



Ain Shams University

Faculty of Engineering

Academic Departments

Our Place: Our vision



This work is compiled and designed by associate professor Abeer Elshater in 2015. The work is revised by associate professor Gamal Hashem. The photos editing is done by Eng. Wsam El-Bardesi.
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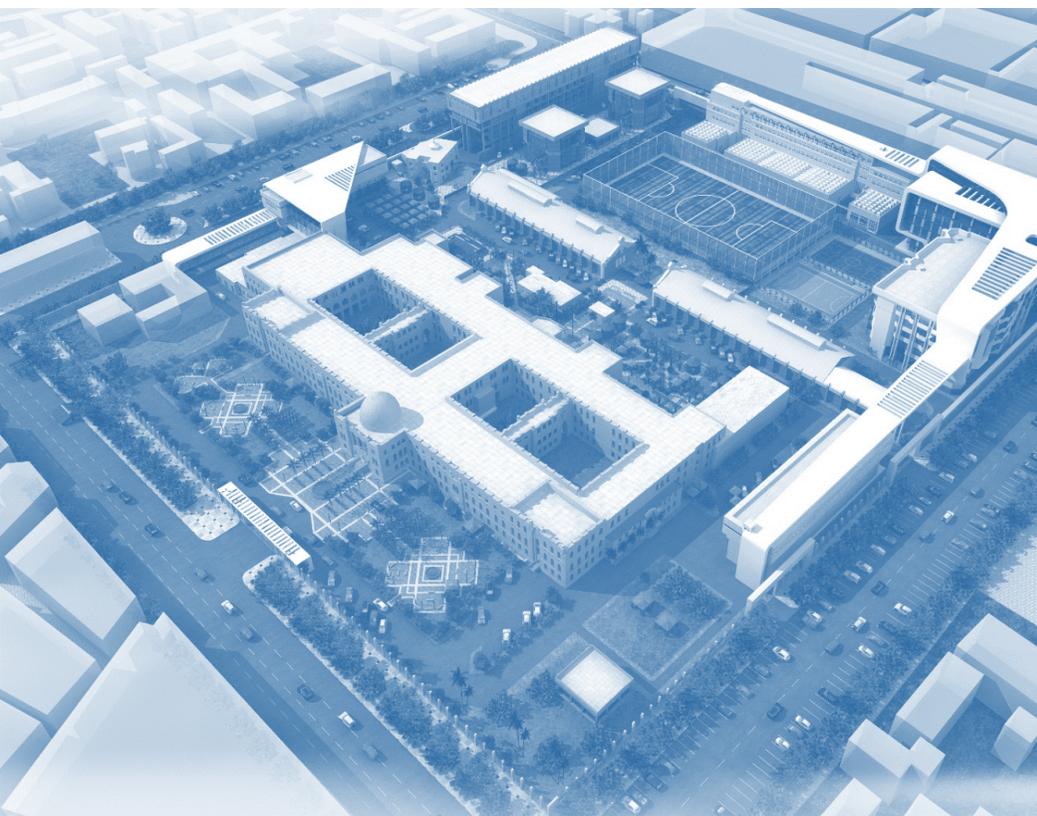


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Acknowledgements

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Executive Team

Prof. Dr. Ayman Ashour, the dean _____
Associate Prof. Gamal Hashem, Director of CIQAU _____
Associate Prof. Abeer Elshater, Vice Director of CIQAU _____
Assistant Prof. Mohamed Awad _____
Assistant Prof. Marwa Ragheb _____
Assistant Prof. Hytham Zohany, _____
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Nihad Medhat _____
Ola Goaily _____
Rania Mounir _____
Samer Adel _____
Sarah Tarek _____
Shaesta Huseein _____
Sodes Ihab _____
Yara Ahmed _____
Yasmina Safwat _____

Dean's Word

“As one of the oldest institution in Egypt, we are moving towards our ASUFE’s vision 2020. The goal of training our graduate to have global mindset, originality and leadership”

Prof. Dr. Ayman Ashour, 2015

The Faculty of Engineering at Ain Shams University has approximately 14000 students currently studying in almost 200 degree programs in four clusters of disciplines: Civil, Architectural, Electrical, and Mechanical. We are transforming our university-wide pedagogy at every level towards active learning, i.e. students should make efforts to "discover" their subject of knowledge. They learn how to learn, and this will become an essential tool after they graduate. We want them to be able to continue lifelong learning on their own. The Faculty of Engineering at Ain Shams University boasts a large number of cooperations with partners around the world that enable the exchange of students and faculty members, joint research, double-degrees, etc. All professional degrees programs are highly recognized by their respective professional associations. The faculty is already accredited by the National Authority for Quality Assurance and Accreditation of Education (NAQAAE). The academic programs follow the National Academic Reference Standards (NARS). We provide the opportunity for our undergraduate students to take a compulsory community services learning module. Most graduate



The dean Prof. Dr. Ayman
Ashour

programs are connected with industry practices and real fields of specialization. We try to create a practical learning environment. The Faculty of Engineering at Ain Shams University has to act as and be a role model for global changes in the labor market.

Prof. Dr. **Ayman Ashour**

Photos in our Campus: Status Quo

Spring 2015



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Photos in our Campus: Vision 2020

The vision 2020 is designed and developed by Prof. Dr. Ayman Ashour, Associate Prof. Abeer Elshater, Assistant Prof. Mohamed Elfayoumy, Eng. Ayman Farid, Eng. Ahmed Habib, Eng. Ahmed Ossama, and Eng. Mohamed Fawzy



Academic Departments: Prologue of Vision

Our campus is located in Abasya, Cairo. The first use of the site was in 1839 as School of Technical Operation. In 1932, it turned to be the School of Art and Industries followed by School of Applied Engineering in 1940. In 1946, the name changed to be the High Instruction of Engineering. The nucleus for the Faculty of Engineering–Ain Shams University was in 1950, with a limited number of departments. The scientific departments were founded in different periods of time. The diagram illustrates the code of the department and when it started.

Currently, through the academic year 2015–2016, the administrative structure of the faculty consists of the dean Prof Dr. *Ayman Ashour* and three vice dean: vice dean for student's affairs, Prof. Dr. *Ayman Wahba*, vice–dean for post–graduation studies; Prof. Dr. *Emad Hegazy*, and vice–dean of environmental affairs, Prof. Dr. *Ismael Hafez*. On the other side, the faculty has a Credit Hours Engineering Program– CHEP. The board of directors in CHEP consists of the director; Prof. Dr. *Omar Elhosseiny*, vice–director of academic advising; Prof. Dr. *Mostafa Refat*, vice director of students and education affairs; Associate Prof. Dr. *Mahmoud Khalil*, and vice–director of information technology; Associate Prof. Dr. *Gamal Ibrahim*.

PHM		
CES	CEI	CEP
ARC	UPL	
EPM	ECE	CSE
MECA		
MDP	MEP	MEA

Ain Shams University
 Departments at
 Faculty of

ENGINEERING

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Department of

Physics and Mathematics Engineering

Department's code: **PHM**

Department of Physics and Mathematics Engineering is dedicated to educating the highest quality engineering professionals and leaders. Our students will be prepared to creatively solve engineering problems through the use of analysis, computation, and experimentation.

Objective

Our students should be able to:

- Apply knowledge of mathematics, science and engineering concepts to the solution of engineering problems.
- Design and conduct experiments as well as analyze and interpret data.
- Identify, formulate and solve fundamental engineering problems.
- Use the techniques, skills, and appropriate engineering tools, necessary for engineering practice.
- Engage in self- and life- long learning.

Career Opportunities

The student who has the post graduate degrees holders from our department has job opportunities in research centers, and in Physics and Mathematics Engineering departments in any national or international university.

Area of Study

The PHM department teaches post- and undergraduate courses in three main areas:

- Engineering Physics
- Engineering Mathematics

- Engineering Mechanics
- Engineering Chemistry

Facilities and Labs

- Undergraduate Physics Labs
- Undergraduate Chemistry Lab
- Engineering Mechanics Lab
- Physics Research Lab
- Applied Organics Chemistry Research Lab
- Applied Analytical Chemistry Research Lab
- Seminar room
- A Library of Textbooks, Journals, M.Sc. and Ph.D. Theses

Scientific Degree

- Qualifying year in Engineering Physics, Mathematics, and Mechanics
- Master of Science in Engineering Physics, Mathematics, and Mechanics
- Doctor of Philosophy in Engineering Physics, Mathematics, and Mechanics

Staff

PHM Department has currently:

- 3 Professors
- 4 Associate Professors
- 29 Assistant Professors
- 20 Teaching Assistants

Head of Department

Prof. Dr. Nevine Badra 2012- Present

Prof. Dr. Salah Gamal 2012

Prof. Dr. Nevine Badra 2011-2012

Prof. Dr. Wael Fikry 2009-2011

Prof. Dr. Salwa Ishak Guirgues 2006-2009

Prof. Dr. Mohamed Ibrahim Abdallah 2002-2006

Prof. Dr. Mohamed Ibrahim Hassan 1996-2002

Prof. Dr. Salah Shaheen 1992-1996

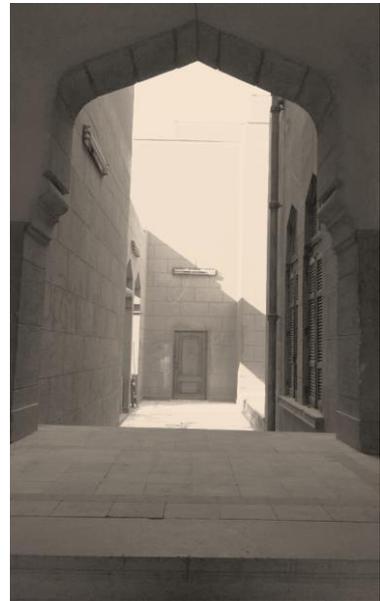
Prof. Dr. Waghee Naoum Hanna 1989-1992

Prof. Dr. Alfons Riad Yakoub 1986-1989

Prof. Dr. Edward Michael Ibrahim 1983-1986



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Prof. Dr. Saad Kamel Ahmed Massoud 1981-1983
Prof. Dr. Edward Michael Ibrahim 1978-1981
Prof. Dr. Alm Eldin Said Farghaly 1971-1972
Prof. Dr. Saad Kamel Ahmed Massoud 1972-1978
Prof. Dr. Fares Ibrahim Minao 1964-1971
Prof. Dr. Shafik Halim Doos 1957-1964



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© Arwa Mohamed,
May 2015

Department of

Structure Engineering

Department's code: **CES**

Vision

Our vision is to build a vibrant learning environment founded on value-based academic principles, wherein all involved shall contribute effectively and efficiently.

The Mission

Our mission is to serve and develop the surrounding community through teaching the theories of Structural Engineering along with their practical applications. We also educate students' fundamental concepts, critical thinking, technical skills and ethical principles as applied to engineering analysis and design. The target is to provide quality education to our graduates, to cope up with international standards, and to regularly update. The department laboratories provide consultancy services to government and industrial sectors for maintaining high standards in the Structural Engineering field. Additionally, we excel in scientific research with appropriate national and international linkages. Structural Engineer will typically be in the employment of a consulting engineering practice in an office environment preparing the plans and specifications for structures as buildings, towers, stadia and bridges. On the other hand, in the construction field, the Structural Engineer will typically work for a civil

engineering contractor supervising the erection of the structure concerned.

Academic Specialization

Based on the career prospects, the courses have been designed to lay emphasis on various specializations of Structural Engineering. The courses and curriculum are modified regularly to meet the standards of reputed foreign Universities and to cope up with recent developments. The courses are planned with our experienced faculty members including the following:

- Structural and Stress Analysis.
- Theory of Structures.
- Reinforced Concrete Design.
- Structural Steel Design.
- Earthquake Engineering.
- Geotechnical Engineering.
- Properties and Testing of materials.
- Construction Management.

Career Opportunity

The graduate has various job opportunities either in design or in construction field. In the design environment, a Structural Engineer will typically be in the employment of a consulting engineering practice in an office environment preparing the plans and specifications for structures as buildings, towers, stadia and bridges. On the other hand, in the construction field, the Structural Engineer will typically work for a civil engineering contractor supervising the erection of the structure concerned.

Laboratories and Technical Facilities

The Department of Structural Engineering has well equipped laboratories in the specialized areas with all modern equipment to cater the needs of undergraduate and postgraduate students. The available laboratories in the department:



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- Material Testing Laboratory.
- Structural Analysis Laboratory.
- Reinforced Concrete Testing Laboratory.
- Steel Testing Laboratory.
- Geotechnical Laboratory

Faculty Staff Members

The department has highly learned faculty members in various areas of specializations. We believes in imparting quality education to the students and invites eminent personalities & academicians from prestigious Institutions and industries to deliver lectures. The department includes based on the census 2014:

- 85 professors.
- 35 assistant professors.
- 30 teaching associates.
- 30 teaching assistants.
- 40 postgraduate students.
- 600 undergraduate students.

The Scientific Research and Conferences

The Department pursues a scientific research agenda and collaborates with government agencies, private industry and foundations to identify and address research needs. The faculty members and technical staff regularly attend various conferences and workshops for updating their knowledge. The department is also actively engaged in organizing International and national conferences on recent trends and developments in civil engineering. The following Conferences have been organized in the department:

- International conference on Structural & Geotechnical Engineering (ICSGE)
- Middle East Symposium on Structural Composites (MESCS).



Geotechnical Lab.



Material Lab



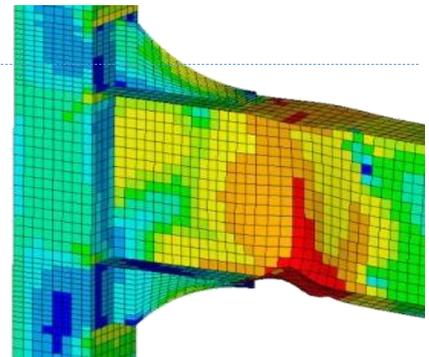
Reinforced Concrete Lab.

Head of Departments

- Prof. Dr. Abdel Aziz El Aroosi 1951-1968.
- Prof. Dr. Mohamed Abbas 1968-1972.
- Prof. Dr. Ahmed Shaker 1972-1972.
- Prof. Dr. Abdel Karim Atta 1972-1974.
- Prof. Dr. Ali Shaban 1974-1977.
- Prof. Dr. Abdel Karim Atta 1977-1979.
- Prof. Dr. Ali Shaban 1979-1984.
- Prof. Dr. Abdel Hadi Hosni 1984-1989.
- Prof. Dr. Kamal Naseef 1989-1991.
- Prof. Dr. Safaan Abdel Gawad 1991-1992.
- Prof. Dr. Kamal Hassan 1992-1994.
- Prof. Dr. Nabil Elatrozi 1994-1996.
- Prof. Dr. Hamdi Mohsen 1996-1999.
- Prof. Dr. Abdel Wahab Abu Elaeneen 1999-2001.
- Prof. Dr. Ahmed Korashi 2001-2002.
- Prof. Dr. Samir Okba 2002-2004.
- Prof. Dr. Mostafa Zeedan 2004-2005.
- Prof. Dr. Hassan Hegab 2005-2007.
- Prof. Dr. Fathallah Elnahas 2007-2009.
- Prof. Dr. Abel Raheem Desooki 2009-2011.
- Prof. Dr. Mohamed Elaghoori 2011-2012.
- Prof. Dr. Imam Soliman 2012-2014.
- Prof. Dr. Amr Abdelrahman 2014-present.



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FE Modeling

Department of

Irrigation and Hydraulics Engineering

Department's Code: **CEI**

The Mission (2015-2020)

The mission of the irrigation and hydraulics department is to develop technical expertise capable of understanding the physical environment related to water sciences and its application to the benefit of Egypt. The department aims to develop well-educated civil engineers with a special expertise in water-related engineering projects who can enrich the water resources and public works field. The department also aims to prepare its graduates to appreciate sustainable integrated water systems and environment-related issues. This will support the development of talented engineers who can meet the present and future challenges in Egypt, the Arab countries, and the Nile River.

The Objectives

To produce student graduates with

- Knowledge and understanding of the basic principles of civil engineering, specializing in the fields of fluids and water sciences and their applications.
- Professional and practical skills to solve fluid- and water-related engineering problems while considering sustainable environment.
- Ability to design, construct, protect, and carry out maintenance of all types of construction projects especially water control structures, irrigation and drainage systems, water networks, pump stations and coastal structures

- Intellectual skills of analysis and the ability to think in creative and innovative ways directed towards problem solving and design
- Ability to use some computer programs and information technology and write technical reports
- The acquired knowledge of the environmental impact of projects
- General and transferable skills of collaborating, communicating, and managing tasks effectively within a multidisciplinary team.



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Facilities and Laboratories

The facilities and Laboratories are:

Undergraduate lab including experiments for hydraulic properties, open channels, Bernoulli's applications, flow through pipes, pumps performance.

Research Lab including water transport in channels experiments, water velocity trough open channel measurements, sediment transport experiments.

Water Quality lab including devices for chemical and physical analysis like PH meter, B.O. meter, turbidity meter, dedicated filter photometer, Bench top Spectrophotometer, TSS system, reverse osmosis lab-scale unit.

GIS lab including 50 computers serving undergraduate and post graduate students, the lab offers training courses for several computer applications.

Career Opportunities

The graduates have a great job opportunity to lead all sustainable water-related projects, including improving Egypt's water resources, implementing Egypt's ongoing massive infrastructure projects, securing a water supply for Egypt's citizens, upgrading Egypt's irrigation systems, developing the needed ports, saving Egypt's coastal and marine environment, protecting the water sources against pollution, and designing the adequate structures for protection against the dangers of unexpected floods, storms, and wave actions. Many governmental authorities can employ our graduates within the Ministries of Water Resources and Irrigation, the Ministry of Housing and New Communities, the Ministry of Environmental Affairs, the Holding Company for Water and Wastewater, etc. The private sector also attracts many graduates to do design and execution works inside and outside Egypt.



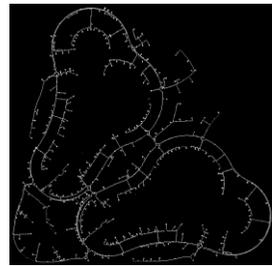
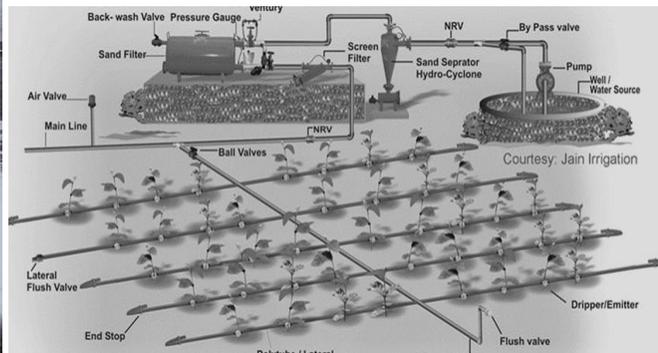
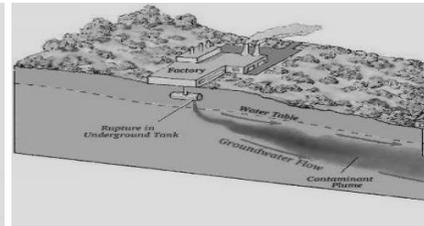
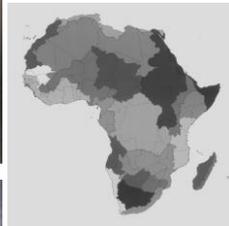
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Areas of Study

The department handles the following main courses in four academic years: civil drawings, fluid mechanics, Irrigation & drainage systems, Hydraulics, design of irrigation structures, groundwater hydrology, environmental hydrology, Networks, Harbor, Navigation & Shore Engineering, Modern Irrigation Systems, Water Resources Engineering, Management & Maintenance of Irrigation Projects, Pump stations, Dams, Environmental Impact Assessment for Water Projects, Coastal Environmental Engineering, Water Management.



Several types of projects delivered by the field of specialization, compiled by Abeer Elshater

Scientific Degrees:

- Bachelor Degree of Science in Civil Engineering, Water and Hydraulic Structures Section
- Diploma in Irrigation and Drainage Engineering
- Diploma in Hydraulic Engineering and Water Structures
- Diploma in Water Resources and Environment
- Diploma in Harbor Engineering, Inland Navigation and Shore Protection
- Master of Engineering in Civil Engineering (Irrigation and Hydraulics)
- Master of Science in Civil Engineering (Irrigation and Hydraulics)
- Doctor of Philosophy in Civil Engineering (Irrigation and Hydraulics)

Heads of Department:

Prof. Dr. Aly A. Helmy 1954 – 1973
Prof. Dr. M. El-Atafy Sonbol 1974 –1977
Prof. Dr. Mostafa Soliman 1977 - 1980
Prof. Dr. M. Wafaie Abdel Salam 1980 –1986
Prof. Dr. M. Niazy Hammad 1986 –1989
Prof. Dr. Gamal Sadek Ebeid 1989 –1995
Prof. Dr. AbdelFattah ElFiky 1995 - 1998
Prof. Dr. Sameh Armanious 1998 –2004
Prof. Dr. Abdelkawy Khalifa 2004 - 2004
Prof. Dr. Mahmoud Abdellateef 2004 –2006
Prof. Dr. Nour El-Deen Eweis 2006 –2013
Prof. Dr. Nahla Atta 2013 – till now

Department of

Public Works

Department's Code: **CEP**  

The Department of Public Works is one of the oldest departments in the Faculty of Engineering-Ain Shams University, and indeed is one of the oldest in this specialty in Egyptian universities.

The Vision

Our vision is to be one of the best scientific departments to be acclaimed leadership regionally and internationally in civil engineering education and research through unique academic programs that meet the needs of the community and contribute to sustainable development disciplines.

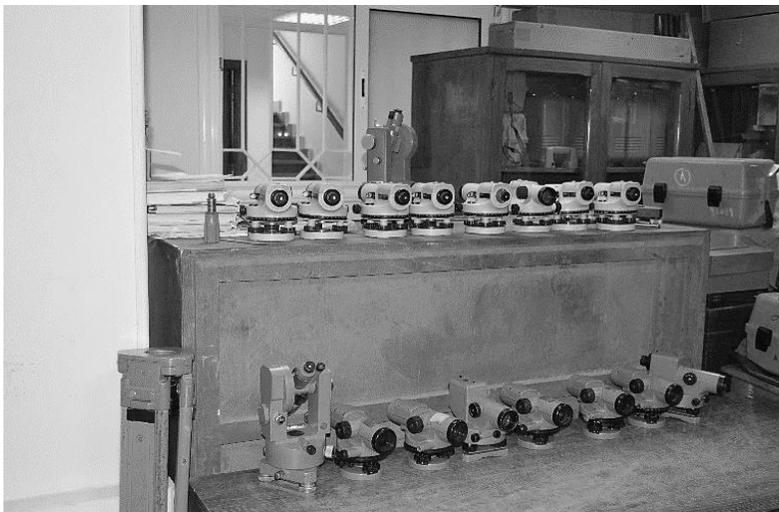
The Mission

The mission of the department is to produce comprehensively prepared and innovative graduates who are able to interact with the challenges created by the global economy in different civil engineering disciplines. These disciplines are established to cover the requirements of the society in terms of governmental authorities and public and private sectors. The department offers programs at the undergraduate, graduate, and professional levels as well as continuing education programs that help participants to acquire updated knowledge and thus contribute to our community's development. It also provides research and consultancy in different engineering fields to serve the requirements of all sectors of society.

Objective

The main objective of the department is to carry out teaching and research in the fields of planning, design, and construction of infrastructure projects. On top of these fields comes surveying

engineering, which represents the base of any engineering project. Surveying Engineering covers a wide range of surveying topics, including plane surveying, topographic surveying, geodetic surveying, photogrammetry, maps projections, hydrographic surveying, engineering astronomy, remote sensing, and geographic information systems. The second major branch of the department is the sanitary environment branch. The branch is concerned in teaching and research works in the fields of potable water and sewage water treatment plants and networks, in addition to solid waste disposal and treatment, industrial waste treatment, and other environmental studies. The third major branch of the department is the transportation engineering. This branch is concerned in teaching and conducting research works in the fields of transportation and traffic planning and highway and railway engineering. These fields deal with the movements of passengers and goods and the future planning of transportation facilities to cope with expected demands. In addition, they also include the study and design of different transportation networks: road, railway, water, air, and pipelines.



Survey tools, photography by Samar Adel

Scientific Degrees

The Department offers a number of degrees, including:

- B.Sc. in Civil Engineering, Specialized in Public work Public.
- Professional Diploma in Transport Planning and Traffic Engineering.
- Professional Diploma in Environmental Engineering.
- Professional Diploma in sewage.
- Professional Diploma in Solid waste.
- Professional Diploma in Industrial waste.
- Professional Diploma in Operate and Maintain stations.
- Professional Diploma in the Environmental Assessment.
- Professional Diploma in the Engineering Surveying.
- Professional Diploma in Digital Maps and Geographic Information Systems.
- Professional Diploma in Geodetic Surveying.
- Postgraduate Diploma in Sanitary Engineering.
- Postgraduate Diploma in Environmental Engineering.
- Postgraduate Diploma in Solid waste Engineering.
- Postgraduate Diploma in in Industrial waste Engineering.
- Postgraduate Diploma in in Engineering Surveying.
- Postgraduate Diploma in Digital Maps and Geographic Information Systems.
- Postgraduate Diploma in Geodetic Surveying.
- Transport Planning and Traffic Engineering (Master of Engineering - Master in Science of Engineering).
- Engineering Surveying (Master of Engineering -Master in Science of Engineering).
- Sanitary Engineering (Master of Engineering -Master in Science of Engineering).
- Environmental Engineering (Master of Engineering -Master in Science of Engineering).
- Highway and Traffic Engineering (Master of Engineering -Master in Science of Engineering).
- Railway Engineering (Master of Engineering -Master in Science of Engineering).
- Ph.D. in civil engineering – Public Works.

Jobs Opportunities

Graduates of this department has a variety of opportunities to work, for example:

- Consultancy offices and contracting companies working in the areas of: Building -Surveying - Water and Sewage networks - the construction of roads and railways - transportation planning and traffic engineering.
- Ministry of Housing, utilities, urban communities.
- Ministry of transport, and Ministry of Environment.
- The field of environmental safety.

Laboratories

- **SURVEYING LABS:** The department has a number of the latest and advanced labs for surveying and measuring instruments supported by the computing, plotting, and digitizing facilities. The surveying labs serve the unit for surveying engineering studies and consultations, which is one of the units of the Faculty of Engineering Consultancy Center.
- **SANITARY ENGINEERING LABORATORY:** The lab contains all the latest equipment in the fields of water analysis and the measurement of the chemical components for different types of water and liquids to achieve the best treatment and to save the health of man and environment. The lab serves a sanitary engineering consulting unit that conducts studies concerned with sewerage, water, the treatment of industrial waste, and the preservation of the environment.
- **HIGHWAY ENGINEERING LAB:** The lab is equipped with the latest and most modern testing facilities to perform experiments for pavement materials. The lab plays a major role in conducting experiments for the quality control of pavement materials and highway construction. This lab serves the highway engineering consultation unit that plays a major role in serving society and road construction companies.
- **TRANSPORTATION ENGINEERING AND TRAFFIC LAB:** The lab is equipped with a number of instruments for traffic survey and classification. Video cameras, colored TV, and video recorders for recording different traffic conditions at road intersections are also available. The lab is equipped with computers and supporting software specialized in transportation planning and traffic analysis. The lab supports the special transportation planning and traffic unit



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that has a wide range of experiences in solving transportation and traffic problems.

Heads of Departments:

- Prof. Dr. Ahmed Ebaid (October 1954- September 1956).
- Prof. Dr. Mahmoud Talat Anies (September 1956 -October 1956).
- Prof. Dr. Hasan Hasan Mostfa (October 1956- September 1968).
- Prof. Dr. Ahmed Mostafa Abdelwarith (October 1968-September 1974).
- Prof. Dr. Mohamed Kamal Radwan (October 1974- October 1977).
- Prof. Dr. Mohamed Zaky Ali Zaky (December 1977- February 1982).
- Prof. Dr. Mohamed Salah EldinElhawary (March 1982- March 1988).
- Prof. Dr. Mohamed Fayek Howeedy (March 1988- March 1994).
- Prof. Dr. Abdel Hady Sayed Abdel Aal (March 1994- March 1997).
- Prof. Dr. Hamdy Ibrahim Ali Ahmed (March 1997- July 1998).
- Prof. Dr. Eisa Abdallah Sarhan (August 1998- July2004).
- Prof. Dr. Maerouf Ahmed Deef Allah (August 2004- July 2009).
- Prof. Dr. Ali Zain Elabdeen Heikal (August 2009- July 2011).
- Prof. Dr. MostafaSabry Aly Sabry (July 2011- March 2012).
- Prof. Dr. Ali Zain Elabdeen Heikal (March 2012- August 2014).
- Prof. Dr. Mohamed El Hosseiny Elnadi (August 2014-til preparation).

Department of

Architecture Engineering

Department's code: **ARC**

Vision Statement

The Department of Architecture Engineering aspires to be regionally and internationally recognized in distinctive areas of sustainable development and information technology and to produce creative and leading architects who are well prepared for the challenges of the information age at the scientific and professional level.

Mission

The mission of the Department of Architecture is to provide design education that is driven by a professional and technology-oriented focus and highly committed to sustainability. The department is devoted to educating and inspiring future generations of designers who are both technically skilled and ethically professional. The program is therefore based on the following intentions:

- To stimulate design creativity and critical thinking;
- To augment the intellectual capacity to develop architectural solutions in an environment based on scientific research, technological innovation and sustainability;
- To prepare students to acquire the individual skills and ethics required for long-term learning and competent professional practice; and
- To equip students with the required basic knowledge of engineering sciences and interpersonal skills to understand, coordinate with, and lead other engineering disciplines in the architectural profession

Architecture Engineering Program Admission Policy

To maintain the “Architecture Engineering Program” quality and excellency, students who are candidate to join the program should be personally qualified to the program needs. Hence, beside the necessity of passing successfully the “Engineering Drawings” course, which is one of the preparatory year courses, they should pass successfully too an admission exam that indicates their validity and ability to join the program. This exam will be evaluated blindly by a jury of external professors of architecture and internal staff members from the architecture engineering department. The exam will evaluate the skills and talents of each student in the following areas:

- Imagination
- Visual expression
- Ability to read images
- Creative thinking
- Ability to read and create basic and simple architecture drawings

To evaluate the last ability fairly, a summer course will be held for one week, and those who are willing to join the program may attend it to learn how to read and conduct architecture drawings. Students who are willing to join the architecture program will then be arranged based on these factors:

- The student's result in the admission exam
- The student's result in the Engineering Drawings course
- The student's total result in the preparatory year Students' enrollment in the program will be done according to this list until the maximum capacity of the program is fulfilled.

Career Opportunity and Scope of Work

Graduates will have job opportunities in the field of architecture design, interior design, landscape architecture, tender decumbent, as well as executive architecture projects.



Samples of students' work in 2nd year 2015

Scientific Degrees

- Bachelor of Architectural Engineering, Urban Planning and Design Degree Branch.
- Diploma in Professional Studies
- Diploma in Building Technology
- Diploma in Housing and Urban Habitation
- Master of Engineering Science
- Master of Engineering
- Doctor of Philosophy

Heads of Department

Prof Dr. Abdel mageed Rostom

Prof Dr Abdel Baby El Nahas

Prof Dr Hessein Fahmey Ekbaroudy 1957-1959

Prof Dr Mahmoud Elhakeem 1959-1965

Prof Dr Roshdy Botres 1965-1971

Prof Dr Nasry Kamel 1971-1977

Prof Dr Foaad Elfaramay 1977-1983

Prof Dr Abdel Baki Ibraheem 1983-1986

Prof Dr M. Zaki Hawas 1986-1989

Prof Dr Imam Shalby 1989- 1992

Prof Dr Mohamed Kamel 1992-1995

Prof Dr Saed Madbouly 1995-1997

Prof Dr Hisham Elalfy 1997-1997

Prof Dr Fatehy ELbaredy 1997-2003

Prof Dr Aly Eid 2003-2006

Prof Dr Yaser Mansour 2006-2012

Prof Dr Mohamed Gaber 2012 till now

D

Department of

Urban Design & Urban Planning

Department's code: **UPL**

The Mission (2015-2020)

The Urban Design program is the academic discipline concerned with interpreting the spatial organization and dynamics of urban areas. The interest is in comparing, evaluating, and inventing new ways to maintain the balance between public and private, the built and natural environment, and local and global perspectives.

The *Department of Urban Design and Urban Planning* is the home of both professions and offers a prime professional degree in urban planning and a post-professional degree in urban design. Urbanism movements are underpinned as practical action to shape the urban environment in sustainable ways through local community participation and several stakeholders. The participation takes place in the evaluation process of academic performance.

The Objectives

Our students should be able to:

- Interpret the basic principles of urban planning and different theories of urban design and urban planning
- Analyze the link between urban planning, urban design, and the architecture design process through field study
- Apply the gained skills through a number of real projects in order to improve society's and students' response. Areas of Study The department handles the following main courses in two academic years: urban planning, urban design, city planning, landscape architecture, architecture design, environmental studies, urban

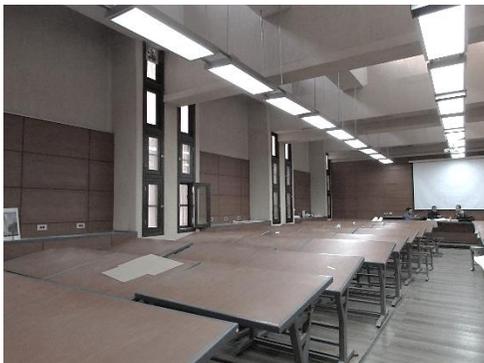
- A Computer lab for software applications.



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Scientific Degrees

- Bachelor of Architectural Engineering, Urban Planning and Design Degree Branch.
- Diploma in Urban Design Studies
- Diploma in Urban Planning
- Diploma in Environmental Studies
- Master of Engineering Science
- Maser of Urban Planning

- Master of Urban Design
- Master of Environmental Studies
- Doctor of Philosophy



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Heads of Department

Prof. Dr. Abd El Aziz Soliyman 1986-1978.
 Prof. Dr. Abdalla Abd El Aziz 1978-1992.
 Prof. Dr. Farouk El Gohary 1992-1993.
 Prof. Dr. Raóof Helmy 1993-2001.
 Prof. Dr. Shafek El Wakeel 2001 -2007.
 Prof. Dr. Youhansen Eid 2007-2009.
 Prof. Dr. Omar El Hosseiny 2009- 2014.
 Prof. Dr. Mohamed Adel Baki 2015-till now



Department of

Power and Electric Machines Engineering

Department's code **EPM**

The Mission (2015-2020)

The Department of Power and Electric Machines Engineering struggles to prepare highly qualified engineers who can efficiently fulfill the growing needs of the local and international markets, as well as do applied research.

Objective

Our students should be able to:

- Think in a creative and innovative way to analyze and solve engineering problems,
- Use the state-of-the-art techniques, skills, and tools necessary to analyze and design the electrical power system components. This is including electrical power generation, transmission and distribution.
- Apply different techniques to ensure power quality supplies to different loads.
- Design and implement different control techniques for different components of the electric power systems at low and high voltage levels.

Areas of Study

The EPM department teaches courses in four main areas: Power System, High Voltage, Electrical Machines, and Power Electronics.

Scientific Degrees

- Bachelor of Science in Electrical Power & Machines
- Postgraduate Diplomas:
- Master of Science in Electrical Power & Machines
- Doctor of Philosophy in Electrical Power & Machines

Faculty Members and Staff

EPM Department has currently:

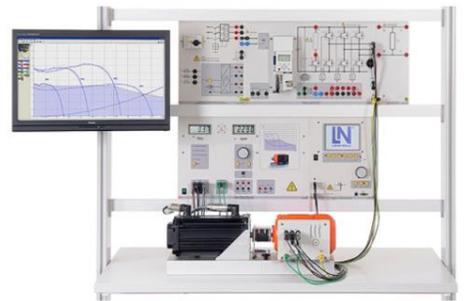
- 31 Professors
- 10 Associate Professors
- 13 Assistant Professors
- 16 Teaching Assistants

Facilities and Laboratories

- High Voltage laboratory
- Power system laboratory
- Electrical machines laboratory
- Power electronics laboratory
- Computer laboratory for virtual experiments
- Programmable logic controller laboratory
- Advanced control laboratory
- Two laboratories for basic and fundamental courses
- Seminar room
- A Library of Textbooks, Journals, M.Sc. and Ph.D. Theses

Heads of EPM Department

- Prof. Dr. Elsayed A. Mohamed (2014- Present)
- Prof. Dr. Hossam El Din Talaat (2012-2014)
- Prof. Dr. Mohamed M. Mansour (2010-2012)
- Prof. Dr. Ahmed M. Asad (2007-2010)
- Prof. Dr. Mohamed Fawzy (2006-2007)
- Prof. Dr. Ahmed Abd Al Sattar (2005-2006)
- Prof. Dr. Mohamed Abd Al Latif Bader (1999-2005)
- Prof. Dr. Soliman El Dobaky (1998-1999)



- Prof. Dr. Ahmed Rizk Abu-Alwaffa (1997-1998)
- Prof. Dr. Abd Al Razak Nosur (1991-1997)
- Prof. Dr. Aly Al Kharashy (1988-1991)
- Prof. Dr. Ahmed El Arabaty (1985-1988)
- Prof. Dr. Al Sadek Amin Kandel (1977-1985)



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Department of

Electronics & Communication Engineering

Department's code: **ECE**

Main ECE Tracks

The department aims to give our students the ability to mix electronic circuits and systems. He or she will also gain knowledge in signals, communications systems and networks, and photonic and microwave devices and circuits.

Scientific Degrees

The department handles the three academic degree in four academic years. First is Bachelor of Electronics and Communications Engineering. Second is Master of Engineering Science. Third is Doctor of Philosophy.

Career Opportunities

The graduated has unique job opportunities in the following field of specialization:

- Integrated Circuit design Engineer
- IC fabrication engineer
- Communication systems design engineer
- Communication systems implementation engineer
- Communication systems operation engineer
- Antenna design engineer.
- Photonics design engineer.
- IT Engineer

Research Labs

- Integrated Circuits Research Laboratory (ICL)
- Communication & Signal Processing Research Laboratory (CSPRL)
- Microwave & Antenna Research Laboratory (MARL)

- Laboratory of Lasers and Optical Communications (LLOC)
- Electronics & Communications Technology Unit
- Communication Electronics Research Laboratory



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Heads of Department

Prof. Mohamed Marzook Ibrahim

April 1992-Jan. 1994

Prof. Mohamed Kamel Alsaïd	Jan. 1994-Jan1997
Prof. Mohamed Marzook Ibrahim	Jan. 1997-Jul. 1997
Prof. Safwat Mahroos Mahmoud	Aug. 1997-Jul. 1998
Prof. Mohamed Nabil Saleh	Aug. 1998-Jul. 2000
Prof. Magdy Mahmoud Mahmed	Aug. 2000-Jul. 2004
Prof. Salwa Hussein Elramly	Aug. 2004-Jul.2006
Prof. Adel Ezzat Elhennawy	Aug. 2006-Jul2008
Prof. Nagda Mohamed Elmeniawy	Aug. 2008- Aug. 2009
Prof. Wagdy Rafaat Anis	Aug. 2009-Sep. 2011
Prof. Ismail Mohamed Hafez	Sep. 2011- Until now

Department of

Computer & System Engineering

Department's code: **CSE**

The Mission

The Computer and Systems Engineering Department strives to prepare highly qualified engineers, who are vital to the development of state-of-the-art, computer-based products, to efficiently fulfill the growing needs of the local and international markets.

The Objective

CSE graduates should:

- Think in a creative and innovative way to find computer-based solutions to engineering problems.
- Apply their knowledge of science to design and create computer-based systems that are safe, reliable, and practical.
- Have a strong background in software design, especially in the ways that software and hardware interact
- Utilize digital computers in instrumentation and process control applications.

Faculty Staff Members

- 12 Professors
- 5 Associate Professors
- 11 Assistant Professors
- 14 Teaching Assistants

Scientific Degrees

Bachelor of Science in Electrical Engineering – Computer and Systems

Postgraduate Diplomas:

- Computer-controlled Systems
- Computer Engineering
- Computer Networks
- Industrial Systems Control
- Software Engineering
- Master of Science in Electrical Engineering – Computer and Systems
- Doctor of Philosophy in Electrical Engineering – Computer and Systems

Facilities and Laboratories

- Information Systems Center
- Two Seminar Rooms Equipped with Smart Boards and Data shows
- A Library of Textbooks, Journals, and Theses
- Two Computer Programming Labs
- One Computer Networks Lab
- Two Control and Systems Labs
- Two Labs for Logic and Control Circuit Applications
- A Research Lab and Seminar Room
- EMC2 Cloud Computing Lab

Head of Departments

Prof. Dr. Mohamed A. Sheirah	(April 1992 - Sept. 1995)
Prof. Dr. Gamal M. Aly	(Oct. 1995 - Oct. 2001)
Prof. Dr. Hussein I. Shahein	(Oct. 2001 - Sept. 2004)
Prof. Dr. Abdelmonem A. Wahdan	(Sept. 2004 - Sept. 2005)
Prof. Dr. Hossam M. A. Fahmy	(Sept. 2005 - Sept. 2008)
Prof. Dr. Hani M. K. Mahdi	(Sept. 2008 - July 2009)
Prof. Dr. Hossam M. A. Fahmy	(Sept. 2009 - July 2012)
Prof. Dr. Ayman M. Wahba	(Aug. 2012 - Nov. 2014)
Prof. Dr. Wahied G. Ali Abdelaal	(Nov. 2014 - Present)



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Department of

Mechatronics

Department's code: **MECA**

The Mechatronics Engineering major degree at Ain Shams University had opened its doors to undergraduate students in the fall of 2004. Mechatronics is an interdisciplinary field of Mechanical, Electronics, computer science, and control engineering. The aim of this program is to graduate Mechatronics engineers, who are capable of penetrating Egyptian, regional, and international markets with their knowledge, skills, professionalism, and ethics. The Mechatronics department has a large connection and interaction with local, regional, and global industries.

The Mission

This program is designed to enrich the student's basic theoretical and practical knowledge of mechatronic system components. It also develops the student's ability to use state-of-the-art technologies to find affordable, reliable and innovative solutions. The program aims to develop the student's ability to conduct Research and Development (R&D) activities to create innovative mechatronic solutions. The field of specialization setups and operates automated and/or autonomous production lines which are based on embedded systems, PLCs and SCADA systems. Through that, the student carries out modern troubleshooting and maintenance techniques relevant to what we call machine health monitoring (MHM).

Area of Study

- Today, the department's research program
- focuses on advanced fields in Mechatronics such as Bio-Mechatronics, Auto-Tonics',
- Industrial Automation, Robotics, and

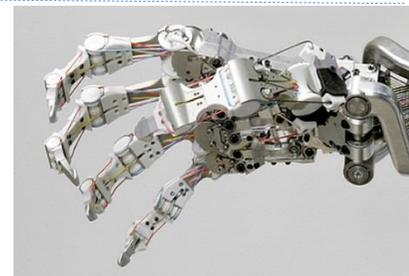
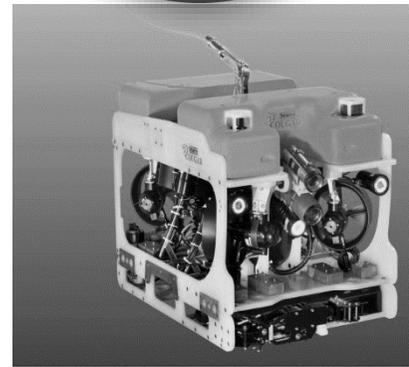
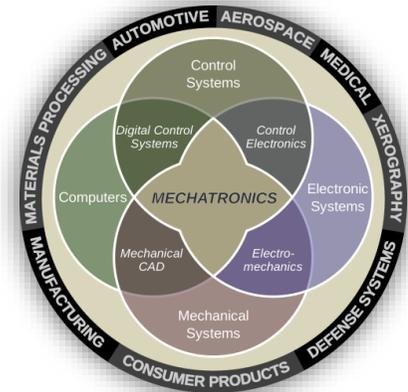
- Nano-Mechatronics (N/MEMS).

Facilities and Labs

- Mechatronics Lab
- Motion Control Lab
- Hydraulics & Pneumatic Lab
- Automatic Control Lab

DEPARTMENT'S BOARD

- Farid Abdel Aziz Tolbah PhD, Moscow Power Institute, Moscow, USSR, 1975
- Magdy M. Abdel Hameed (Dept. Chair) PhD., Ain Shams University, Egypt, 1994
- Maged Ghoneima, PhD, Northwestern University, USA, 2006
- Mohamed Ibrahim Mohamed Awad, PhD, University of Leeds, UK, 2012
- Mohamed Abdel Aziz (Automotive Engineering department) PhD, University of Illinois at Chicago, USA, 2007



Department of

Design & Production Engineering

Department's Code: **MDP**

Vision

The vision is to be recognized as the prominent Mechanical Engineering program in Egypt and Africa.

The Mission

The mechanical engineers should be curious about how things are made and work. Mechanical Engineering covers the design, analysis, testing and manufacturing of products that are used in every facet of modern society. Mechanical engineers conceive, plan, design and direct the production, distribution and operation of a wide variety of devices, machines and systems, environmental control and materials processing, transportation and handling.

Design and production mechanical engineers analyze their design using the principles of motion, energy, and momentum to ensure that the product functions safely, efficiently, reliably, and manufactured at a competitive cost with minimized environmental hazards. This is achieved by combining the study of science, mathematics, engineering fundamentals, design, management and quality principles. The department covers the fields of solid and fluid mechanics, thermodynamics, engineering design, production technology, economics, and management. Basic studies are devoted to the mechanical properties of materials, machine design, dynamics and control, instrumentation, fundamentals of fluid flow, and energy and power systems. Recent developments in systems approach, information systems, advanced materials, manufacturing processes, global firms, supply chain, and quality systems will also be addressed.

Career Opportunities

The private and governmental firms, where engineering is required to design, manufacture, operate, develop or maintain mechanical systems and equipment such as industrial machinery, automotive, aerospace, power generation, and air conditioning equipment. In all phases of industrial, manufacturing, and service firms. It qualifies them to perform different managerial and technical functions that require a scientific and engineering background. A whole spectrum of industrial systems and service systems. Industrial systems include: automotive, aerospace, apparel, appliances, basic metals, beverages, building materials, ceramics, chemicals, computers, electronics, equipment, fabricated metals, food processing, glass, heavy machinery, paper, petroleum refining, pharmaceuticals, plastics, power utilities, publishing, textiles, tire and rubber, and wood and furniture. Service systems include communications, education, financial services, government, repair and maintenance, retail trade, transportation, wholesale trade, and warehousing.



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Department of

Mechanical Power Engineering

Department's code: **MEP**

Area of Study

Mechanical engineers should be curious about how things are made and work. Mechanical engineering covers the design, analysis, testing, and manufacturing of products that are used in every aspect of modern society. Mechanical engineers conceive, plan, design, and direct the production, distribution, and operation of a wide variety of devices, machines and systems. Moreover, they can work in environmental control and materials processing, transportation, and handling. This discipline is mainly concerned with thermo-fluid sciences that are the basis for energy conversion and power generation. In addition, mechanical power and energy engineers are concerned with pollution control, energy management, heating, ventilation and air-conditioning, transport phenomena, combustion, and fluid flow.

Career Opportunities

- Developing power stations, boilers, gas or steam turbines, internal combustion engines, refrigeration systems, and safety control systems for these equipment
- Enhancing liquid, vapor, and gas network piping and ducting systems
- Developing methods for reducing pollutant emissions from different systems
- Improving the maintenance and the performance of combustion equipment, turbo-machinery, and refrigeration systems,
- Working in power stations and petrochemical plants,
- Working in management in industries,

- Working in establishments concerned with cars, ships, energy generation or aerospace and refrigeration and air conditioning Work that involves safety and environmental concerns.



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Department of

Automotive Engineering

Department's code: **MEA**

Area of Study

Mechanical engineers should be curious about how things are made and work. Mechanical engineering covers the design, analysis, testing, and manufacturing of products that are used in every facet of modern society. Mechanical engineers conceive, plan, design, and direct the production, distribution, and operation of a wide variety of devices, machines, and systems as well as environmental control and materials processing, transportation, and handling. The program enables students to develop the following thoroughly:

- Understanding of mechanical engineering principles and expertise that is uniquely automotive in nature.
- Understanding based on the Mechanical Engineering program
- Basic engineering principles and including studies in mathematics and the physical sciences.

Later years build upon acquired knowledge and include specialized topics such as automotive safety, alternative fuels, advanced manufacturing, automotive powertrain and vehicle dynamics, automotive combustion technology, automotive suspension and undercarriage, automotive NVH and aerodynamics, automotive electrical and electronic systems, advanced materials and joining, and vehicle emission control. Engineering students are also required to undertake studies in courses designed to assist them develop the communication skills necessary to work effectively.

Career Opportunities

Careers in the automotive and other high-tech industries. However, being based on a Mechanical Engineering degree, graduates in

Automotive Engineering will retain flexibility in the choice of engineering industry for their careers. In most cases, graduates will also be able to work wherever mechanical engineers are employed.



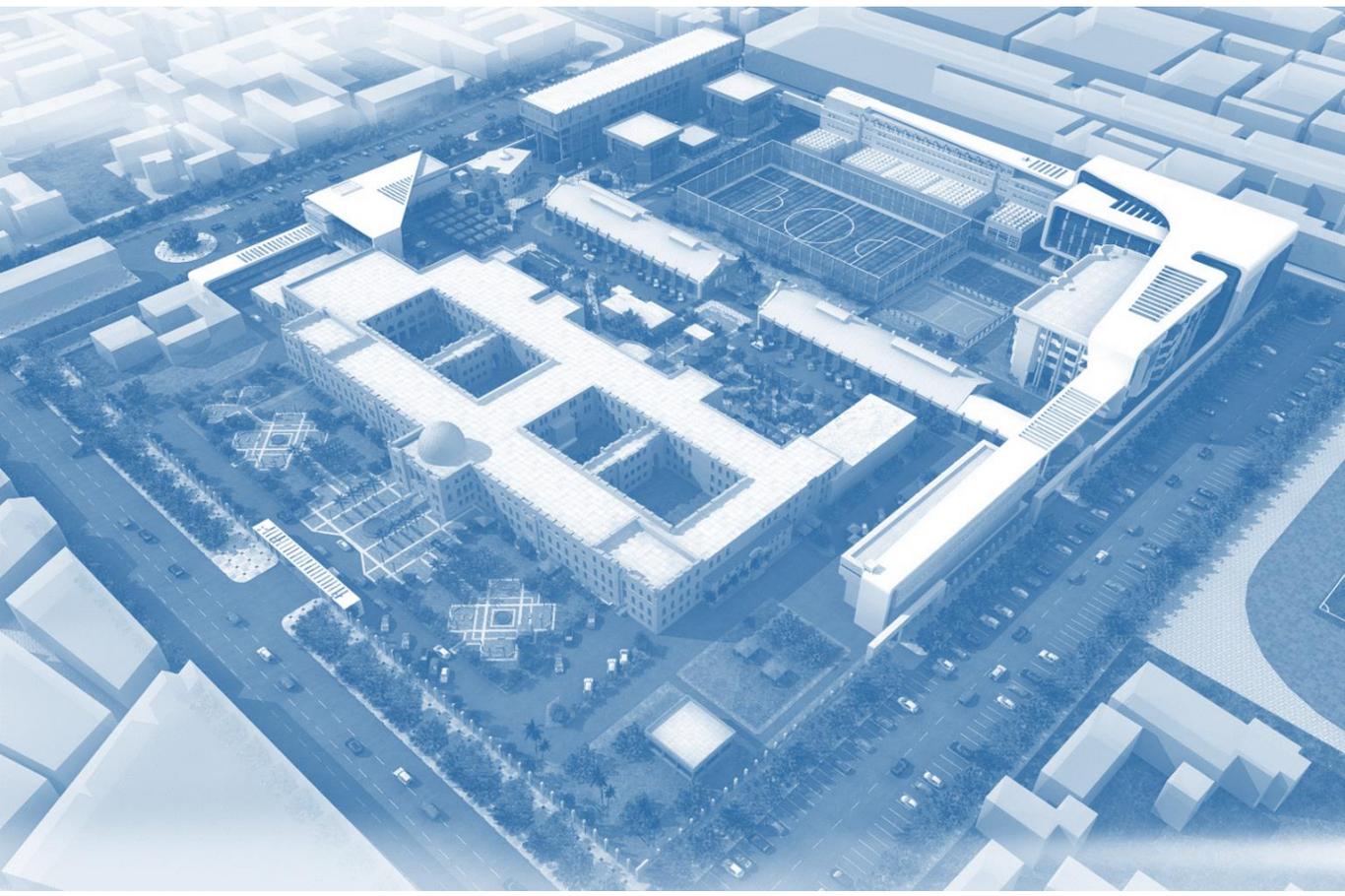
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Faculty of Engineering

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