



SDG 13: Climate Action

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ACTION





Organizing environmentally friendly festival activities -

Al-Furat Al-Awsat Technical University organized the annual Environmental Friendly Festival, where emphasis was placed on...

1. The importance of paying attention to the environment, especially the university environment, because of its positive impact on the educational and training process
2. Pointing out the university's efforts to invest in available lands to reclaim them and turn them into green areas
3. Planting many fruitful and evergreen plants within the university

The term pollution, its types, causes, and the effects of each type were also clarified, a number of annual statistics related to this topic were presented, and the students presented a representative scene simulating the effect of smoking on the health of the individual and society.

The festival concluded with an event presented by the department's students, during which they displayed awareness and guidance posters inspired by the occasion.

After that, the rest of the activities were opened, which included providing free medical examinations, a charity market, a display of scientific posters, and various events.





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Take urgent action to combat climate change and its effects. Objectives include strengthening resilience to climate change and natural disasters, including in marginalized communities; Implementing the Green Climate Fund. Environmental sustainability aims to ensure the sustainable or ideal use of land, forests, energy and mineral resources. To achieve this goal, the university implemented the following activities:

The university's formations are expanding by cultivating green spaces by planting palm trees, ornamental trees, thallus, and flowers in order to contribute to eliminating desertification and softening the atmosphere to get rid of global warming and reduce pollution, as well as using cooling devices with less pollution and using natural energy sources. The Samawa Technical Institute reformed and changed the desert climate after planting (1000) dunums of desert land and converting them into agricultural areas to advance the changing climate and desert reality. Investing in enriching local markets with agricultural products



Agricultural land investment by the Samawah Institute

The Musayyib Technical Institute invested in the agricultural lands it owned by cultivating more than (350) dunams of wheat and more than (150) dunams of the rice crop. And work to plant evergreen trees to contribute to improving the climate, which do not require water and can withstand climate change (such as drought) and by using modern irrigation methods to reduce water waste. The university's formations carry out various activities, including workshops,

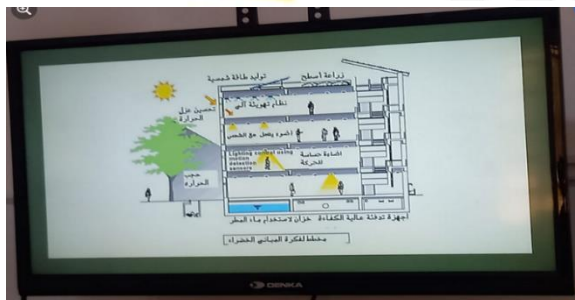


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courses and seminars on climate and how to deal with the changes taking place in the world. Among these activities is a symposium on addressing desertification and expanding green areas.



The university's formations are implementing many courses, seminars and workshops to spread the culture of correct dealing with climate change. The number of these activities has reached (51) activities (3) research on climate, and the university's green spaces have reached (0h) m2



Climate symposium

University students in all formations have an important role in dealing with climate change by carrying out volunteer campaigns to cultivate green spaces, plant fruit trees and ornamental trees, and plant flowers and evergreen trees. .



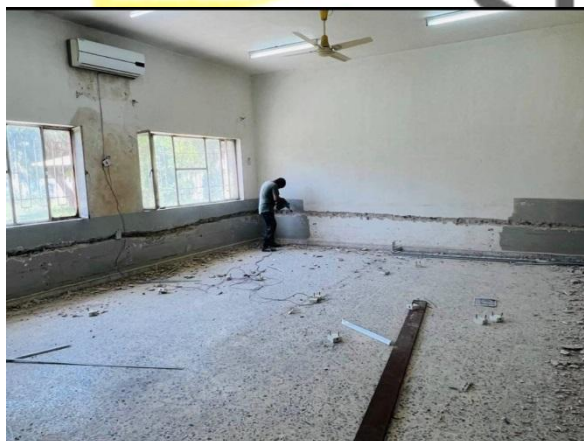
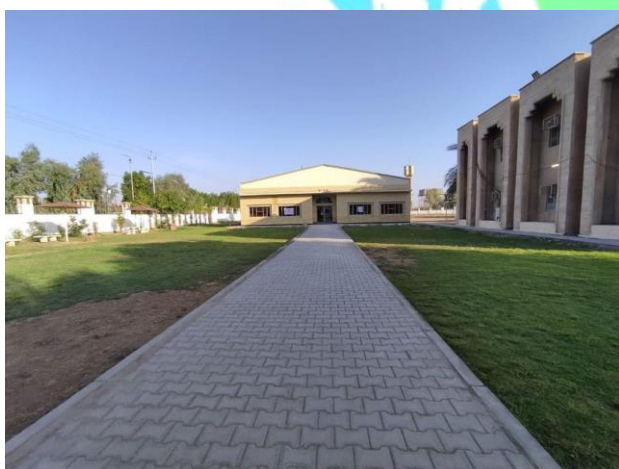
Volunteer campaigns for students

Pictures of projects and spaces



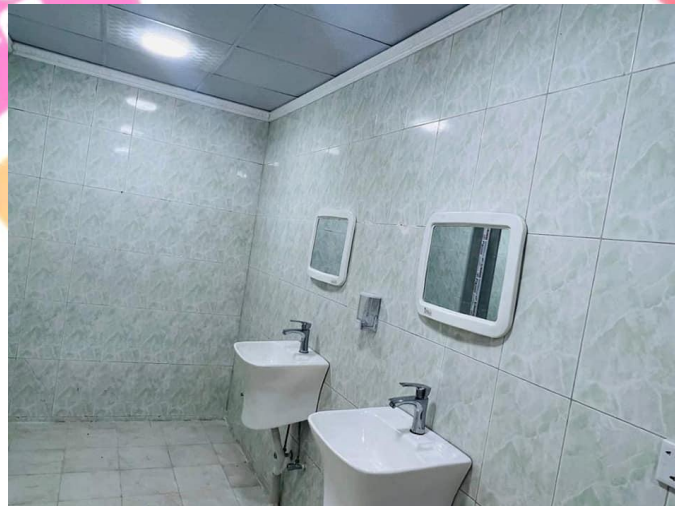
Rehabilitation of the information center with an area of 520 square meters at the -1
Musayyib Technical College







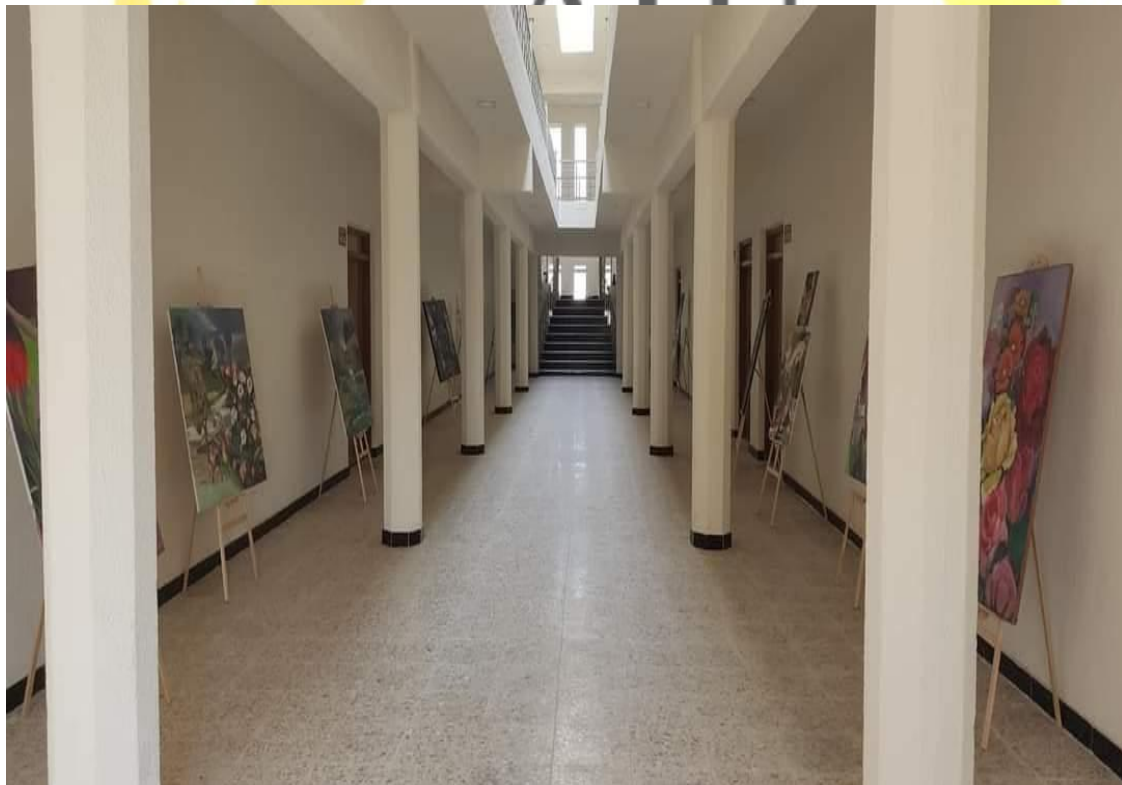
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The classroom building has been rehabilitated with an area **1260 square meters**. -2





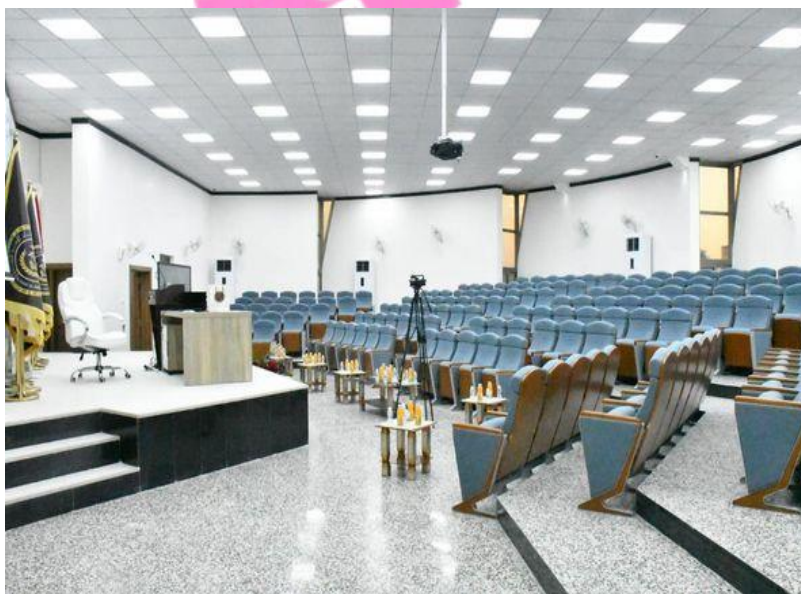
Rehabilitation campaigns for green spaces at Al-Musayyib Technical -3 College





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established three model classrooms with a total capacity of approximately (500) five hundred students, in addition to a hall for continuing education courses, an electronic library, scientific and administrative offices and other service facilities that have been equipped with modern requirements of equipment, furniture and other equipment, and from the best facilities. .





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A field tour to follow up on the progress of construction work in the new Technical Institute Deanship building. This project comes within the Institute's vision to provide a modern educational environment that meets the needs of students and faculty members, and is in line with the latest specifications and the highest international construction standards.



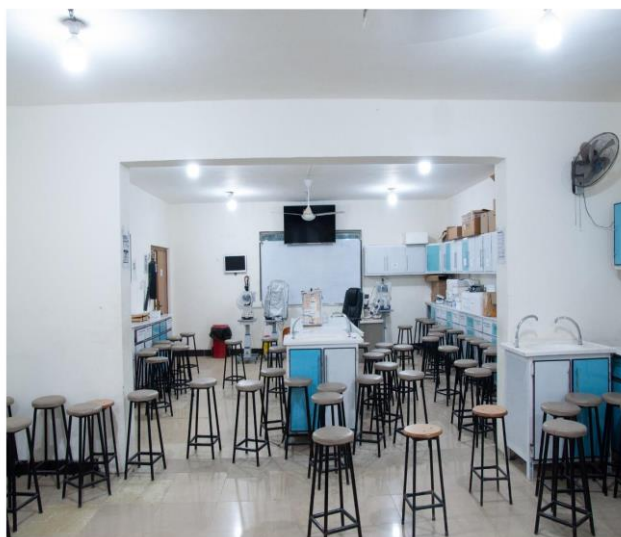
SDGs

Green spaces at the Najaf Technical Institute.





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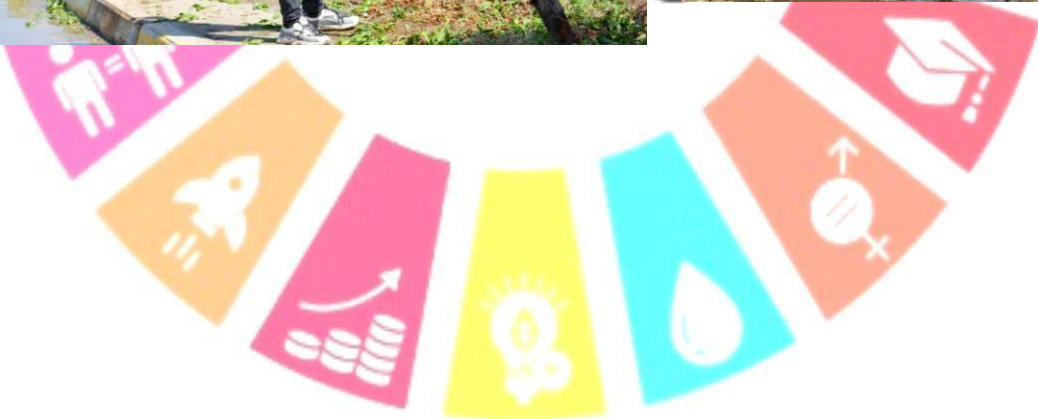
Criminal and forensic evidence laboratories have been completed.-

1. Completing maintenance and rehabilitation work for the institute's laboratories and classrooms as part of the institute's objectives to provide a sustainable university environment for students and associates.
2. Maintaining generators and lighting poles, cleaning, decorating and watering gardens, and cleaning the institute's courtyards and corridors





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Rehabilitating the Institute Gate No. 2, rehabilitating and covering the 4th floor of the medical departments, rehabilitating and maintaining the fountain in the middle of the institute's gardens, and rehabilitating the side gate of the medical departments building overlooking the Student Affairs Building.



Volunteer work for students of the 5th Nursing Technology Department at



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the Diwaniyah Technical Institute in repairing medical devices in the scientific departments.

The Department of Community Health Technologies at the Diwaniyah Technical Institute organized a volunteer campaign to the Al Amal Institute for the Deaf and Mute in Diwaniyah Governorate out of the spirit of social solidarity.

The Civil Defense Unit at the Diwaniyah Technical Institute, in cooperation with the Red Crescent Society in Diwaniyah and the Women's Empowerment Unit, held an educational awareness seminar on desertification, expanding green spaces, and rationalizing water



consumption. And adopting sustainable development projects for lands suffering from desertification.

Completing preparations to establish a Department of Limb and Support Manufacturing Technologies at the Diwaniyah Technical Institute.

Opening of the model classroom complex at the Diwaniyah Technical Institute.

The Rehabilitation, Employment and Follow-up Unit at the Diwaniyah Technical Institute organized a visit to the Iraqi Federation of Industries, Diwaniyah Branch To open horizons of cooperation in the field of training and developing students, supporting their ideas, and creating job opportunities for graduates in several specializations.



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Cleaning and watering gardens, removing excess and harmful plants, .11
rehabilitating the courtyards, and rehabilitating and cleaning the courtyards



for the gate.

Rehabilitating roads and corridors and creating green squares with a new .12
fountain in the middle to provide a university atmosphere and environment.



Maintenance and restoration work for the transformer room opposite the .13
Student Affairs Building.



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Installing 1.5m garden lighting poles on the sides of the students' .14 walkways.



Implementation works for the external fountain of the Technical Institute..15



Making iron awnings in the yards..16



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Implementation and clearing works on the institute's external fence..17



The final stages of construction work for the health laboratory annex..18



The Women's Empowerment Unit, in cooperation with the Community Health Technologies Department, held a symposium entitled (Supporting energy and reducing emissions in environmental pollution). 19



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20. The Department of Materials Management Technologies, in cooperation with the Women's Empowerment Unit, held artistic and cultural events on the occasion of the Great Victory Day, in the presence of Assistant Professor Dr. Zaid Maan Hassan Al-Dulaimi, Dean of the Institute, the heads of scientific departments, and a number of associates and students. The activities included a national play prepared and performed on stage by the department's students, telling the tales of heroism. Our army and our national mobilization in defeating terrorism in the epic of victory.



21. The Women's Empowerment Unit, in cooperation with the Department of Health Management Technologies, joined a solidarity stand within the 16-day campaign to combat violence against women.



22. In order to enable the student to see pathological cases that require the installation of a prosthetic limb and to participate in the process, the students of the Limb and Support Manufacturing Techniques Department organized a scientific visit to the Rehabilitation Center for People with Special Needs (Disabled) and the Prosthetic Limbs Workshop.



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23. The Women's Empowerment Unit, in cooperation with the Media and Government Communications Division and in cooperation with the Community Police Department in Diwaniyah, held an awareness seminar on electronic blackmail.

24. Participation of members and students of the Diwaniyah Technical Institute in the University Festival of Fine Arts, held at Al-Furat Al-Awsat Technical University.



25. Implementing practical training curricula for practical academic subjects for students of the Department of Health Management Technologies at Al-Diwaniyah Teaching Hospital and Al-Hussein A. Children's Hospital.



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26. The Media and Government Communication Division at the Diwaniyah Technical Institute, in cooperation with the National Security Service in Diwaniyah, held an awareness seminar entitled (The Harms of Drugs and Their Health Risks).

27. The Department of Limb and Support Manufacturing Technologies at the Diwaniyah Technical Institute held a course entitled Isolation and Diagnosis of Contaminated Bacteria for Infections Leading to Amputation of Limbs.

28. The Mechanical Technology Department, in cooperation with the Women's Empowerment Unit, organized a theatrical performance entitled The Al-Aqsa Flood to support our Palestinian people.

29. Continuing the volunteer work of students of the Department of Community Health Technologies at the Diwaniyah Technical Institute in maintaining and painting the microbiology laboratory.



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30. The Department of Community Health Technologies at the Diwaniyah Technical Institute held a course entitled The Effect of Medicines and Nutritional Supplements on the Results of Laboratory Analysis.

31.

32. Volunteer work for students of the Nursing Technology Department in maintaining and cleaning equipment for the microbiology laboratory.

33. The Civil Defense Unit at the Diwaniyah Technical Institute, in cooperation with the Explosives Department in Diwaniyah, held a scientific symposium entitled (Identifying and Beware of Explosives) for students of the Nursing Technology Department.

34. The Department of Health Management Technologies at the Diwaniyah Technical Institute held a symposium entitled The Dangers of Electronic Cigarettes.

35. Organizing the activities of the Global Entrepreneurship Week at the Diwaniyah Technical Institute, which continued for seven days. The closing ceremony included several pioneering programs and events, including workshops, exhibitions, handicrafts, courses, seminars, and success stories.

36. The students of the Department of Health Management Technologies/morning study for the second stage at the Diwaniyah Technical Institute organized a scientific visit to the Department of Pharmacy and Therapy at the Diwaniyah Teaching Hospital.



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37. Volunteer work for students of the Department of Community Health Technologies at the Diwaniyah Technical Institute in maintaining and painting the chemistry laboratory.

38. Volunteer work for professors and students of the Nursing Technology Department at the Diwaniyah Technical Institute in repairing scientific department laboratories.

39. The Women's Empowerment Unit at the Diwaniyah Technical Institute held a workshop entitled How to make soap at home by hand.



40. The Accounting Technologies Department at the Diwaniyah Technical Institute held a course entitled The Role of Auditing in Achieving Sustainable Development Goals.

41. Participation of the Women's Empowerment Unit in a workshop on home artistic works (such as glass painting, engraving, and embroidery).





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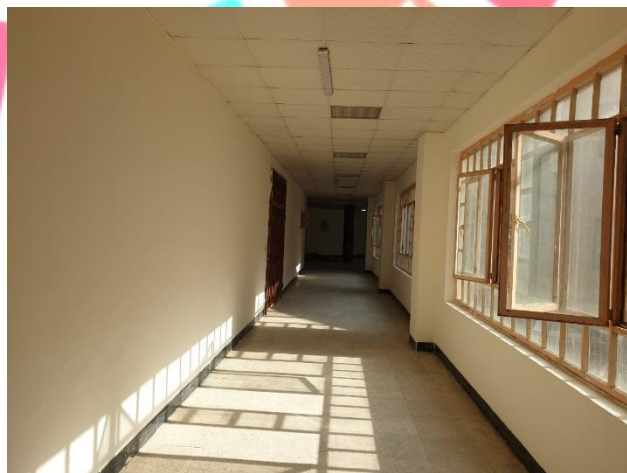
42. Students of the Department of Community Health Technologies/Second Phase at the Diwaniyah Technical Institute organized a scientific visit to the Communicable Diseases Center at Diwaniyah Teaching Hospital.



43. The Nursing Technology Department at the Diwaniyah Technical Institute held a scientific symposium entitled Early detection of breast cancer as a means of preventing the impact and repercussions of the disease.

44. The Mechanical Technology Department held a student festival in coordination with Gaza. The festival included reading an opening speech and poetry, in addition to a play narrating the events in Gaza.

45. Implementation and painting works for the halls and corridors of the administrative departments building.



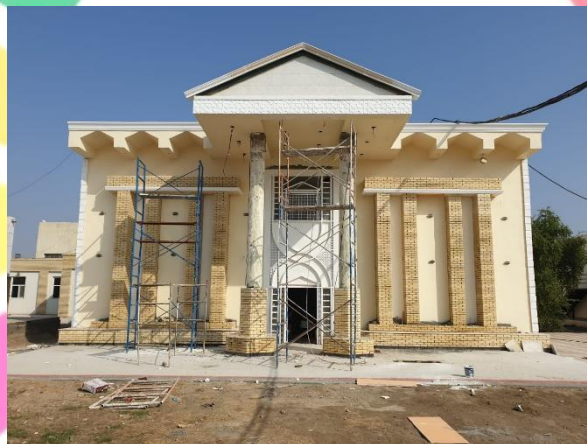
46. Implementation works for the electrical transformer room.



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47. Implementation work on the interface of the medical departments of the Diwaniyah Technical Institute is in progress.



48. Implementation work in progress for the Diwaniyah Foreign Affairs Technical Institute portal.



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49. The work of finishing the carpentry workshop surface with ceramic floor tiles.



50. The Mechanical Technology Department planted the front garden of the department with a group of flowers and trees, in cooperation with a group of Mechanics Department staff.



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51. The Department of Mechanical Technologies held a scientific visit to the textile factory in Najaf to see the work of production lines in the textile industry.



52. The Rehabilitation and Employment Unit, in cooperation with the Mechanical Technology Department, held a training course entitled PowerPoint Basics for second-year students and graduate students.



53. Extending a main electricity cable to the new fountain in the middle of the gardens.



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54. Making rainwater drainage manholes.



55. A massive campaign to plant palm trees.



56. Secondary ceiling cleaning work in workshops.

57. Implementation and application work in cash for the medical departments building. The final stages of implementation work.



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58. Implementation work on the entrance to the main door of the medical departments building with wrought iron is in progress.



59. Making agricultural sprinklers in gardens, first stage.

60. Implementation work for the internal fountain of the Diwaniyah Technical Institute is in progress.



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61. The Sustainable Development Committee in the Nursing Technology Department, in cooperation with the Women's Empowerment Unit, held a workshop entitled Computer Program and Social Media Applications, the Eighteenth Goal for Sustainable Development.

62. The Nursing Technology Department at the Diwaniyah Technical Institute held a scientific symposium entitled Accident Prevention.

63. Students of the Nursing Technology Department at the Diwaniyah Technical Institute organized a scientific visit to the Diwaniyah Dairy Factory.



64. The Department of Limb and Support Manufacturing Techniques at the Diwaniyah Technical Institute held a course entitled (Negative Effects of Drugs, Toxins, and Psychotropic Substances).

65. The Department of Mechanical Technologies at the Diwaniyah Technical Institute held a scientific symposium entitled Solar air conditioning to achieve sustainability.



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66. The Department of Community Health Technologies at the Diwaniyah Technical Institute conducted a course entitled Water Pollution, Its Impact on Fish, and Its Interference within the Food Chain.

67. The Department of Nursing Technology at the Diwaniyah Technical Institute organized a scientific visit to the Al Ain Foundation for Orphan Care.



68. Creating an evening study for the Department of Limb and Support Manufacturing Techniques at the Diwaniyah Technical Institute.

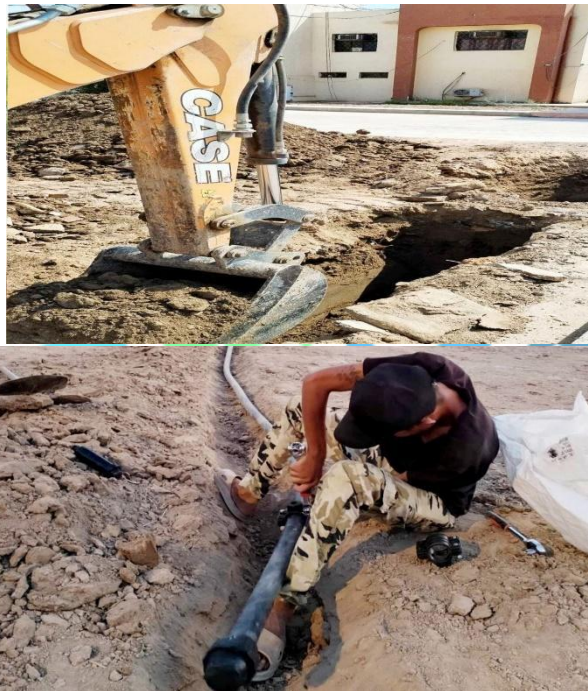
69. The Women's Affairs Unit, in cooperation with the Department of Community Health Technologies, held a symposium entitled Green Chemistry and How to Reduce Pollution.

70. The youth of the Sa'i Volunteer Team from the residents of the housing area in Diwaniyah Governorate, and under the slogan (I am a volunteer) are carrying out a volunteer tree planting campaign in the outer courtyard of the gate of the Diwaniyah Technical Institute.

71. The maintenance unit cadres launched a campaign to implement irrigation systems using sprinklers and adopt advanced irrigation systems, with the aim of rationalizing water consumption and reducing waste.



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72. The maintenance and services unit staff maintained the generators and lighting poles, cleaned, decorated and watered the gardens, and cleaned the institute's courtyards and corridors.





Al-Furat Al-Awsat Technical University celebrates the occasion of National Afforestation Day... and launches a wide afforestation campaign in all its formations.

In implementation of the directives of the Prime Minister to adopt the National Afforestation Day on March 12 of each year, and in accordance with the program of the Ministry of Higher Education and Scientific Research, Al-Furat Al-Awsat Technical University celebrated this occasion, which coincided with the beginning of the holy month of Ramadan, which it organized

The Afforestation Unit in the Scientific Affairs Department in cooperation with the Bureau Department.

The celebration was attended by the University President, Professor Dr. Hassan Latif Al-Zubaidi, assistants, department directors, and a large number of associates.

At the beginning of the celebration, the President of the University pointed out the importance of agriculture and its role in mitigating the effects of severe climate changes to which Iraq is exposed, such as desertification, high temperatures, etc.

He also stressed the continued efforts of the university presidency and its formations to work through afforestation campaigns to improve the university environment and its sustainability.

While Dr. Hussein Abdel Zahra, head of the afforestation unit, gave a lecture entitled The importance of afforestation in environmental sustainability.

On the other hand, the workers in the Agriculture Division in the University Office Department were honored for their distinguished efforts at work and high achievement.

The celebration included planting trees of various types in the university gardens by the University President, his assistants, and a number of university employees.

While Professor Ali Abdul Hussein Al-Dhalimi, Director of the Scientific Affairs Department, explained that all university colleges and institutes have prepared various programs to celebrate this day, which included scientific and awareness seminars, exhibitions, charity markets, workshops, afforestation campaigns, scientific lectures, and the publication of posters inside and outside university buildings.





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Participation in launching the national project for digital documentation of architectural heritage in Iraq.

The President of the AL-Furat AL-Awsat Technical University and the Director of the Department of Construction and Projects at the University Presidency, Dr. Muhannad Abdel-Zahra Al-Khaqani, participated in the first official meeting to launch the national project for digital documentation of architectural heritage in Iraq, which was hosted by the University of Technology, with the participation of the Scientific Undersecretary of the Ministry of Higher Education, Professor Dr. Haider Abd Dahd, a number of university professors, a team of engineers in the Prime Minister's Office, and the Technical Affairs Department of the Intelligence Service.

The project is a pioneering national initiative to document important historical buildings and historic city centers as an essential step to strengthen Iraq's historical and heritage identity and preserve the material and historical heritage of Iraq, as the launch will be in the first phase. For the project to document the architectural heritage at the site of the purified Alawite Shrine and the Old City in Najaf. It is pointed out the importance of this project, which is the first of its kind in Iraq, especially since it is being implemented with local expertise and competencies. He stressed at the same time the university's readiness to put all its capabilities into supporting this important project.





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Completed projects and projects in progress -



The most important completed and in-progress projects adopted by the university, which were recently implemented by the engineering staff in the Department of Construction and Projects at the University Presidency and its formations to develop the university environment and infrastructure.

One of the most important projects under implementation includes the project to establish the largest complex of research laboratories in the engineering, medical, health, agricultural, renewable energy, and nanotechnology specializations, in addition to the Dome Hall project for major meetings, the central library project, the sports stadium complex project, which includes eight various stadiums and their accessories, and the project to increase spaces.

The green area is about ten thousand square meters, the project of planting a thousand palm trees in the university's formations, which was launched under the slogan "Honor your aunt the palm tree," the grand celebrations square project, and the student club project on the university campus in Kufa.

Among the most prominent projects that were completed earlier are the scientific departments building, the smart halls building, the continuing education center, the main



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information building, the inner courtyard of the university presidency, and the Christmas Tower building, which includes the electronic calculator departments, scientific affairs, missions, cultural relations, and bicycle stations in the context of the initiative.

Green transportation, student clubs in a number of university formations, the scientific building, the central library in the Najaf Technical Institute, the medical departments building, the administrative departments building in the Babylon Technical Institute, the study halls building in the Musayyib Technical College, the aircraft technology department workshop in the Najaf Engineering Technical College, and the pharmacy and student affairs department building. And the electronic calculator center at the Kufa Technical Institute, as well as listed study halls, halls for continuing education and others for conferences, celebrations and discussions, scientific department buildings, study halls and the central courtyard at the Samawah Technical Institute and the scientific departments building at the Rumaitha Technical Institute, as well as rehabilitation and maintenance projects and the construction of portals that included all university campuses.

The university is environmentally friendly:

The university has taken great and important steps to be environmentally friendly and strives hard to preserve it in the university presidency site and all its sites in the governorates of the Middle Euphrates, and to protect it in all its formation sites, as the university's students and employees work, through several activities, to spread the culture of the environment in its various sites in a practical manner, and globally through patents. Research and studies to encourage its preservation and protection at the present time and in the future, according to the following:

- University environment Universities compete to have a decent, attractive and comfortable university environment for their members and students through the following:

Green spaces:

- Increasing green spaces is one of the most important features of the university environment so that it is an attractive and decent environment and brings comfort and reassurance to the souls of students and associates, as the increase in the number of students and infrastructure requires that it be accompanied by the presence of green spaces in order to achieve the required environmental balance within.



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Al-Furat Al-Awsat Technical University provides various local education programs & campaigns on climate change risks, impacts, mitigation, adaptation, impact reduction and early warning. climate change disasters, which may include the displacement of people both within a country and across borders, working with the government thereby organizing annual educational short courses or workshops that explain local Energy & climate change disasters and what should be done to prevent or reduce their impacts and established the following projects

In addition to planting fruit trees during the year 2022, at the Kufa site, (66) palm trees were planted, and at the Karbala site, olive and palm trees were planted, with a total of (25) trees, and at the Musayyib Technical College, (26) fruit trees were planted, in addition to planting ornamental plants in Plastic houses and drought-resistant varieties.

As for the Administrative Technical College, (100) various trees were planted, including (20) palm trees, and a flower exhibition was held. The Kufa Technical Institute planted more than (100) trees, including (25) palm trees, (15) orange trees, and (15) pomegranate trees in addition. As for last year, the Babylon Technical Institute planted evergreen flowers and seedlings, with a number of (500) seedlings, an increase over the previous year. The Diwaniyah Technical Institute planted fruit trees, shrubs, and seedlings for flowering, with a number of (650) trees, and the Medical Technical College planted three gardens surrounding the buildings. The college is endowed with flowers, evergreen shrubs, thallus, and (32) palm trees. As for the Najaf Technical Institute, it has created a palm



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grove containing (650) palm trees, in addition to planting (1,100) seedlings of flowers and plants.



A promising initiative to embody the concept of a productive university and achieve sustainable development:

<https://atu.edu.iq/?p=21503>



Within the framework of the directives of Al-Furat Al-Awsat Technical University to embody the concept of a productive university and work to achieve sustainable development goals, the President of the University followed the project on fisheries breeding within the university campus in Kufa, as well as other agricultural activities surrounding the project. It should be noted that The project is being implemented by the technical staff in the Department of Diwan Affairs at

the University Presidency in coordination with the Department of Construction and Projects



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and with continuous field follow-up by the President of the University. Al-Zuhairi, for his part, indicated in an interview with the university that the project aims, in addition to what was mentioned above, to improve the university environment in terms of By increasing green spaces and water bodies on campus

Al-Furat Al-Awsat Technical University opens several reconstruction projects at Al-Musayyib Technical College: <https://atu.edu.iq/?p=22945>

For a sustainable university environment Within the context of the campaign taking place at Al-Furat Al-Awsat Technical University to rebuild the infrastructure and rehabilitate the university environment, the President of the University visited Al-Musayyib Technical College, accompanied by the scientific and administrative assistants of the University President, the deans of colleges and institutes, and the directors of departments in the university presidency,



and they were received by the Dean of the College. Dr. Ali Wadi Al-Zubaidi, the advanced staff, and the college's students. It is noteworthy that the rehabilitation and reconstruction work included the rehabilitation and reconstruction of the study hall complex building, which includes (16) sixteen classrooms, three of which are for postgraduate students, and 12 twelve halls for undergraduate students. And a hall for the Student Activities Division. The hall of the late Sheikh Dr. Ahmed Al-Waeli was opened for discussions and seminars after its rehabilitation. It is reported that work resumed at the beginning of July of this year with direct implementation by the engineering and technical staff at the college and with direct supervision and support from the university presidency and the Department of Construction and Projects. Al-Zuhairi, for his part, held an expanded meeting with the heads of departments and officials of the divisions and units, in which he stressed the necessity of working in a team spirit and consolidating the core values adopted by the university through a culture of mutual respect, transparency and justice, enhancing belonging and loyalty to the institution, encouraging the creative and distinguished, adopting creative ideas and initiatives, and activating the scientific research movement. Al-Zuhairi, in his speech, directed the need to pay attention to the university environment, including halls, workshops, laboratories and other service facilities, which make the institute a model and attractive university environment through sound and rational management of material and human resources. He also pointed out that the reputation of the educational institution is the basis for everything and is one of the standards for international classifications. On the sidelines of the conference, an exhibition of drawing and plastic arts was opened and the members implementing the projects and the distinguished ones were honored.



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Opening of the administrative departments building after rehabilitation and the celebrations square:

<https://atu.edu.iq/?p=22842>



#For_a_sustainable_environment

In the context of the campaign taking place at Al-Furat Al-Awsat Technical University to reconstruct the infrastructure and rehabilitate the university environment, the President of the University, Professor Dr. Muzaffar Sadiq Al-Zuhairi, inaugurated the administrative departments building and the grand celebration square at the Najaf Technical Institute in the presence of the scientific and administrative assistants of the university's

president, the deans of the Najaf and Kufa formations, and the department directors. At the University Presidency, they were received by the Dean of the Institute, Professor Dr. Haider Hassan Al-Abdali, the assistants, heads of departments, officials of divisions and units, and a large group of students. It is noteworthy that the rehabilitation work included equipping and rehabilitating (3) three specific computer laboratories with a capacity of (120) one hundred and twenty portable calculators with high specifications, which were provided with specialized programs to train primary and graduate students and develop their skills in the labor market after graduation. The research groups laboratory was also rehabilitated and equipped with computers. Portable, with high technical specifications, it was connected to an internal network for the purpose of supporting researchers at the institute to complete their research, as well as holding workshops and seminars with scientific researchers, and research seminars with international universities through video conferencing. A large celebration arena was also opened with an area of approximately (1,500) thousand and five hundred square meters, which includes green spaces and terraces for student seating, in addition to a terraced platform for holding graduation ceremonies and student activities. It should be noted that work resumed at the beginning of June of this year with direct implementation by engineering staff. And technical training at the institute, under the direct supervision and support of the university presidency, and high standards were adopted in equipping laboratories with modern technologies to achieve high-quality education. On the other hand, on the sidelines of the opening, the university president gave a speech in which he praised the efforts made to improve all aspects of performance, pointing out what was achieved during the three years. In recent years, at various levels, with the combined efforts of all scientific, administrative and supportive circles, he called on his students to make more efforts to acquire the necessary skills that qualify them in the labor market and to be dedicated to performing the duties assigned to them to achieve the desired goals and success. Al-Abdali, for his part, directed his thanks and appreciation to the presidency. The university extended its support to all formations, including the Najaf Technical Institute, praising all the efforts that resulted in these achievements.



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Productive training projects:

Most of the university's sites are characterized by having large areas of agricultural land, which it works to exploit by establishing agricultural projects to train students and obtain plant and animal products to contribute to filling part of the local need. At the University Presidency site, empty and deserted lands with an area of (8) dunums were exploited to create a model orchard with an area of (4) dunums, which includes various types of palm trees to produce types of dates such as barban, khastawi, shukur, barhi, khadrawi, al-Zahdi, and al-Maktoum. Creating a fish lake on an area of (825) square metres. And (2) plastic houses with an area of (468) square meters, and in another place also belonging to the University Presidency site in Kufa, a palm farm was established on an area of (2) acres to grow (66) palm trees and various types, based on an initiative launched by the President of the University (Honor your aunt Al-Nakhla) to plant (1000) palm trees in all university sites, and at the Al-Musayyab site, large areas were cultivated for the purpose of training students in primary and postgraduate studies. Several projects were established to grow vegetable crops and field crops during the annual seasons or using greenhouses, and to cultivate medicinal plants to extract medically effective substances. Among them, the production and propagation of plants free of diseases and viruses, a field for growing ornamental plants, and the Al-Musayyib Technical Institute took advantage of the spaces it owns to create a field for growing the poultry crop, a field for growing white mushrooms, a project for laying hens, and a project for raising sheep and goats. As for the Kufa Technical Institute, with its large agricultural areas and the presence of agricultural specializations for study and for the purpose of training students, it established a field to grow the crop (cucumbers). The university thus contributes, through these projects, to achieving the thirteenth goal (climate action) of the seventeen sustainable development goals, by increasing green



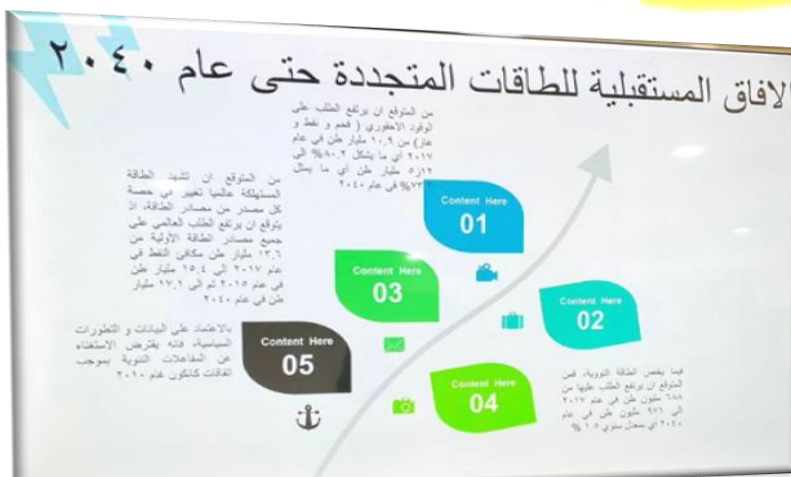
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spaces and eliminating desertification.



Reducing the emission of harmful gases to the environment:

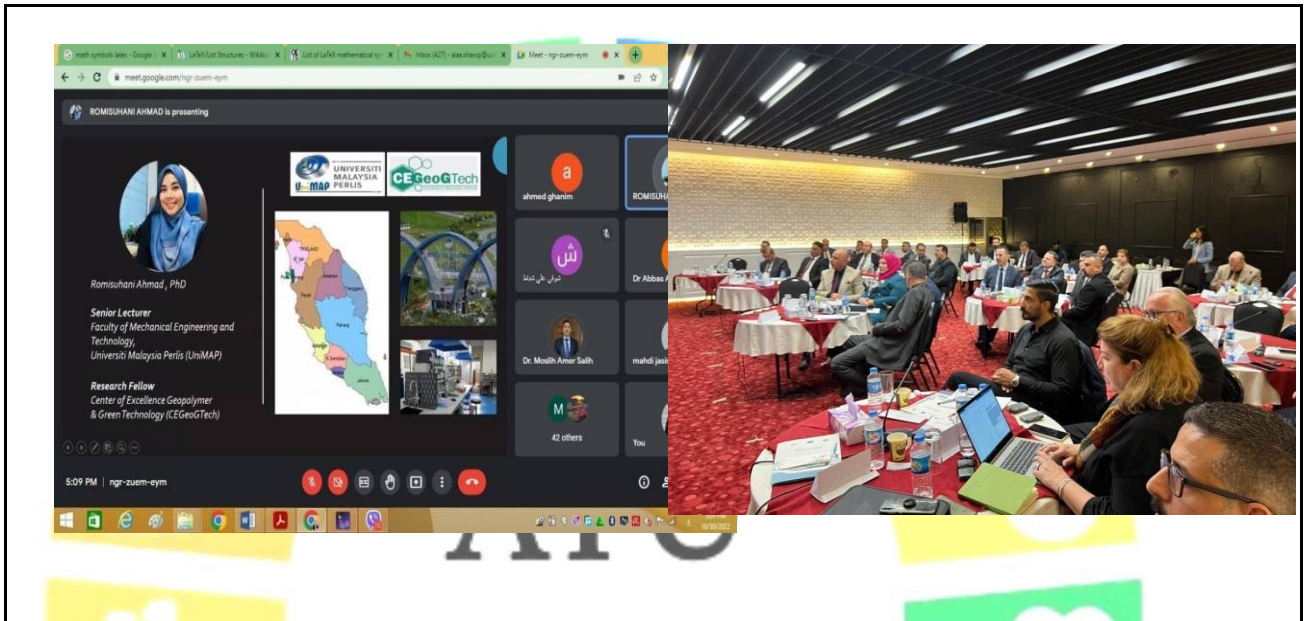
Today, the world is witnessing the problem of climate change as a result of the increasing emission of harmful gases into the environment that are generated through manufacturing processes and the use of devices, equipment, and means of transportation on the one hand, and the failure to protect and preserve the environment on the other hand, which has led to failure to achieve environmental balance, and environmental pollution has a negative impact on all living organisms. On planet Earth, the university is working to reduce the emission of harmful gases by spreading the culture of reducing or reducing them through scientific activities. More than (25) workshops, seminars, and courses have been held for university members and students on reducing or reducing emission, and a number of research and studies have reached (14) research. It addressed the issues of harmful gas emissions, as well as the various university formations carrying out several activities, including holding seminars and workshops for members of the community and distributing awareness posters about harmful gases and the necessity of limiting or minimizing them because of their negative damage to the environment.





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-Al-Furat Al-Awsat Technical University has different Climate Action plans, shared with local government and local community groups by:



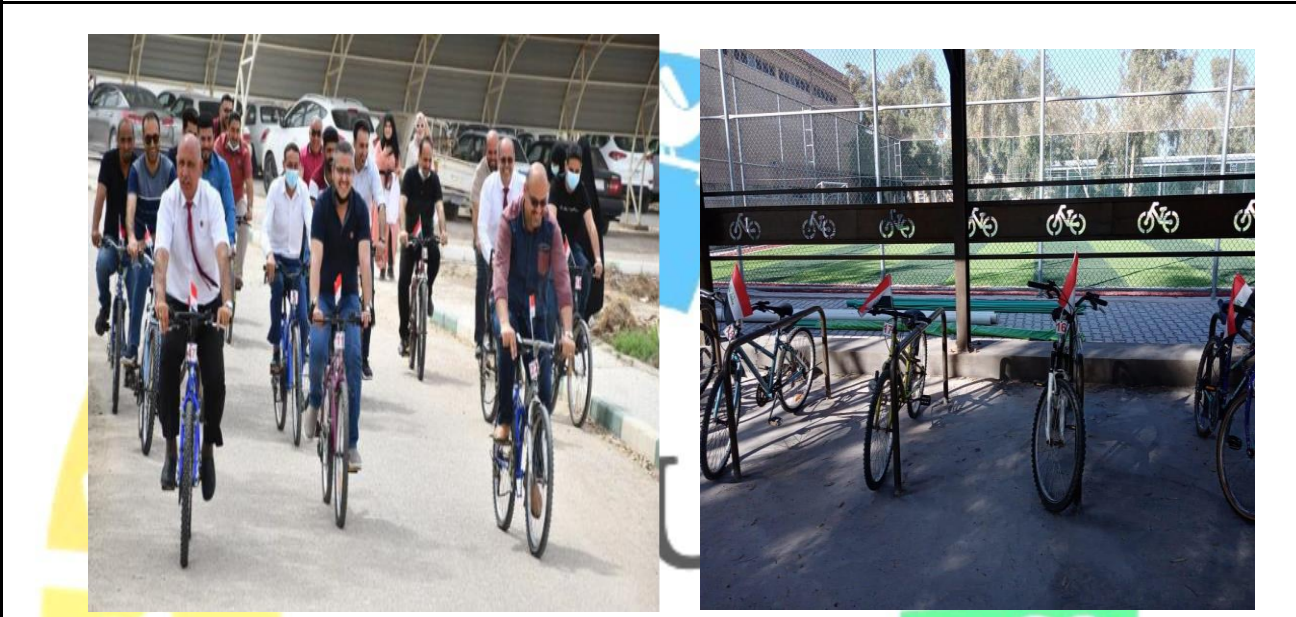
1. Workshops & Courses on Sustainability & Climate <https://t.me/atu2020>
<https://youtu.be/reedyfJhmbE> <https://atu.edu.iq/?p=19409>
<https://www.facebook.com/79adnan/videos/1151355189021216/>
<https://atu.edu.iq/?p=18705> (Al-Furat Al-Awsat Technical University,Iraq)





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2. Solar Energy Solar Power Production and Distribution (Al-Furat Al-Awsat Technical University, Iraq)



3. Green Transporting (Al-Furat Al-Awsat Technical University, Iraq)





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4. wind energy (Al-Furat Al-Awsat Technical University, Iraq)



5- The above two photos are ATU's' official letter urging ATU to cooperate with all governmental and non-governmental organizations and private companies and local and national communities to provide all necessary technologies required in using solar energy for electricity generation. (Al-Furat Al-Awsat Technical University, Iraq)

For the purpose of protecting the environment, the university deals with waste resulting from teaching medical and chemical materials for educational purposes by burying them in correct ways in accordance with the instructions of the Ministry of Health and Environment and keeping other waste in containers of different internationally recognized colors for sorting, and



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spreading the culture of not merging waste into one container and placing it in the place designated for it according to color. To preserve the environment from its effects and benefit from recycling



SDGs Additional Evidence -

A master's thesis at Al-Musayyib Technical College at Al-Furat Al-Awsat Technical University discussed the use of a new technology to improve the efficiency of Iraqi gas power plants and ensure their operation in dusty climatic conditions by using electrostatic filter technology based on intelligent control.

The study presented by the student, Muhammad Qasim Fadel, aimed to use the electrostatic precipitator as a pre-filtration stage with intelligent control and air quality monitoring along with a pressure indicator before and after the air intake unit for gas stations using the Internet of Things system.

The study showed improving the efficiency of the gas stations by using the electrostatic precipitator (ESP) technology to reduce air pollution from dust particles, especially from the areas surrounding the air intake system units of the gas power plants. electrical.

The thesis concluded that the electrostatic filter system should be strengthened by filtering the intake units of gas power plants, ensuring their operation during dusty conditions without the pressure drop that may occur in conventional filters due to the presence of fine dust particles.



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In his study, the researcher recommended that ESPs be combined with other air filtration systems, such as HEPA filters or scrubbers, to create a more comprehensive and effective air filtration solution for gas turbine intake air systems. A master's thesis at Al-Musayyib Technical College at Al-Furat Al-Awsat Technical University researched the use of the Internet of Things to control and monitor the production of electric energy in the smart solar energy system. The thesis presented by the student, Bashar Nouri Marza, aimed at building a system that detects faults in the solar system and analyzes them periodically using sensors and smart monitoring devices that are connected to each photovoltaic panel. The thesis discussed the possibility of sending measurements and data periodically to a central server that works with the Internet of Things system in order to detect faults and correct them as soon as possible, which greatly helps to improve the efficiency of solar panels. The thesis resulted in building a system that detects errors in the solar system and analyzes them periodically using sensors and smart monitoring devices that are connected to each photovoltaic panel, as well as sending data periodically to a central server of the Internet of Things in order to detect faults and correct them as soon as possible, and control the Distributing electrical loads in the system, which gives priority to maintaining important loads and isolating secondary loads, and monitoring the state of energy storage by monitoring the temperature and charging status of the batteries.



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The researcher recommended the design of an integrated and advanced system for diagnosing and controlling faults in smart networks and modern commercial systems to improve their performance, which greatly improves the efficiency of solar panels in the integrated system.



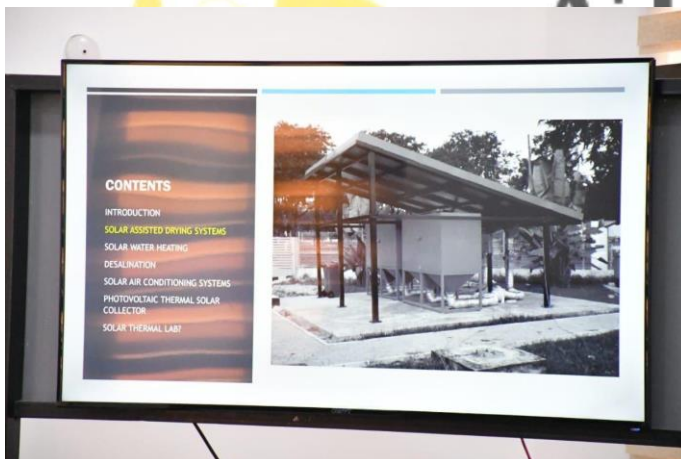
Within the framework of the orientations of AL-Furat AL-Awsat Technical University to achieve the goals of sustainable development and the strategic plan of the university, which included internationalization by hosting eminent professors from reputable international universities. The international workshop was held on the university campus in Kufa. (The uses of solar systems, their objectives and challenges) in the presence of the President of the University the Scientific Assistant, deans of related colleges and institutes, in addition to researchers specialized in renewable energies and postgraduate students.

It is noteworthy that Dr. Qamaruzzaman Sufyan is a professor in the field of renewable energy at the Solar Energy Research Institute, which is one of the leading centers for research and development in the field of renewable energy technology at the National University of Malaysia. He has more than 900 research papers in journals and conferences. He is a founding member of the Malaysian Institute of Energy, and a member of the UK Global Network for Renewable Energy.



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The workshop touched on mathematical models of solar radiation, solar water heating systems supported by tanks, solar distillers, solar coolers, drying systems supported by solar systems, grid-connected solar panels, solar panels, hybrid solar collector and solar hydrogen production systems



- Within the framework of the university's directions and its endeavor to improve the educational and service reality, adopt renewable energies and achieve the goals of sustainable development, the President of Al-Furat Al-Awsat Technical University inaugurated the Department of Renewable Energy Technologies, which was created recently, in addition to an integrated CNC workshop at the

Technical Institute of Karbala.

The department includes laboratories equipped with all the necessary requirements of devices, furniture and equipment that make them model laboratories that provide high-quality training for the drum, as well as a CNC workshop that provides educational services to students in addition to technical services for the university's uses in several fields, as the university and all its formations are witnessing a comprehensive campaign in the field of reconstruction



The construction and rehabilitation of the infrastructure makes it in need of several works provided by this workshop, including wooden and metal partitions with special designs and decorations, as well as identification panels, indication points, and other uses.



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Al-Zuhairi gave a speech on the occasion of the opening, in which he indicated the importance of opening this department, which simulates the requirements of the labor market, as the main goal of the university is to provide the student with the ability and skill and to adopt the philosophy of technical education on the practical side, as it constitutes about 60% to 70% of the academic vocabulary.

The President of the University emphasized that the University has attached importance to such departments and laboratories related to the implementation of the seventeen (17) SDGS17 goals announced by the United Nations in its 2030 plan, as the University and all formations have embarked on implementing these goals in many initiatives.

Al-Zuhairi also inaugurated an exhibition of students' and professors' scientific products and research projects. He reviewed some of the scientific literature and books written by the Institute's affiliates to support the scientific arena, in addition to the patents and scientific certificates obtained by the affiliates during their participation in international scientific conferences.

In the same context, the President of the University inaugurated the new entrance to the Institute, which was completed recently, in which the electronic system was adopted to facilitate the entry of students, guests and visitors.

On the other hand, the Dean of the Technical Institute in Karbala, Professor Dr. Fadel Muhammad Zahir, presented his thanks and appreciation to the university presidency for the support he gave to all formations, praising all the efforts that resulted in achieving these achievements.

In conclusion, the President of the University honored a number of associates who had a distinguished role in the completion of scientific and urban projects at the Institute, wishing everyone continued success in their work



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Al-Awsat Technical University holds an electronic workshop (webinar) in partnership with Malaysia Perls University, entitled Geopolymer Concrete and Green Building Materials.

Under the auspices of the President of Al-Furat Al-Awsat Technical University the Department of Scientific Affairs at the Presidency of the University, in cooperation with the Technical Institute of Babylon, held an electronic workshop (webinar) in partnership with the University of Malaysia Perls, entitled (Geopolymer Concrete and Green Building Materials).

The scientific assistant, Prof. Ahmed Ghanem Waday, delivered a speech in which he emphasized the university's great interest in achieving sustainability and its goals in many areas such as renewable energy, reducing carbon emissions, using solar energy and smart buildings, and called for more coordination and cooperation with international universities.

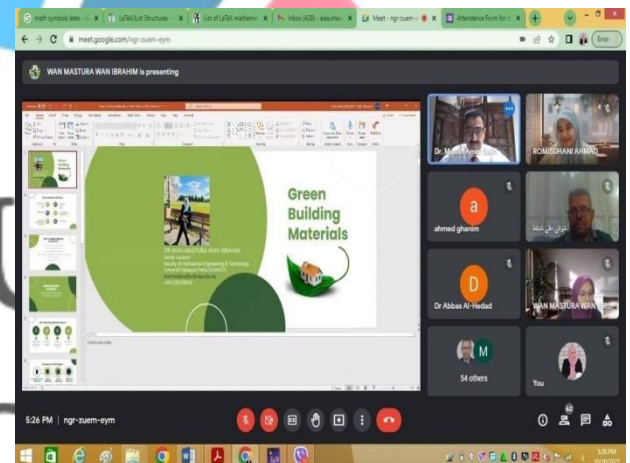
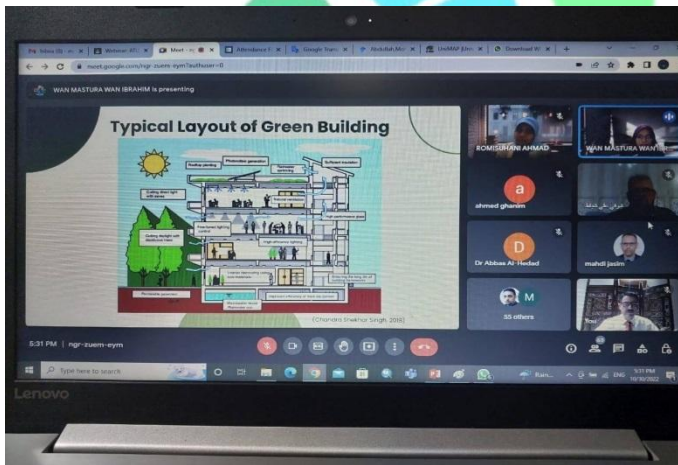
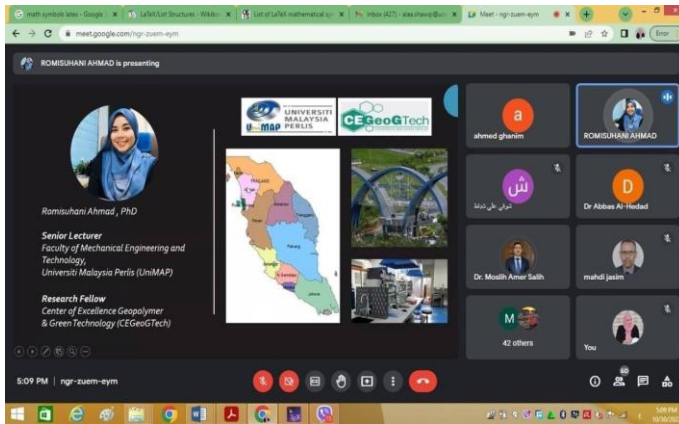
We draw your attention to the fact that (details of the workshop and the lecturers are in the attached file). After completing the two lectures, the discussion was opened and questions were asked, which were answered by the two lecturers.

The workshop was moderated by Assistant Professor Dr. Musleh Amer Salih from the Babylon Technical Institute.





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A master's thesis was discussed at Al-Musayyib Technical College, Al-Furat Al-Awsat Technical University (Design and Implementation of a DC-DC Converter with a High Voltage Lift in a Photovoltaic System)

By the student Ali Yaqoub Hamzah, in the presence of the Dean of the Faculty of Dr. Ali Hassan Al-Zubaidi, the thesis aimed to design and implement a high-speed DC-DC converter with a high-voltage duty cycle, very low, suitable for photovoltaic systems under critical weather conditions, The thesis dealt with the implementation of analysis and design procedures for the network integration of photovoltaic systems, and the thesis showed that the DC-DC Non-isolated high-lift converter achieves reliability and efficiency of up to (98%) by reducing losses in the switches, as well as to overcome the reverse currents that takes into account only the fundamental harmonic which eliminates all other harmonics, In his thesis, the student recommended the need to apply this portable in clean energy applications to obtain the highest capacity of the solar panels.



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