801710	Fouad Hany Fouad Abdelwahed
	201801807	Mahmoud Mohamed Ragab Elsayed Ali
	201801316	Tarek Waled Saad Aldawy Hassan
	201801412	Mostafa Elsayed mostafa Abd Elsalam Hanou

4. Vehicle to Vehicle Communications for Intelligent Transportation Systems

Program	Electronics and Communication Engineering	
Project Title	Vehicle to Vehicle Communications for Intelligent Transportation Systems	
Supervisor(S)	Dr. Mohamed Abdelwahab	
Goals / Objectives	<p>With the proliferation of Intelligent Transportation Systems (ITS), there is a growing need to enable wireless communication between vehicles, which is termed Vehicle-to-Vehicle communications (V2V). V2V communications systems require automated solutions, tools, and methods. Studies on V2V systems are concerned with communication architectures, embedded systems, and non-functional aspects such as performance, reliability and security. Their purpose is to provide situational awareness to drivers by using sensory and communication technologies. It is then possible to increase road safety, improve traffic conditions, save fuel costs, ... etc.</p> <p>The aim of this project is to implement a secure communication architecture that enables the integration of vehicles into an ITS. This architecture will be used to securely exchange information between a vehicle's wired Controller Area Network Bus (CAN Bus) and the rest of the ITS. Possible applications that can make use of this communication architecture are: Road and car safety through warnings about hazardous conditions, traffic control and rerouting in real time according to road conditions, and speed control in poor visibility conditions.</p> <p>The project's objectives are:</p> <ul style="list-style-type: none"> • Survey the state-of-the-art of in-vehicle embedded systems both in terms of devices and communication protocols. • Study various communication protocols used in the vehicular setting. • Build a prototype system that communicates data between CAN Bus inside a vehicle and Wi-Fi enabled devices (representing roadside devices or other vehicles). • Secure data communicated from between vehicles. • Test the prototype on a robot car kit. 	
Student Names and IDs	ID	Name
	201801370	Omar Mohamed Ibrahim Ahmed
	201801697	Ismaail Tarek Elsayed Ibrahim Ahmed
	201801265	George Elhabib Abdalla Habib Abdalla
	201802010	Eman Anwar Nasr Farfour

5. Design and Implementation of an Efficient Secured Smart Home Automated System Using Esp-32 Microcontroller and Mobile Application

Program	Electronics and Communication Engineering	
Project Title	Design and Implementation of an Efficient Secured Smart Home Automated System Using Esp-32 Microcontroller and Mobile Application	
Supervisor(S)	Dr. Mohamed Moawad	
Goals / Objectives	<p>Smart home automated system has seen dramatic growth and gained a significant popularity in the recent past as per the market requirements and its great benefits in different coordinates. Referred to as the Internet of Things or (IoT) devices, home owner can remotely access and control connected devices and security systems through a smartphone application or tablet, or a smart home hub.</p> <p>The main goal of this project is to implement an immune, flexible, efficient, and reliable smart home system, which can achieve a complete protection and security for the facility with the optimum utilization of the allowable energy resources to promote the principle of energy saving. Moreover, helping the elderly lead their daily lives better and providing comfort and convenience for the home owner.</p> <p>The project's objectives are:</p> <ul style="list-style-type: none"> • Design and implement the smart home system to be safe against fires, water over flow or theft by using different components such as switches, motors, webcams and sensors (such as water, temperature, vapors, IR and ultrasonic) which are connected to controller interfaced with the cell phone allowing the home owner to obtain notifications in critical cases and also taken some self-pre-programed actions. • Control the operation of home electrical appliances such as lights, fans, heating, and air-conditioners. In addition to opening and closing both home garage and curtain through mobile application. • Using LDR sensor, motion detector and dimmer circuit for energy saving. • Using IP cam connected to the system in order to achieve home high level of security against external attack by taken photos and monitor life streaming via mobile application for different important selected areas. 	
Student Names and IDs	ID	Name
	201801378	Amr Fawzy Mahrous Afify Mousa
	201801854	Maha Saber Mohamed Mohamed Mansour
	201801861	Mayar Mahmoud Ibrahim Mohamed Badawy
	201801295	Zeyad Mohamed Kamal Deghedy

5. Human Health Monitoring and Diagnosing Diseases Using Artificial Intelligence (AI)

Program	Electronics and Communication Engineering	
Project Title	Human Health Monitoring and Diagnosing Diseases Using Artificial Intelligence (AI)	
Supervisor(S)	Dr. Sanaa Abd Eldayem	
Goals / Objectives	<p>The use of Artificial Intelligence (AI) in medical science is becoming more widespread and has produced enormous advantages. The main benefits of it are extensive coverage, low cost, high efficiency and mobility which help in improving the intelligent chronic disease management. Diabetic retinopathy is a common complication of diabetes and can lead to vision loss if left untreated. The AI-based detector system utilizes convolutional neural networks (CNN) and other deep learning models to analyze retinal images for the presence of characteristic signs of diabetic retinopathy, such as micro-aneurysms, hemorrhages, and exudates. It can also classify the severity of the condition based on the extent and location of these abnormalities.</p> <p>The main goal of this project is to introduce a model for diabetic retinopathy detector which develop a highly accurate and efficient computer-based system that can detect diabetic retinopathy in retinal images using AI algorithms and deep learning techniques. This model will significantly improve the accuracy and efficiency of screening and diagnosis of diabetic retinopathy, reduce the burden on healthcare systems and improve patient outcomes.</p> <p>The project's objectives are:</p> <ul style="list-style-type: none"> • Apply artificial intelligence in monitoring human health care. • Analyze some data to diagnose the detected disease according to input data. • Facilitating early adoption and ongoing implementation in the health care system. • Improve diagnostics, prevention, and treatment of patients. • Develop a system that is easy to use and can be integrated into existing healthcare workflows. 	
Student Names and IDs	ID	Name
	201801215	Ahmed Mohamed Abd El Fatah Mohamed El Gendy
	201801229	Islam Khaled Elhousaini Abdelhay Ghonim

	201801709	Fares Awad Aboeltana AlDohma
	201900681	Ahmed Mohamed Elsayed Sharafat
	201802139	Karim Khaled Elsaid Matwaly Ahmed

7. Base Station Antenna Arrays for 5G Wireless Communications

Program	Electronics and Communication Engineering	
Project Title	Base Station Antenna Arrays for 5G Wireless Communications	
Supervisor(S)	Dr. Ahmed Alieldin	
Goals / Objectives	<p>Telecommunication vendors are looking to introduce 5G mobile communication systems to all possible electronic devices during the current decade. One of the key motivators for 5G is to provide ubiquitous, high-speed, high-quality wireless broadband coverage through antenna array in base stations to meet societal and industrial needs.</p> <p>The main goal of this project is to design a novel base station antenna array with broadband, small size, low profile, and less cost to meet the same industry standard of commercial 5G base station antennas. The array can perform efficiently in different weak signal situations such as shadowing and fading by using efficient techniques as diversity and MIMO.</p> <p>The project's objectives are:</p> <ul style="list-style-type: none"> • Investigate the designing, implementation and fabrication of antenna elements. • Analyze, design and fabricate antenna arrays. • Apply the theories of electromagnetic waves practically. • Perform different electromagnetic measurements and tests using advanced microwave devices (e.g., VNA, SA, ... etc.). 	
Student Names and IDs	ID	Name
	201802073	Rana Tarek Mohy Eldin Ahmed Alam
	201801381	Ghada Mohamed Taher Mohamed Alam
	201801246	Aya Magdy Elsayed Yakout Mohamed Rashwan
	201801873	Nourhan Ahmed Hassan Ahmed Khamkham

8. AI Applications for Normal/Abnormal Human Activity Recognition

Program	Electronics and Communication Engineering
Project Title	AI Applications for Normal/Abnormal Human Activity Recognition
Supervisor(S)	Dr. Ahmed Aly Yahia
Goals / Objectives	<p>Neural Networks are considered efficient tools in the computer vision field as part of deep learning (DL) engineering. They are broadly used in advanced engineering systems to enhance the performance of such systems. Analyzing human activity recognition within any behavioral or industrial environment is one of the growing fields where research is gaining momentum. The proposed technique - MobileNetV2-BiLSTM - could improve the overall human activity recognition system compared with other methods which could not classify the overlapped objects within some of the data sets.</p> <p>The main goal of this project is to implement a DL technique to show its ability to develop the human activity recognition system using a given data set. Further, it shows the improvement of overall performance corresponding to this new neural network technique to classify the violent behaviour in real-time video streams in an efficient and faster manner with high recognition accuracy, allowing for early intervention and improved public safety.</p> <p>This project's objectives are:</p> <ul style="list-style-type: none"> • Explore different approaches for designing and training DL models for violence detection. • Implement a new technique to show its ability to develop the human activity recognition system using a given data set. • Develop an efficient and faster manner with high recognition accuracy corresponding to this new neural network technique for the normal/abnormal human activity within video streams from human activities. • Demonstrate the importance of data quality, model architecture, hyperparameters tuning, and model deployment for achieving high detection accuracy and low

	false positive rates.	
Student Names and IDs	ID	Name
	201801323	Abdelrahman Ahmed Aboelfotouh Farag Ali
	201802140	Mohamed Ramadan Aweis Mohamed
	201801845	Moustafa Mamdouh Moustafa Abdelkader Alam
	201801786	Mohamed Atef Elsayed Ibrahim Mohamed
	201701168	Ahmed Tamer Ahmed Mohamed Khalil

9. Indoor Building Coverage Solution for Mobile Communication

Program	Electronics and Communication Engineering	
Project Title	Indoor Building Coverage Solution for Mobile Communication	
Supervisor(S)	Dr. Heba Abdelhamid	
Goals / Objectives	<p>The aim of the in-building solution is to enhance the wireless communication system in indoor places such as universities, hotels, subways, airports, hospitals, companies, and road tunnels, to overcome two signal problems: coverage and capacity.</p> <p>The main goal of this project is to overcome the network's problem and improve the mobile communication within the building of the Faculty of Engineering at Pharos University in Alexandria using Distributed Antenna System (DAS). It also underscores the importance of considering software costs, effective communication, and collaboration with stakeholders, and resourcefulness in developing innovative solutions to complex problems.</p> <p>This project's objectives are:</p> <ul style="list-style-type: none"> • Consider and identify different mobile generations. • Use iBwave mobile planner for collecting network strength measurements data. • Consider the areas that have signal problems and high traffic jam which leads to leakage in mobile coverage in addition to building penetration losses and air losses. • Enhance the mobile coverage through designing in-building networks using DAS. • Select the appropriate components that can be used in designing the networks and consider their cost. • Recognized the importance of effective communication and collaboration with stakeholders. 	
Student Names and IDs	ID	Name
	201801240	Amira Ahmed Abd Elmeged Mostafa Elaskary

	201802570	Omar Hassan Mohamed Abd Elalim
	201900974	Aliaa Abdulsalam Ali Abdellatif Nassar
	201600635	Asem Mohamed Ibrahim Mohamed Askar

10. Fiber Grating Based Optical Amplifiers

Program	Electronics and Communication Engineering	
Project Title	Fiber Grating Based Optical Amplifiers	
Supervisor(S)	Dr. Engy ElNayal	
Goals / Objectives	<p>Today's modern optical communication systems can boast of accessing data from any part of the earth with an enormous data rate. The first, second and third generation of optical communication system was operating with repeater spacing while the fourth generation employed optical amplifiers to reduce the need for repeaters and wavelength division multiplexing (WDM) to increase data capacity.</p> <p>The aim of this project is to design and simulate FBG based optical amplifiers focusing on dispersion compensation, signal reflection, and gain flattening techniques. And to study their performance to be contributed significantly to the development of more efficient and reliable optical amplifiers for various applications in the field of optical communication.</p> <p>This project's objectives are:</p> <ul style="list-style-type: none"> Analyze the FBG and identify its solo-function roles such as gain equalizer, dispersion compensator, and signal reflector in the optical amplifiers. Create models and design several schemes for optical amplifiers (Erbium Doped Fiber Amplifier (EDFA), Raman Amplifier and Semiconductor Optical Amplifier (SOA)) which are all using FBGs as key elements for their advantages of better uniformity, higher contrast ratio and lower cost. Address the FBG multiple-function role in the hybrid optical amplifiers. 	
Student Names and IDs	ID	Name

	201801396	Mohamed Ehab Saad Mohamed Kafafy
	201801714	Kamal Eldeen Emam Abokhozim Omran
	201902434	Karim Mohy Eldin Mohsen Ibrahim
	201801233	Eslam Nagah Asran Mohamed Kandel
	201801739	Mohamed Gamal Abdelaziz Soliman Faid

11. Near Field Communication (NFC) for Mobile Applications

Program	Electronics and Communication Engineering
Project Title	Near Field Communication (NFC) for Mobile Applications
Supervisor(S)	Dr. Heba Gamal
Goals / Objectives	<p>Near Field Communication (NFC) is a set of communication protocols for communication between two electronic devices over a distance of 4 cm or less. NFC can be defined as a contactless technology used for data exchange over short distances. There are numerous applications where the NFC concept is used such as secure cards and identity cards such as employee IDs. Plans for the future cover shopping malls, office buildings, and even the vehicles as potential places for NFC to help offer quick services.</p> <p>The main goal of this thesis is utilizing the NFC technology's potential to create a portable IoT-Based RFID (Radio Frequency Identification) attendance system using ESP32 system with a website and a database that aims to fix many of the problems and weaknesses of the traditional technique of taking attendance and make the process more concrete and automatic.</p> <p>This project's objectives are:</p> <ul style="list-style-type: none"> • Implement the NFC system on the students in Electrical Engineering Department at PUA to record the attendance of the students in different courses. • Design a system to generate a sheet with all the students' data such as name, ID, mobile number, sign in time and sign out time. • Enhance the system by adding a camera to monitor that the student himself is the one signing in and out and also, in order to prevent the occurrence that someone could be logging in and leaving for another person for more

	security. <ul style="list-style-type: none"> Develop the system to be able to send a message to the students whenever he/she signs in or out. 	
Student Names and IDs	ID	Name
	201801700	Hor Ashraf Mohamed Mahmoud khalil
	201801805	Mahmoud Ahmed Mouhsen Ahmed Ahmed
	201801218	Ahmed Mostafa Alam Ali Abd Elmoula
	201801177	Ahmed Eldesouky Fathy Abdelazim Abdelbary
	201801312	Shaimaa Fawzy Elrefaee Kasem

2. Electrical Design of New Integrated Residential Compound Area with the Implementation of Smart Unit's Technology and Smart Building Management System

Program	Electrical Power and Control Engineering
Project Title	Electrical Design of New Integrated Residential Compound Area with the Implementation of Smart Unit's Technology and Smart Building Management System
Supervisor(S)	Prof. Dr. Mahmoud El-Gammal & Dr. Yasser El-Kamshoshy
Goals / Objectives	<p>The sustainable development strategy "Egypt Vision 2030" adopts the concept of sustainable development as a general framework aimed at improving the quality of life at the present time, without prejudice to the rights of future generations to a better life. Smart residential compound areas are working to use renewable energy resources and introduce technology and Artificial Intelligence (AI) in a way that is in line with Egypt's sustainable development strategy and Egypt's Vision 2030.</p> <p>The electrical design structure meets recent trends and standards in the Egyptian integrated residential compound areas that apply smart technology, Building Management Systems (BMS), utilization of distributed generation sources and utility smart grid.</p> <p>BMS is an advanced technology that integrates and automates the electrical systems within a building. It monitors and controls a range of electrical systems such as lighting, heating, ventilation, air conditioning, and security systems to optimize their performance while minimizing energy consumption and costs.</p> <p>This project's objectives are:</p> <ul style="list-style-type: none"> Deliver electrical power to a compound area: From four 11 kV / 4 MVA incoming feeders from utility Medium Voltage (MV) network. Design the load study and illumination systems for 16 towers residential buildings besides commercial areas, garage areas and landscape services.

	<ul style="list-style-type: none"> • Design MV, Low Voltage (LV) networks and protective switchgear systems for the buildings. • Install wiring units using modern smart technology for the buildings. • Design the BMS for energy conservation. • Discuss the design techniques of the integrated project. • Be aware and responsible for the designs results of the integrated project activities during final presentation.
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Student Names and IDs	ID	Name
	201801236	Elshater Hassan Mounir Hassan Gaber
	201801736	Mohamed Alsamwal Ahmed Mohamed Aly
	201801866	Nagib Naiem Nagib Mohamed Zakdan
	201701282	Abdallah Mohamed Wageh Motawea

13. Automation SCADA System for Low Voltage Distribution Network

Program	Electrical Power and Control Engineering
Project Title	Automation SCADA System for Low Voltage Distribution Network
Supervisor(S)	Dr. Ahmed Moustafa Said Omran
Goals / Objectives	<p>The Egyptian electricity distribution networks are still facing challenges due to non-automized systems, leading to increased downtime and decreased productivity. At present, power utilities have to need full scale distribution automation to achieve real-time system information and remote-control system. Meanwhile, in modern power systems, the monitoring and control of power substations are based on the computerized Supervisory Control and Data Acquisition (SCADA) systems.</p> <p>The main goal of this project is to develop an indigenous know-how of full-scale distribution automation system for low voltage distribution networks, which can cover from secondary substations to consumer level intelligent automation. The project focused on the "Othman Ibn Affan" electricity distribution network and designed a fully automated network with intelligent control systems that can take necessary actions. E-TAP tool was used to carry out all calculations and analysis, and through the integration of Programmable Logic Control (PLC) and SCADA systems, the network was automated. This system could quickly detect and control any faults that may occur, which improved the safety and productivity of the networks.</p> <p>This project's objectives are:</p> <ul style="list-style-type: none"> • Collect a real distribution feeder section from Alex Electricity Company. • Review the collected data, re-design it using E-Tap tool and via manual calculation to select the cable's sizes, short circuit and

	<p>voltage drop calculations.</p> <ul style="list-style-type: none"> • Select and design a PLC system to measure the voltage / current at each feeder, then control the Circuit Breaker (CB) and bus couplers automatically. • Build a PLC code to operate the system automatically. • Build a SCADA code to be communicated with the PLC code, thus having a graphical display / control. • Build a prototype PLC and SCADA system to illustrate the functions and the control philosophy.
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Student Names and IDs	ID	Name
	201801228	Osama Mohamed Hatem Youssf Elgamal
	201802573	Mohamed Abd Elhady Mohy Elraae
	201801350	Abdalla Sameh Abdalla Boraey Sarhan
	201801858	Moemen Hende Mohamed Hende
	201701334	Mohamed Ahmed Mohamed Atallah

14. Smart City with Internet of Things (IoT)

Program	Electrical Power and Control Engineering
Project Title	Smart City with Internet of Things (IoT)
Supervisor(S)	Prof. Dr. Mohamed Hamdy
Goals / Objectives	<p>Smart cities use Internet of Things (IoT) devices such as connected sensors, lights, and meters to collect and analyze data. The cities then use this data to improve infrastructure, public utilities and services, and more. Smart cities provide a more efficient and higher quality lifestyle for their residents, and the methods they use to reach these goals. Hence, cities around the world are getting “smarter” every day through the implementation of IoT devices.</p> <p>The main goal of this project is to promote smart cities that provide core infrastructure and give a decent quality of life to its citizens, make their lives easier, more advanced and safer.</p> <p>In particular, the main objectives of this project are addressed as follows:</p> <ul style="list-style-type: none"> • Develop a prototype of a smart city depending on embedded control systems which smartly control garages, traffic lights and homes automatically. • Use IoT as a mobile application to control all devices in the home to be smart. In addition to safety factors against gas leaks and fires are achieved. Also, there are sensors aid reducing the electricity consumption. • Design and implement a smart garden in the city.

	Therefore, this project can be applied in new cities in Egypt.	
Student Names and IDs	ID	Name
	201801384	Kareem Tarek Salah Ali Mohamed Elsayed
	201801355	Abdou Salah Abd Elwanees Eladly
	201600490	Mohy Eldin Afify Ali Mohamed Afify
	201802004	Yossef Mohamed Mostafa Zakaria Mohamed
	201701454	Ahmed Salah Abdelhamed Ahmed Ibrahim

15. Electrical Design of New Integrated Residential Compound Area with the Implementation of Smart Unit's Technology and Management of Distributed Generation

Program	Electrical Power and Control Engineering
Project Title	Electrical Design of New Integrated Residential Compound Area with the Implementation of Smart Unit's Technology and Management of Distributed Generation
Supervisor(S)	Prof. Dr. Mahmoud El-Gammal & Dr. Sahar Moussa
Goals / Objectives	<p>The sustainable development strategy "Egypt Vision 2030" adopts the concept of sustainable development as a general framework aimed at improving the quality of life at the present time, without prejudice to the rights of future generations to a better life. Smart residential compound areas are working to use renewable energy resources and introduce technology and Artificial Intelligence (AI) in a way that is in line with Egypt's sustainable development strategy and Egypt's Vision 2030.</p> <p>The electrical design structure meets recent trends and standards in the Egyptian integrated residential compound areas that apply smart technology, Building Management Systems (BMS), utilization of distributed generation sources and utility smart grid.</p> <p>This project's objectives are:</p> <ul style="list-style-type: none"> Plan a power distribution network for cutting-edge structures with top-notch amenities while taking energy conservation into consideration. Design the load study and illumination systems for 16 towers residential buildings besides commercial areas, garage areas

	<p>and landscape services.</p> <ul style="list-style-type: none"> • Design Medium Voltage (MV), Low Voltage (LV) networks and protective switchgear systems for the buildings. • Install wiring units using modern smart technology for the buildings. • Design PV solar energy sources including requirements of control systems and smart meters. • Discuss the design techniques of the integrated project. • Be aware and responsible for the designs results of the integrated project activities during final presentation. 	
Student Names and IDs	ID	Name
	201801292	Ziad Mohamed Ali Yakout Elmelegi
	201801387	Kirolos Karam Lotfi Bekhet Saleb
	201801263	Peter Boles Fawzy Fahim Yousef
	201801330	Abdelrahman Hassan Rashad Mohamed Elzorba
	201701332	Mohamed Ahmed Ramadan Rizk Yossef

16. PV Energy Performance in a Sustainable PUA Campus

Program	Electrical Power and Control Engineering
Project Title	PV Energy Performance in a Sustainable PUA Campus
Supervisor(S)	Dr. Gamal Mahmoud
Goals / Objectives	<p>The International Energy Agency (IEA) reckons Egypt is one of the world's best regions for solar. The Pharos University in Alexandria (PUA) campus is geographically located in the central part of Alexandria city.</p> <p>The main goal of this project is to supply the electricity campus with the PV solar system on grid, using the roof spaces of buildings and outdoor garage areas to provide electricity and connect it to the loads to reduce electricity costs. In addition to, transforming the PUA campus into smart by replacing the conventional lighting systems with LED lamps and finding the most suitable types of lighting by using the DIALux.evo software.</p> <p>This project's objectives are:</p> <ul style="list-style-type: none"> • Design the engineering drawings for all buildings in PUA campus using AutoCAD software. • Passing through all buildings in PUA campus to estimate all electrical loads like (lighting, elevators, sockets, air conditioners, etc.). • Distribute the current conventional fluorescent lighting system using DIALux.evo and compare it with the manual

	calculations and the lighting code. <ul style="list-style-type: none"> • Redistribute the lighting by the LED smart system then make comparisons include (number of lamps, power consumption, average lux, and total price). • Compare the calculated loads with the electricity meters readings to determine the average consumption of each building. • Design the PV solar system for the PUA campus to supply electricity. • Connecting the inverters to the Grid system with the generating surpluses of the PV system. • Harmonize the legislation of the Egypt sustainable development plan (Egypt's Vision 2030) for green society. 	
Student Names and IDs	ID	Name
	201801345	Abdelrahman Mahmoud Mohamed Mahmoud Farghaly
	201801290	Ziad Osama Mohamed Mohamed Ahmed Abo Ahmed
	201801187	Ahmed Samy Ali Ibrahim Kassem
	201801416	Momen Mohamed Abd Elsalam Mahmoud Elsayed

17. Multi-Purpose Agricultural Robot

Program	Electrical Power and Control Engineering
Project Title	Multi-Purpose Agricultural Robot
Supervisor(S)	Prof. Dr. Ahmed Abdullah
Goals / Objectives	<p>We are moving to a world where robots need to make intelligent decisions about what to do based on what they see. With various features and special technologies, the agricultural robots can be multi-tasking. They can do everything starting from seeding, planting seeds, doing weed control, harvesting, environmental monitoring, and soil analysis. It can take care of agriculture processes and replace tough manual tasks with machinery. Since the robotics have enormous advantages in agriculture such as reduced cost of production, enhancing the production, speed in various agricultural practices, help fill the gap left by a shortage of farmworkers and produce financial savings by detecting problems and threats early, which prevent any unexpected disaster</p> <p>The main goal of this project is to design and build multi-purpose smart agricultural robot prototype, which is used for navigating into the agricultural field, moving to the infected plant for spraying the appropriate pesticide on the plant in the desired quantity, cutting grass, sowing seeds, checking the plant health, detecting and removing weed. This whole system of the robot works with the solar battery charging station.</p> <p>This project presents wireless plant health monitoring system using sensors and Cloud. Implementing of Internet of Things (IoT) can prevent</p>

	<p>any kind of harmful effect over plant early, provide proper treatment to plant and increase the yield of the crop, i.e. IoT would make a major contribution to agricultural growth.</p> <p>This project's objectives are:</p> <ul style="list-style-type: none"> • Understand the basic principles of using photovoltaic technologies to generate solar power. • Identify the main components of robots, types and applications. • Select the type and sizing of robot motors. • Choose the right power source for your robot. • Design and build multi-purpose agricultural robot. • Investigate the environmental and economic impacts of robots. 	
Student Names and IDs	ID	Name
	201801180	Ahmed Gomaa Abdelaziz Ibrahim AlAtfy
	201801795	Mohamed Mohamed Elsayed Salama
	201801798	Mohamed Mosaad Abdelhamed Arifa
	201300056	Omar Ali Shaban Assy

Mechanical Engineering Department

(EM400-1 & EM400-2)

FACULTY OF ENGINEERING

2022-2023

Mechanical Engineering Department (EM400-1 & EM400-2)



1. Design and Manufacturing of Dry Ice Blasting Machine Prototype

Program	Mechanical Power + Manufacturing Engineering	
Project Title	Design and Manufacturing of Dry Ice Blasting Machine Prototype	
Supervisor(S)	Prof. Samy Oraby + Prof. Mohamed El-Helw	
Goals / Objectives	<p>Dry Ice Blasting is a ground breaking, non-toxic, non-abrasive cleaning method that produces zero secondary waste. It consists of a frozen solid pellets of recycled carbon dioxide gas at atmospheric pressure at -78°C. It is Odour free; Non-toxic; Non-combustible.</p> <p>The project includes two successive functional stages. The first is making dry ice pellets from liquified carbon dioxide cylinders, preparing for use in the second stage for specific industrial applications which is a jet blasting process.</p> <p>The project, therefore, will be a joined discipline between senior students from both PUA Mechanical Engineering Department Programs: Mechanical Power Engineering (MPE) and Industrial and Manufacturing Engineering (IME) .</p> <p>Objectives are to:</p> <ul style="list-style-type: none"> • Introduce a non-hazardous cleaning method that is nontoxic, • non-abrasive, efficient and has no secondary waste • Design & manufacture a pelletizer machine that produces frozen • solid pellets of recycled carbon dioxide gas • Design & manufacture a dry ice blasting machine 	
Student Names and IDs	ID	Name
	201801264	Peter Mounir Marzouk Boghdadi
	201801740	Mohamed Gamal Kamel
	201801297	Ziad Hani Ragab Gomaa
	201801803	Mohamed Wael Mohamed
	201801284	Reem Mohamed Noseir

2. ECONOMIC AND TECHNICAL SOUNDNESS ANALYSIS IN THE PRODUCT DEVELOPMENT PROCESS

Program	Industrial & Manufacturing Engineering	
Project Title	Economic and Technical Soundness Analysis in the Product Development Process	
Supervisor(S)	Dr. Salah Eldin Mousaad – Eng. Rita Palabeyekian	
Goals / Objectives	<p>The project study is intended to develop, design, and implement of a product development processes. The term “feasibility study” is often used in context of product development processes. There are two main examination aspects: economic feasibility and technical feasibility that will be considered in the project activities. The preparation of a feasibility study is a task which if it is to be done well, requires inputs from many professional disciplines for the various components of the study, the most important of which are as follows: market analysis and marketing; location, site, and environment; engineering and technology; and financial analysis. All these respects will constitute the framework of project development. Project objectives are to:</p> <ul style="list-style-type: none"> • Develop, design, and conduct a techno economic feasibility analysis of solar photovoltaic power generation • Highlighting the feasibility of installing the standalone solar PV system in the Pharos University Buildings. 	
Student Names and IDs	ID	Name
	201801377	Amr Azzat Ezzeldin Moustafa
	201801389	Mazen Shawky Abd Elsamea Emam Elmahdy
	201801415	Moaz Mohamed Ibrahim Mahmoud Ahmed Emara
	201802399	Youssef Atef Abdelmaseh Farg
	201801294	Ziad Mohamed Ahmed Fadel

3. Design, Manufacturing, and Testing of 3D concrete printing machine

Program	Industrial and Manufacturing Engineering	
Project Title	Design, Manufacturing, and Testing of 3D concrete printing machine	
Supervisor(S)	Dr Sameh Mahdy	
Goals / Objectives	<p>Our project allows to create custom objects not feasible with traditional concrete casting methods. They can be smaller components like architectural furniture, or large-scale, fully-printed buildings and civil infrastructure. Project objectives are to:</p> <ul style="list-style-type: none"> • Study the concept of 3D concrete printing (3DCP) • Design a concept design for a 3DCP machine • Fabricate and assemble 3DCP machine • Test 3DCP machine and evaluate results • Print a real life practical example on recently fabricated 3DCP 	
Student Names and IDs	ID	Name
	201801185	Ahmed Reda Hamroush
	201801725	Mazen Mohamed
	201801304	Seif essam
	201801364	Omar el sayed
	201801380	Amr Moustafa Anwer

4. Design, Simulation and Fabrication of a Supersonic Wind Tunnel

Program	Mechanical Power Engineering	
Project Title	Design, Simulation and Fabrication of a Supersonic Wind Tunnel	
Supervisor(S)	Dr. Adel Abdelrahman	
Goals / Objectives	<p>A supersonic wind tunnel is a fundamental requirement of the day. Wind tunnel is one of the tools that is often used in mechanical engineering laboratory and aerodynamic researches to study the air flow moving through or around a solid (aircrafts, cars, buildings, etc.) and testing objects such as the spikes used in the fore section of the supersonic aircrafts, and shock absorbing objects.</p> <p>Our objectives are to:</p> <ul style="list-style-type: none"> • Design of an educational model of a supersonic wind tunnel blowdown type • Study the characteristics of the gas flow and its effect on different structures, prove the correlation by using Computational Fluid Dynamics (CFD) • Compare the CFD results to the numerical calculations • Fabrication of the educational wind tunnel model 	
Student Names and IDs	ID	Name
	201801307	Sherif Salem Abdel Maksoud Awad
	201802493	Nabil Mostafa Moussa Sarhan
	201801248	Ayman Ashraf Fouad Nafae
	201701258	Safwat elbialy abdelhalim
	201600376	Alaa Eldin Khaled zahran

5. Design the CubeSat structure and study the Mechanical loads

Program	Mechanical Power Engineering	
Project Title	Design the CubeSat structure and study the Mechanical loads	
Supervisor(S)	Dr. Ahmed Anwar	
Goals / Objectives	<p>In purpose of increase the car traffic and the jamming due to the existing of cars on the street sides. In this project we will study the design and implementation of a double platform car parking to reduce the area needed for car parking to half.</p> <p>The project objectives are to:</p> <ul style="list-style-type: none"> • Double the parking capacity inside a parking lot. • Reduce traffic and pollution. • Construct a customizable parking for any space. • Improve parking experience. 	
Student Names and IDs	ID	Name
	201801799	mohamed mosaad abdel salam
	201801256	Bassem Alaa ELdin Mohamed Taha
	201801713	Karim Mohamed Gaafer
	201801742	Mohamed Hussein Mohamed Mohamed
	201801871	Nour Eldin ElHassan Mohamed
	201801338	Abd ElRahman Kotb Mahmoud

6. Design of Central Air-Conditioning (HAVC), With Experimental Model

Program	Mechanical Power Engineering	
Project Title	Design of Central Air-Conditioning (HAVC), With Experimental Model	
Supervisor(S)	Dr. Ahmed Helmy	
Goals / Objectives	<p>HVAC is closely related to the living standard of the people and to the outdoor environment, such as through ozone depletion and global warming. It provides heating and cooling from its central plant or rooftop units. It also controls and maintains the temperature, humidity, air movement, air cleanliness, sound level, and pressure differential in a space within predetermined limits for the comfort and health of the occupants of the conditioned space or for the purpose of product processing. Central air conditioning systems serve multiple spaces from one base location. These typically use chilled water as a cooling medium and use extensive ductwork for air distribution.</p> <p>The project objectives are to:</p> <ul style="list-style-type: none"> • Design and select of HVAC system, for a Building using the cooling load classic methods and software method (HAP) including the duct design. • Design and construction of an experimental model for some of AHU devices. • Evaluate and analyse the results of the model. 	
Student Names and IDs	ID	Name
	201701213	Ehab Ahmed Mostafa Ahmed
	201801231	Eslam Mahmoud ElSafy
	201801379	Amr Mohamed Saad Mohamed
	201802067	Ismail Mohamed Ali Farid
	201701207	Anas Mohamed Masoud

7. A theoretical and practical economic study of reverse engineering for the design and overhauling of internal combustion engine.

Program	Mechanical Power Engineering	
Project Title	A theoretical and practical economic study of reverse engineering for the design and overhauling of internal combustion engine.	
Supervisor(S)	Dr. Eng. Ahmed Draz	
Goals / Objectives	<p>The current project introduces a theoretical and practical economic study for design and overhauling diesel engine.</p> <p>The objectives of the project are to:</p> <ul style="list-style-type: none"> • Set theoretical criterion for selection of engines to be assessed. • Apply reverse engineering to calculate the dimensions of the main components of the engine according to what has been studied and match them to the real dimensions and make a comparison between them. 	
Student Names and IDs	ID	Name
	201801328	AbdulRahman Elmadawy Ebrahim
	201801374	Amr ahmed saeed
	201801309	Shreif Mohamed ali
	201801334	AbdulRahman abdelIslam Mohamed
	201801216	Ahmed Mohamed Mohamed Eissa

8. Pipeline Design, Control & Pumping System Optimization

Program	Mechanical Power Engineering	
Project Title	Pipeline Design, Control & Pumping System Optimization	
Supervisor(S)	Dr. Gasser E. Hassan	
Goals / Objectives	<p>Pipelines permit the transportation of large volumes of petroleum products, natural gas and water from major supply sources to distribution centers near market areas. Pipelines maybe classified according to the location like onshore and offshore pipelines.</p> <p>The project objectives are to:</p> <ul style="list-style-type: none"> • Learn the principles of pipeline design • Introduce the required pumping system, control valves, etc. to the pipeline • Reduce the head losses. • Testing of pipeline before service and operation. 	
Student Names and IDs	ID	Name
	201801747	Mohamed saad Darwish Zahran
	201801844	Mostafa Mohamed Mostafa ElSaid
	201801206	Ahmed Mohamed Ibrahim
	201601806	Abd ElRahman Ali Mohamed Amer
	201600364	Abd ELRahman Mohamed Hassan Mohamed
	201801217	Ahmed Mostafa Ahmed Khalefa

9. Thermal performance analysis of PVT integrated with flat plate collector for domestic hot water

Program	Mechanical Power Engineering	
Project Title	Thermal performance analysis of PVT integrated with flat plate collector for domestic hot water	
Supervisor(S)	Dr. Mohamed Alnakeeb	
Goals / Objectives	<p>Based on the Literature survey and student knowledge, relatively little work has been done to improve the PVT system. Therefore, the present project studied experimentally and numerically a new PVT system to enhance the efficiency of electricity generation using PCM with low melting points integrated with a heat exchanger to generate hot water for domestic use. The project objectives are to:</p> <ul style="list-style-type: none"> • Improve the PV efficiency. • Generate hot water for domestic use. • Reduce CO2 emissions. • Reduce the effect of climate change phenomenon. 	
Student Names and IDs	ID	Name
	201801253	Aya Saad Mahmoud
	201801841	Mostafa Mohamed ELmetwaly
	201801201	Ahmed Emad Mohamed Abd ELKhader
	201801252	Ayman Mohamed Mohamed Rizk
	201801788	Mohamed Abd EL Aleem Mohamed
	201801385	Karim Mohamed Ali

10. Design and fabrication of Hydraulic Scissor Lift

Program	Mechanical Power Engineering	
Project Title	Design and fabrication of Hydraulic Scissor Lift	
Supervisor(S)	Dr. Mohamed Naeem	
Goals / Objectives	<p>A hydraulic pallet lift is a mechanical device used for various applications for lifting of the loads to a height or level. A lift table is defined as a scissor lift used to stack, raise or lower, convey and/or transfer material between two or more levels. The main objective of the devices used for lifting purposes is to make the table adjustable to a desired height.</p> <p>Project objectives are to:</p> <ul style="list-style-type: none"> • Access High Places that Difficult to Reach's. • Improve Productivity • Reduce workplace injuries 	
Student Names and IDs	ID	Name
	201801184	Ahmed Raafat Abd ELHafez
	201801318	Adel Tarek Saad
	201801395	Mohamed EL Nameiry Sayed
	201801844	Mostafa Mohamed Fathy Kasem
	201802001	Yousef Ramadan Gomaa
	5311051	Osama Abdelhafez Ali

11. HVAC SYSTEM FOR OLYMPIC VILLAGE

Program	Mechanical Power Engineering	
Project Title	HVAC SYSTEM FOR OLYMPIC VILLAGE	
Supervisor(S)	Dr. Mohamed Shawky Ismail	
Goals / Objectives	<p>Temperature and humidity control is the crucial point in designing an air conditioning system specially in athletics facilities. And also, the energy efficiency and reducing the energy consumption is dominant recently. ASHREA and other organizations should be considered and its recommendations should be taken into consideration at all steps of design.</p> <p>The project objectives are to:</p> <ul style="list-style-type: none"> • Design and drawing HVAC central system • Calculate the cooling load. • Prepare a prototype in HVAC application, Duct size recommendation and specification. 	
Student Names and IDs	ID	Name
	201801359	Emad Anwar El Sayed
	201801340	Abdel Rahman Mohamed Seddik
	201801842	Mostafa Mohamed Abdallah
	201801259	Bassam Ahmed Mortada Elhawari
	201801888	Hesham Gamal ELSayedMohamed

12. Medical Services Robot

Program	Mechanical Power Engineering	
Project Title	Medical Services Robot	
Supervisor(S)	Dr. Mostafa Elhadary	
Goals / Objectives	<p>The COVID-19 proved to be a deadly virus causing several fatal medical issues to the infected person, for both babies and adults.</p> <p>As a result, the governments established numerous protocols including lockdowns through the whole country and curfew as well as other safety measures that the whole world is currently following in hopes of overcoming the current pandemic situation.</p> <p>It aimed to:</p> <ul style="list-style-type: none"> • Lean about the safety regulations that guards against spreading of the pandemic • Introduce robots in the medical field. • Design and construct a medical robot. 	
Student Names and IDs	ID	Name
	201802062	Ahmed Salah ELDin Mohamed
	201801424	Walid Samy Salah
	201801192	Ahmed Tarek Anwer
	201802397	Hesham Saad Ahmed EL Sefe
	201801510	Hassan El Saeed Serag ELDin
	201801401	Mohamed Sobhy Ragab

13. Design of sustainable stair lift

Program	Mechanical Power Engineering	
Project Title	Design of UPVC Windows & Door Welding Machine	
Supervisor(S)	Dr. Nabil Rashwan	
Goals / Objectives	<p>Old people and people with special needs are part of the society and receive nowadays an increasing concern from the Egyptian government. The current project contributes to reducing the burden on this segment of the society. Its objectives are to:</p> <ul style="list-style-type: none">• Serving a class of society• Rely on batteries instead of cables• Passenger comfort• Reduce the cost of competition in the market	
Student Names and IDs	ID	Name
	201801796	Mohamed Mohamed Mahmoud Ibrahim
	201801428	Yousef Mostafa Abdel Fatah
	201801802	Mohamed Nader Sayed Ahmed
	201801322	Abdel Rahman Ibrahim Abdel Aziz Abdel Rahman
	201801250	Ayman Abdo Ramadan Ali

14. Air Type Solar Collector

Program	Mechanical Power Engineering	
Project Title	Design & Manufacturing of Solar Starting System	
Supervisor(S)	Dr. Noha Alaa El-Din	
Goals / Objectives	<p>Solar energy is one of the most useful energies. By comparing solar energy with other energies, solar energy is clean, available, cheap and most importantly environmentally friendly. Solar air heating is a renewable energy heating technology used to heat or condition air for buildings or process heat applications.</p> <p>The project objectives are to:</p> <ul style="list-style-type: none"> • Study different types of solar collectors. • Determine energy required by selecting application • Select suitable type • Select material and design solar collector • Manufacture the collector • Add some modifications to improve the efficiency • Analyse the outcome and handle errors 	
Student Names and IDs	ID	Name
	201801262	Belal Mostafa Mohamed Gad
	201802398	Wessam Hamdy Abdel Naby Hassan
	201801269	Hamza Abdel Gawad Soliman
	201801251	Ayman Mohamed Abo Bakr Arfa
	5313210	Omar Samy Abo ELnaga

15. Mini-Channel Solar Water Heater

Program	Mechanical Power Engineering	
Project Title	Thermal & Electrical Applications of Solar Energy in Water Heater	
Supervisor(S)	Prof. Dr. Mohamed Khamis	
Goals / Objectives	<p>Solar energy has increasing applications today because of its low cost and it is an environment friendly resource. In this project we intend to assess the thermal performance of a novel design of minichannel-based solar flat-plate collector. The solar collector consists of an array of minichannels located in the absorber plate which is covered by single glass cover. The enhancement in the overall heat transfer coefficient in the collector absorber leads to upgrading to the thermal efficiency of the novel solar collector.</p> <p>The main objectives of the project are:</p> <ul style="list-style-type: none"> • Raising of the efficiency of water heating solar systems • Hot Water Retention Counting Hours 	
Student Names and IDs	ID	Name
	201801372	Omar mohamed yousry ahmad
	201801227	Osama Hussien Abdelaziz Behairy
	201801219	Ahmed moawad abbas ayoub
	201802574	Mohamed fawzi ahmed ahmed
	201701204	Ameer salah Abdulhadi Alkhateeb

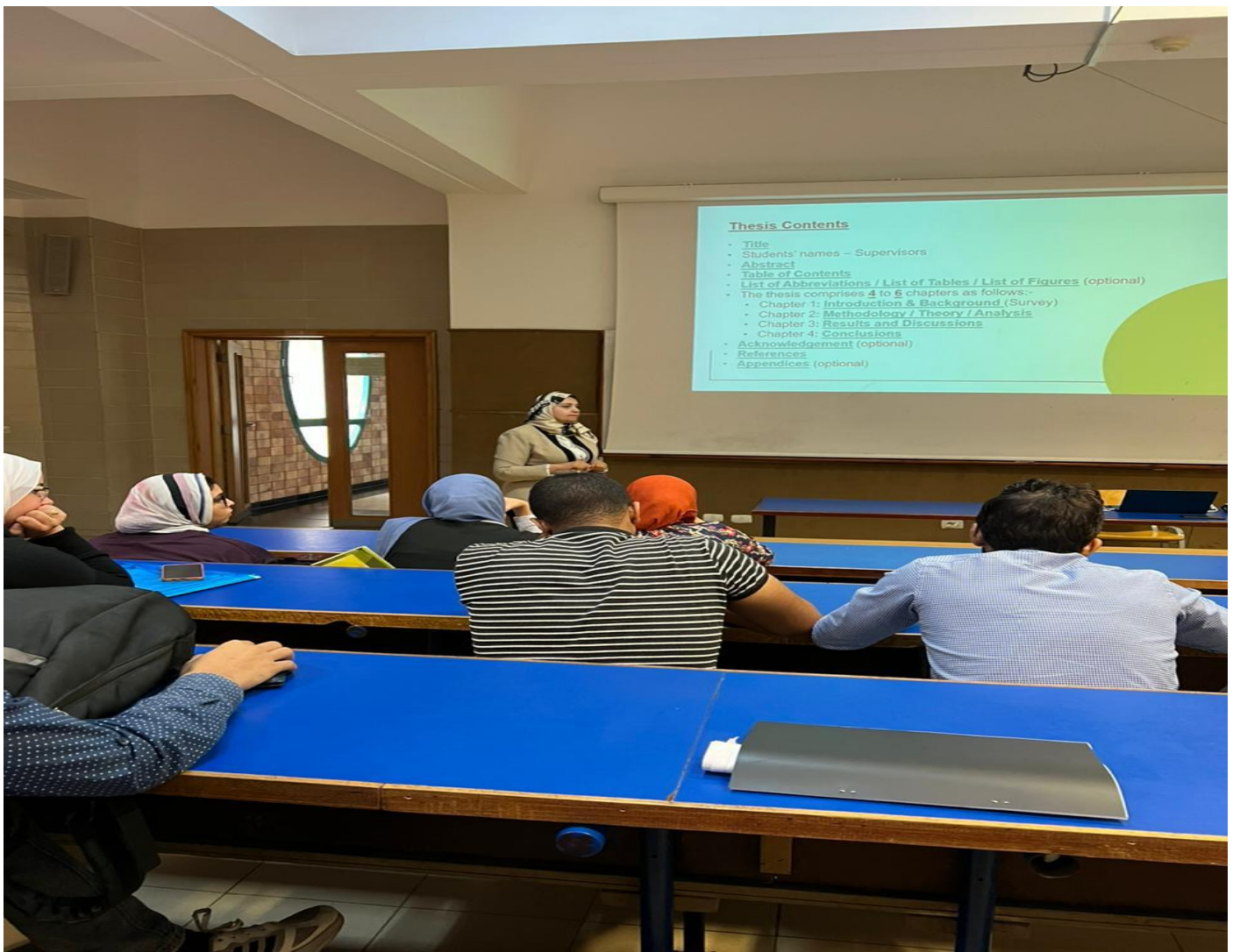
Petrochemicals Engineering Department

(EP400-1 & EP400-2)

FACULTY OF ENGINEERING

2022-2023

Petrochemicals Engineering Department (EP400-1 & EP400-2)



1. New Composite Materials from E-Waste plastics

Program	Petrochemicals Engineering	
Project Title	New Composite Materials from E-Waste plastics	
Supervisor(S)	Prof. Dr.Ehssan Nassef-Dr.Reham Mohamadein	
Goals / Objectives	<p>Electronic waste (e-waste) is the fastest growing waste on the planet, with an annual growth rate of 3–4%.project. Recycling of e-waste plastics is hampered due to the presence of brominated flame retardants. Traditional processes are proving to be insufficient for e-waste plastics recycling.</p> <p>The main project objectives are to:</p> <ul style="list-style-type: none"> -Identify Management and recycling of E plastic as a valuable resource of IT. -Promote conversion of e-waste plastics into value-added products. - Develop Utilisation of e plastic waste materials as a partial solution to environmental and ecological problems. -Enhance reduction in the landfill cost and it is energy saving. 	
Student Names and IDs	ID	Name
	5313424	Abdelrahman Atif Sabry Gab-Alla
	5314092	Hossam Eldin Moustfa Khalel moustfa Badran
	201801728	Mazin Hisham Abdelshafi Elmoursy Elwakel

2. New trend in manufacturing synthetic lube oil

Program	Petrochemicals Engineering	
Project Title	New trend in manufacturing synthetic lube oil	
Supervisor(S)	Prof. Dr.Ehssan Nassef- Dr. Hesham Salah	
Goals / Objectives	<p>Kerosene is the material used in the present work to get alpha-olefins. It is a material that is produced in Egyptian refining companies in a big amount with low economic features, compared to Gasoline and Gas oil.</p> <p>The main project objective are to:</p> <ul style="list-style-type: none"> - Promote the preparation of synthetic oils using Egyptian resources as an alternative to importing these oils. - Enhance the reduction of the use of financial resources used in importing from abroad. 	
Student Names and IDs	ID	Name
	201600392	Omar Khaled Kamal Abd Elghany Elballasy
	201802006	Youssif Hany Farouk Salem
	201600255	Ahmed Anwar Lam'y Hassan Elgamal
	201801293	Ziad Emad Ahmed Darwish

3. Biodegradable polymers for the production of slow-release urea fertilizer

Program	Petrochemicals Engineering	
Project Title	Biodegradable polymers for the production of slow-release urea fertilizer	
Supervisor(S)	Assoc. Prof. Dr.Noha Said- Dr. Ahmed Saad	
Goals / Objectives	<p>Slow-release fertilizers don't need to be applied as frequently as other fertilizers, making them more cost-effective. They reduce toxicity caused from the quick dissolution of conventional fertilizers.</p> <p>The main project objectives are to:</p> <ul style="list-style-type: none"> -Develop new generation of environmentally friendly fertilizers using biodegradable binder materials to coat urea fertilizer granules. - Promote Maximum uptake and utilization of the nutrient in fertilizer. - Enhance minimizing Fertilizer losses due to leaching and volatilization. - Enhance Slower Nutrient release because the nutrients are surrounded by a special coating. - Develop Cost-effective fertilizers, since slow-release fertilizers don't need to be applied as frequently as other fertilizers. - Enhance Reduction in toxicity caused from the quick dissolution of conventional fertilizers. 	
Student Names and IDs	ID	Name
	201701420	Mohanad Mohsen Mahmoud Mohsen Ali
	201501147	Mohamed Khaled Mohamed Amin Elabd
	201701170	Ahmed Gomaa Ibrahim Gomaa Mahmoud
	201501288	Mohamed Maher Fathi Abdelgawad Ewida

4. Utilization of Industrial Calcium Carbonate by product from Sugar Beet Mud waste

Program	Petrochemicals Engineering	
Project Title	Utilization of Industrial Calcium Carbonate by product from Sugar Beet Mud waste	
Supervisor(S)	Assoc. Prof. Dr.Noha Said- Eng. Yehia Selim- Eng. Mohamed Shawky	
Goals / Objectives	<p>Press mud is a waste product of sugar industry, it contains precipitated calcium carbonate with certain impurities. It is obtained after double carbonation of sugar. Utilization of solid industrial wastes helps in reducing energy consumption which is to be required in shifting the waste to some disposable sites, in saving land and controlling pollution.</p> <p>The main project objectives are:</p> <ul style="list-style-type: none"> - Develop an effective disposal and utilization of sugar beet mud waste. - Enhance reduction in energy consumption. 	
Student Names and IDs	ID	Name
	201801266	Habiba Mamdouh Mohamed Abdallah Mahmoud
	201801394	Mohamed Elsafy Mohamed Hassan
	201802543	Amr Hesham Mohamed Fathy Alattar

5. Eco-friendly heat stabilizer for polyvinyl chloride by using Expandable graphite and Ca/Zn

Program	Petrochemicals Engineering	
Project Title	Eco-friendly heat stabilizer for polyvinyl chloride by using Expandable graphite and Ca/Zn	
Supervisor(S)	Dr.Aya Soliman-Dr.Ashraf Morsy	
Goals / Objectives	<p>Preparation of nontoxic, environmental protection and using it in the Polyvinyl chloride (PVC) plastic to overcome thermally unstable at processing temperatures of PVC products at high temperature is the aim of the present work.</p> <p>The main project goals are:</p> <ul style="list-style-type: none"> - Develop new nontoxic materials as heat stabilizer for polyvinyl chloride to achieve sustainability goals. - Identify the basic concepts in the design of heat stabilizer. - Identify the impact of the performance of heat stabilizer 	
Student Names and IDs	ID	Name
	201801321	Abd Elhakam Abd Elnaby Abd Elhafez Abd Elhamed
	201801241	Amira Thabet Gabr Elsayed Hussin
	201801720	Maged Ramadan Farag Othman
	201801894	Yara Mohamed Mamdouh Abdelkader Elfakharani

6. Green Approach and Safer Alternatives to Toxic Flame Retardants for Polyurethane foams.

Program	Petrochemicals Engineering	
Project Title	Green Approach and Safer Alternatives to Toxic Flame Retardants for Polyurethane foams.	
Supervisor(S)	Dr.Aya Soliman-Dr.Ashraf Morsy- Eng.Hossam Anwar	
Goals / Objectives	<p>In present work, three different flame-retardants will be synthesized separately to create Alternatives to Toxic Flame Retardants for Polyurethane foams.</p> <p>The main project objectives are to:</p> <ul style="list-style-type: none"> -Develop new materials as Alternatives to Toxic Flame Retardants for Polyurethane foams. -Identify the basic concepts in design of the Flame retardancy - Identify the properties of environmentally friendly materials. - Develop a solution for the generation of hazardous fumes and gases -Identify the impact of the performance of Flame retardancy 	
Student Names and IDs	ID	Name
	201801325	Abdelrahman Ahmed Mahmoud Soliman Ahmed
	201801810	Marwan Mohamed Ghareb Ahmed Mabrouk
	201801306	Sherif Khair Alla Mahmoud Khair Alla Maree
	201801281	Rawan Ayman Mohamed Elsayed Elalfy

7. Environmentally smart coating for enhancing photocatalytic corrosion resistance of steel Green Approach and Safer Alternatives to Toxic Flame Retardants for Polyurethane foams.

Program	Petrochemicals Engineering	
Project Title	Environmentally smart coating for enhancing photocatalytic corrosion resistance of steel	
Supervisor(S)	Dr.Elsayed Gado Blal- Eng.Mahmoud Abd El Aty	
Goals / Objectives	<p>Using a photocatalyst combined with a lower cost epoxy coating that replaces the active metal in the traditional sacrificial anode protection method is not only low in energy consumption but also clean and environmentally friendly.</p> <p>The main project objectives are to:</p> <ul style="list-style-type: none"> -Develop a photocatalyst combined with a lower cost epoxy coating to achieve reduction in energy consumption and which is clean and environmentally friendly. - Develop a composite epoxy (EP) coating with the addition of an O-O/g-C₃N₄ (OCNNS) photocatalyst to improve the corrosion resistance of steel blocks. - Enhance the corrosion resistance of coated samples by open circuit potentials (OCP), non-electrochemical test used for the evaluation of corrosion inhibition efficiency, 	
Student Names and IDs	ID	Name
	201801258	Baraa Badr Mahrous Abdelmaksoud
	201801274	Khaled Atta Abdelrahman Shehata
	201601842	Alaa Eldin Ali Ragab Abo Shara

8. Preparation and Characterization of Performance Grade Bitumen for Super Paving Application

Program	Petrochemicals Engineering	
Project Title	Preparation and Characterization of Performance Grade Bitumen for Super Paving Application	
Supervisor(S)	Prof.Dr.Abbas Anwar-Dr.Yasser Elnaggar	
Goals / Objectives	<p>Bitumen cement is modified by several polymers and chemical additives to improve its physical, and mechanical properties as elastic paving at low service temperatures, cracking, stiffer paving at high temperatures and finally reducing rutting. This polymer modified bitumen (PMB) is used in super paving application in</p> <p>in addition to reducing the cost of pavements.</p> <p>The main project objectives are:</p> <ul style="list-style-type: none"> - Develop Selecting and characterization of local bitumen. - Develop PMB by using different types of SBS copolymer. - Identify Preparation and characterization of PMB using Fisher Tropsch Paraffin wax. - Identify Evaluation of Bitumen/Polymer compatibility. - Develop Preparation and characterization of hot mix asphalt using the empirical formula of the selected PMB (PG). 	
Student Names and IDs	ID	Name
	201801191	Ahmed Salah Mohamed Mohamed Mohamed
	201600459	Mohamed Abd Elmohsen Mohamed Elshaikh
	201801400	Mohamed Khaled Abd Elmonsef Khaled Elmezyen
	201801369	Omar Fathy Saed Ibrahim Ragab

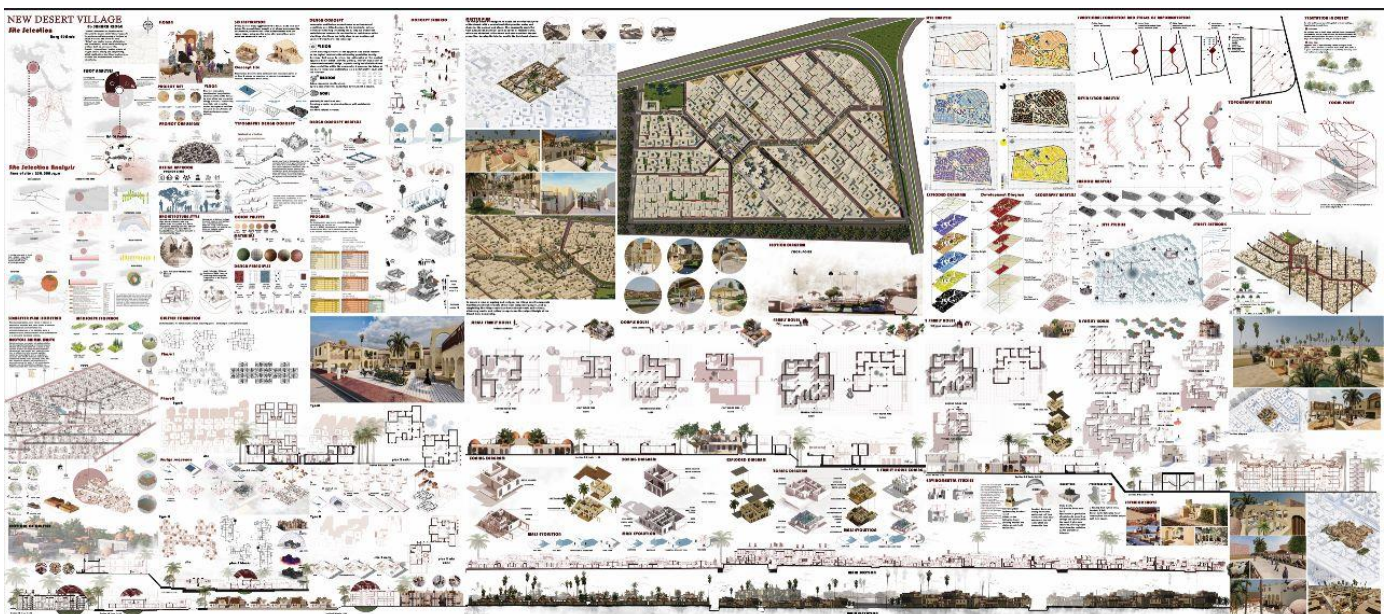
Architectural Department

(EA512)

FACULTY OF ENGINEERING

2022-2023

Architectural Department (EA512)



1. New Housing Projects – Response to Climate Change and the New Environmental Agenda

Program	Architectural Engineering	
Project Title	New Villages in Desert Extension Zones	
Supervisor(S)	Prof.Dr.Ahmed Mounir- Prof.Dr.Ramdan Abdelmaksoud	
Goals / Objectives	<p>This project would represent a residential neighborhood to accommodate dwellings for approximately 5000 persons, in addition to a central zone that has all the complementary services (Educational, religious, commercial, ...)</p> <p>Creative designs need to focus on the new built contexts, their particular settings, local determinants, and environmental responsiveness in order to develop appropriate approaches to housing provision. In particular, housing projects must fulfill multiple objectives on the environmental agenda and also on the socio-economic level on a sustainable basis.</p> <ul style="list-style-type: none"> • All components are to be considered based on principles of efficient use, • Contemporary living needs and spatial organization. • Residences should achieve optimum performance according to design criteria, • Adequate amount of space, • And should foster a convenient residential environment. 	
Student Names and IDs	ID	Name
	201801497	MohamedAbo Khalil Elsherbeny
	201801522	Habiba Tallah Mohamed Abdou



2. New Housing Projects – Response to Climate Change and the New Environmental Agenda

Program	Architectural Engineering	
Project Title	Housing Estates in New Industrial Zones	
Supervisor(S)	Prof.Dr.Ramdan Abdelmaksoud-Prof.Dr.Hassan Abdelsalam	
Goals / Objectives	<p>This project would represent a residential neighborhood to accommodate dwellings for approximately 5000 persons, in addition to a central zone that has all the complementary services (Educational, religious, commercial, ...)</p> <p>Creative designs need to focus on the new built contexts, their particular settings, local determinants, and environmental responsiveness in order to develop appropriate approaches to housing provision. In particular, housing projects must fulfill multiple objectives on the environmental agenda and also on the socio-economic level on a sustainable basis.</p> <ul style="list-style-type: none"> • All components are to be considered based on principles of efficient use, • Contemporary living needs and spatial organization. • Residences should achieve optimum performance according to design criteria, • Adequate amount of space, • And should foster a convenient residential environment. 	
Student Names and IDs	ID	Name
	201801485	Abdelrahman atef shawareb
	201801505	Jasmine Mohamed Abdelmonaem

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